



# Department of Defense Legacy Resource Management Program

PROJECT NUMBER (03-175)

**Military Historic Context Emphasizing the  
Cold War Including the Identification and  
Evaluation of Above-Ground Cultural  
Resources for Thirteen Department of Defense  
Installations in the State of Georgia**

Pan American Consultants, Inc.  
March 2006



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**MILITARY HISTORIC CONTEXT EMPHASIZING THE COLD WAR  
INCLUDING THE IDENTIFICATION AND EVALUATION  
OF ABOVE GROUND CULTURAL RESOURCES  
FOR THIRTEEN DEPARTMENT OF DEFENSE INSTALLATIONS  
IN THE STATE OF GEORGIA**

**FINAL**

**March 2006**

**Prepared For:**

**Fort Benning Military Reservation**

**and**

**Department of Defense Legacy Resource Management Program**

**Contract # DABT10-01-D-0017, Work Order #18**

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**Prepared for:**

**FORT BENNING MILITARY RESERVATION**

**and**

**DEPARTMENT OF DEFENSE  
LEGACY RESOURCE MANAGEMENT PROGRAM**

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**March 2006**



## MANAGEMENT SUMMARY

Panamerican Consultants Inc. (Panamerican) was contracted by Fort Benning Military Reservation and the Department of Defense Legacy Resources Management Program to develop an historic context emphasizing the Cold War for thirteen Department of Defense (DoD) installations in the state of Georgia, which included the identification and evaluation of above ground cultural resources (e.g., infrastructure, landscape and buildings/structures). The thirteen installations included in this investigation are: Fort McPherson (1885), Fort Benning (1918), Fort Stewart (1940), Hunter Army Air Field (1940), Moody Air Force Base (1940), Fort Gillem (1941), Robins Air Force Base (1941), Fort Gordon (1941), Naval Air Station Atlanta (1941), Dobbins Air Reserve Base (1942), Marine Corps Logistics Base Albany (1952), Naval Supply Corps School Athens (1954), and Naval Submarine Base Kings Bay (1978).

The objective of this study is to establish cultural resource commonalities between these installations to aid in the timely identification of resources and the accurate assessment of their significance in order to reduce or eliminate delays to training or other mission-related activities. It is anticipated that this document will support installation cultural resource managers (CRM) in the identification, evaluation and treatment of historic properties pursuant to the National Historic Preservation Act of 1966, as amended, particularly Sections 106 and 110, and in accordance with service-specific cultural resources regulations.

Although the state of Georgia actually contains additional DoD sites, only the thirteen installations identified above are highlighted. National Guard sites and Reserve Centers are not discussed within the document unless one is part of one of the thirteen subject installations. While it was within the scope-of-work for this project to develop a Georgia Military Working Group (GMWG), the GMWG had been established previously and held its first meeting at which installation representatives presented information about their cultural resources or suggested areas of research for this study.

It had been negotiated that installation-specific research would be limited to that provided by the installations in their cultural resource management or historical reports, which the installation CRM or designate were to provide to Panamerican. In many instances this did not happen. In order to rectify the lack of installation-specific information, Panamerican conducted research at the Georgia Historic Preservation Office (GA HPO), studying all obtainable archived information on each of the thirteen installations. This course had its limitations, and it was not always possible to fully assess a particular installation's resources because of the nature of the GA HPO's installation documents,

Historical data was supplemented by readily available information and a number of historical or cultural resources studies relating to relevant commands, weapons and strategy and/or communications systems, and specific building/structure types. Nevertheless, information gaps no doubt remain and some aspects of a specific installation's cultural resources were not identified.

In general, installations contain a number of commands and/or organizations, each of which has a specific mission. For this study, an installation's mission is its command mission (e.g., Fort Benning's mission is tied to the U.S. Army Training and Doctrine Command [TRADOC]) and not its garrison or regional command. In some cases, an installation may have been utilized by different services and/or totally different commands. If any original fabric remained from the original command, that fabric was discussed; if, however, the original fabric was not extant, the

subsequent command's infrastructure and buildings were discussed. Further, a blending of two commands and/or services may have occurred, and in those occurrences, that too was noted. An annotated bibliography of monographs, reports and contexts that may be useful in the evaluation of military cultural resources is also included.

In order to assist all CRMs and to provide an overview of the thirteen designated installations, brief individual installation histories were completed in which the same categories of data were compiled for each to aid comparison. In some cases addenda were added because of the presence of a significant DoD component on that installation. Each of these histories includes a bibliography and a listing of all known monographs, reports, and contexts pertinent to that installation.

The resulting military Cold War context allows CRMs to understand the relationship of their installation to the larger military, cultural and political activities of the period, and, therefore, to better understand the significance of their installation and a particular building within the Cold War.

Because of the inherent differences between the services and their actual participation in the Cold War, a review of each service branch's National Register of Historic Places evaluation criteria is included. This can assist installations that were established as part one service but became associated with a different branch in understanding the importance and place of particular buildings from the earlier service.

The Cold War and its two hot wars, Korea and Vietnam, are still being analyzed and some of the covert operations of the time are just beginning to come to light. The intense secrecy of the period, the short-lived, quasi-military programs, and the entangled military-industrial complex ensures that the final history of the Cold War period has not been written. It is Panamerican's belief that this report is just the beginning of a dialog regarding the Cold War in Georgia and not the final word.

The objectives of this study were achieved through archival research, documentary research, and data analysis. The results are presented in this document, which is designed as a reference tool for installation CRMs, as follows:

- Section 1, Introduction, presents the installations selected for inclusion and members of the Georgia Military Working Group and discusses the uses of the context.
- Section 2, Methodology, defines terms used by the services to describe the Cold War and their various properties as utilized during the period.
- Section 3, Annotated Bibliography, details the most pertinent sources used in preparation of this report.
- Section 4, Historic Context, groups the events and activities occurring during the Cold War by a considered range of dates.
- Section 5, Installation Histories, presents brief histories of the selected installations.

- Section 6, Summary, presents a summary of the document.
- Section 7, Master Bibliography, lists the references cited.
- The report is supported by the following appendices:
  - Five Steps to Compliance for Army Cold War Properties
  - National Register of Historic Places Eligibility Criteria
  - Air Force Cold War Priority Ranking Matrix
  - Six-Step Methodology for Identifying and Evaluating Navy Cold War Resources





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## GLOSSARY/ABBREVIATIONS

AAF	Army Air Field
ABM	Anti-ballistic missile
ACC	U.S. Air Force Air Combat Command
ADC	U.S. Air Force Aerospace Defense Command
AEC	Atomic Energy Commission
AFB	Air Force Base
AI	Artificial intelligence
ALCM	Air-launched Cruise Missile
AMC	U.S. Army Materiel Command
ANZUS	Australia, New Zealand, and United States Pact
ARC	Army Reserve Center
ARPA	The Advanced Research Projects Agency, which later became the Defense Advanced Research Projects Agency (DARPA).
ASAT	Anti-satellite
AUX	Auxiliary
Avionics	Aviation electronics
BAMBI	Space-based ABM project
BASEOPS	Base Operations structures associated with administration, housing, maintenance, etc.
BMD	Ballistic Missile Defense
BMDO	Ballistic Missile Defense Organization
BMEWS	Ballistic Missile Early Warning System
BRAC	Base Realignment and Closure
Brilliant Pebbles	A system of satellites armed with interceptor rockets
C3 or C <sup>3</sup>	Command, Control and Communications
C3I or C <sup>3</sup> I	C3 Intelligence
C4 or C <sup>4</sup>	Command, Control, Communications and Computers
C4I or C <sup>4</sup> I	C4 Intelligence
CBW	Chemical and Biological Weapons
CENTO	Central Treaty Organization
CIA	Central Intelligence Agency
Cold War	The ideological, military, economic and political competition between the United States and the Soviet Union between 1946 and 1989.
Cold War Era Property	A structure built or used between 1946 and 1989 but not directly associated with the Cold War or an Army Cold War theme, and including BASEOPS.
Cold War Property	A structure erected or used between 1946 and 1989 with a direct association with the Cold War or an Army Cold War theme.
COMSAT	Defense Communications Satellite
COMSATA	Satellite Communications Agency
CONARC	Continental Army Command
CONUS	Continental United States
Corona Project	Photographic surveillance program associated with spy satellites (e.g., Corona, Argon, Discoverer, and Lanyard) from the late 1950s through the early 1970s.
CRM	Cultural Resource Manager
CRMP	Cultural Resource Management Plan
CSTA	Combat Surveillance and Target Acquisition Laboratory
DARPA	Defense Advanced Research Projects Agency.
DASA	Defense Atomic Support Agency
DEW	Distance Early Warning system; or Directed Energy Weapon

DHS	Department of Homeland Security
DoD	Department of Defense
DPMO	Defense Prisoner of War/Missing Personnel Office
DTIC	Defense Technical Information Center
EEC	European Economic Community
ELINT	Electronic intelligence
EW	Electronic warfare
EW/RSTA	Electronic Warfare/Reconnaissance Surveillance and Target
Excalibur	A nuclear-pumped X-ray laser
FONSI	Finding of No Significant Impact (part of the NEPA process)
FORSCOM	U.S. Army Forces Command
FY	Fiscal year
GLCM	Ground-launched cruise missile
GMWG	Georgia Military Working Group
GOCO	Government-Owned, Contractor-Operated
GOGO	Government-Owned, Government-Operated
GPALS	Global Protection Against Limited Strikes
Guardrail V	An airborne radio-communications interceptor and direction-finding system
HABS/HAER	Historic American Buildings Survey/Historic American Engineering Record
HARP	Historic and Archaeological Resources Protection plan
HPP	Historic Preservation Plan
HRI	Historic Resource Inventory
HUAC	U. S. House of Representatives Un-American Activities Committee
ICBM	Intercontinental ballistic missile
ICRMP	Integrated Cultural Resources Management Plan
INF	Intermediate-range nuclear force
IRBM	Intermediate Range Ballistic Missile
KEW	Kinetic energy weapon
Key Hole	Designation used for all photographic reconnaissance satellites; those used in the Corona program were KH-1, KH-2, KH-3, KH-4A, KH-4B, KH-5 and KH-6.
LADAR	Lasers Radar
Little John	Rocket armed with an atomic warhead
MAC	U.S. Air Force Military Airlift Command
MACOM	Major Command
MAD	Mutually assured destruction
MAG	Marine Aircraft Group
Minuteman	American ICBM
MIRACL	Mid-Infrared Advanced Chemical Laser, one of the largest and most powerful continuous beam lasers ever built.
MIRV	Multiple Independently targetable Reentry Vehicle; an ICBM with multiple nuclear warheads (i.e., Minuteman III)
MRBM	Medium-range ballistic missile
MRV	Multiple Reentry Vehicles; see MIRV
NAS	Naval Air Station
NASA	National Aeronautics and Space Administration
NATO	North Atlantic Treaty Organization
NAVSTAR	Global Positioning System
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NRAB	Naval Reserve Aviation Base
NRC	Naval Reserve Center

NRHP	National Register of Historic Places
Nike	ICBM missile series comprising the Ajax, Hercules and Zeus versions
NORAD	North American Air Defense/North American Aerospace Defense Command
NSA	National Security Agency
NSC	National Security Council
Optical masers	Name given to some early lasers
PAVE PAWS	Position Acquisition Vehicle Entry Phased Array Warning System
Pentomic Army	Army infantry division organization in the latter half of the 1950s that consisted of five reinforced battalions, called battle groups, designed to operate on both the conventional and nuclear battlefields. The artillery group was divided into five batteries of howitzers and a battery of Little John rockets.
Project Mudflap	A satellite interceptor project
PRV	Plant Replacement Value
RADIAC	Radiological detection identification and computations
REAL-TIME	Satellite communications system
ROAD	Reorganized Objective Army Division
ROTC	Reserve Officer Training Corps
SAC	U.S. Air Force Strategic Air Command
Safeguard	An ABM system deployed in April 1975
SAGE	Semi-Automated Ground Environment
SAINT	An early satellite interceptor program.
SALT	Strategic Arms Limitations Talks
SATCOMA	Army Advent Management Agency, re-designated the U.S. Army Satellite Communications Agency in 1962.
SCORE	Signal Communications via Orbiting Relay Experiment; the first communications satellite.
SDI	Strategic Defense Initiative
SDIO	Strategic Defense Initiative Organization
SDS	Strategic Defense System
SEATO	Southeast Asia Treaty Organization
SEMIRAD	Secondary-Electron Mixed-Radiation
SHPO	State Historic Preservation Office
Sigma Project	A program to integrate all field data operations using interchangeable hardware and software.
SINCGARS	VHF-FM Single Channel Ground and Airborne Radio System
SISS	U.S. Senate Internal Security Subcommittee
SLBM	Submarine-launched ballistic missile
“Star Wars”	Colloquial term for the Strategic Defense Initiative (SDI)
SSBN	Nuclear-powered fleet ballistic missile submarine
START	Strategic Arms Reduction Treaty
SW	Signals Warfare
SYNCOM	Synchronized Satellite Communications
TAC	U.S. Air Force Tactical Air Command
TASS	Tactical Avionics System Simulator
TIROS	Television Infrared Observational Satellite
TRADOC	U.S. Army Training and Doctrine Command
TOS (or ATOS)	Army Tactical Operations System
U-2	American spyplane nicknamed “Dragon Lady”
UPH	Unaccompanied Personnel Housing
USACE	U.S. Army Corps of Engineers
USACERL	U.S. Army Construction Engineering Research Laboratory
USAEC	U.S. Army Environmental Center



USAF	U.S. Air Force
USMC	U.S. Marine Corps
USSR	Union of Soviet Socialist Republics; called the Soviet Union
Vanguard	American satellite launched in 1958.
Vanguard II	American weather research satellite
VHSIC	Very High Speed Integrated Circuit
Viking I	American spacecraft that landed on Mars in 1976.

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This report could not have been completed without the assistance of many people at the Georgia HPO's office. Their interest in military cultural resources proved to be a boon to our research.

Finally, we thank the cultural resources managers and their designates who responded to our request for information. They are: Mr. Jean Paul Pentacouteau, Fort McPherson/Fort Gillem; Mr. Roy Wilkinson, Kings Bay Submarine Base; Mr. Larry White, Public Works Office, Naval Air Station Atlanta; Ms. Jennifer E. Grover, Chief, Environmental Branch, DPW, Fort Stewart/Hunter Army Airfield; Mr. Joseph Paul Maggioni, Architectural Historian, TAD Technical, Fort Stewart/Hunter Army Airfield; Mr. Stephen A. Hammack, Historical Archaeologist, Robins AFB; Mr. Ernie Seckinger, Archeologist, USACE, Mobile District, Mobile, AL; and Mr. Mark D. Floyd, Base Conservation Program Manager, Dobbins ARB.



## 1.0 INTRODUCTION

Panamerican Consultants Inc. (Panamerican) was contracted by Fort Benning Military Reservation and the Department of Defense Legacy Resources Management Program to develop an historic context emphasizing the Cold War for thirteen Department of Defense (DoD) installations in the state of Georgia, which included the identification and evaluation of above ground cultural resources (e.g., infrastructure, landscape and buildings/structures). The thirteen installations included in this investigation are: Fort McPherson (1885), Fort Benning (1918), Fort Stewart (1940), Hunter Army Air Field (1940), Moody Air Force Base (1940), Fort Gillem (1941), Robins Air Force Base (1941), Fort Gordon (1941), Naval Air Station Atlanta (1941), Dobbins Air Reserve Base (1942), Marine Corps Logistics Base Albany (1952), Naval Supply Corps School Athens (1954), and Naval Submarine Base Kings Bay (1978). The objective of this study is to establish cultural resource commonalities between these installations to aid in the timely identification of resources and the accurate assessment of their significance in order to reduce or eliminate delays to training or other mission-related activities.

The DoD, as a federal agency, has management responsibilities concerning the protection and preservation of cultural resources on land it controls or uses. Federal statutes require the Army, Navy, Air Force, and Marine Corps to identify and evaluate significant cultural resources on their properties, and include: National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 *et. seq.*) which includes Section 106 compliance; National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4371 *et. seq.*); Historic Preservation Act of 1974 (16 U.S.C. 469-469c); The Advisory Council on Historic Preservation Guidelines for Protection of Cultural and Historic Properties (36 CFR Part 800). Each service branch has its own specific cultural resource regulations, for example Army Regulation (AR) 200-4 Cultural Resources Management; Secretary of the Navy Instruction (SECNAVINST) 4000.35, Department of the Navy Cultural Resources Program; and Air Force Instruction 32-7065, Cultural Resource Management.

Although Panamerican was tasked within the scope-of-work for this project to develop a Georgia Military Working Group (GMWG), it had already been established and held its first meeting at which installation representatives presented papers and/or information about their cultural resources or proposed areas of potential research that could be addressed by this study. It had been negotiated that installation-specific research would be limited to that provided by the installations in their cultural resource management or historical reports, which they were to provide to Panamerican. In addition Panamerican conducted research at the Georgia Historic Preservation Office (GA HPO), studying all archived information on each of the thirteen installations. Historical data was supplemented by readily available information and a number of historical or cultural resources studies relating to commands, weapons and strategy and/or communications systems, and specific building/structure types.

Ms. Kelly Nolte, Panamerican Senior Architectural Historian, Mr. Mark A. Steinback, Panamerican Senior Historian, and Ms. Stacey L. Griffin, Panamerican Architectural Historian, conducted fieldwork at the GA HPO, Atlanta, in January 2004. Both Ms. Nolte and/or Ms. Griffin also visited Fort Benning, Fort McPherson, Fort Stewart, and Hunter Army Air Field during 2004. Mr. Steinback prepared the historic context and edited the report. Ms. Nolte prepared the individual installation histories with the assistance of Ms. Amber L. Courselle as well as additional text.

## 1.1 INSTALLATIONS

**Installations Included in this Report.** The thirteen installations highlighted in this study are scattered throughout the state of Georgia with the preponderance located in and around the city of Atlanta (Figure 1). Installation locations noting the nearest municipality and the county or counties in which they are found are indicated below:

<b>Installation</b>	<b>Location</b>
Fort Benning	Columbus, Muskogee and Chattahoochee Counties
Fort Gillem	Atlanta, Clayton County
Dobbins Air Reserve Base	Marietta, Cobb County
Fort Gordon	Augusta, Richmond County
Hunter Army Air Field	Savannah, Chatham County
Fort McPherson	Atlanta, Fulton County
Marine Corps Logistics Base Albany	Albany, Dougherty County
Moody Air Force Base	Valdosta, Lowndes and Lanier Counties
Naval Air Station Atlanta	Marietta, Cobb County
Naval Submarine Base Kings Bay	Kings Bay, Camden County
Navy Supply Corps School Athens	Athens, Clarke County
Fort Stewart	Hinesville, Evans, Bryan, Liberty, Long and Tattnal Counties
Robins Air Force Base	Warner Robins, Houston County

Fort Benning is also located in Russell County, Alabama; and Kings Bay is also located in Nassau County, Florida.

**Installations Excluded from this Report.** Although thirteen DoD facilities are highlighted in this study, the state of Georgia actually contains additional DoD sites. Among these are: Army Recreation Area Lake Allatoona (Active Army), Marietta; Camp Frank D. Merrill/Mountain Ranger Camp/Mosby Army Heliport (Army Active), Dahlonga; Catoosa Training Site ([Tennessee] Army Guard), Tunnel Hill; Decatur USARC (Army Reserve), Decatur; Air Force Plant No.6, Marietta; Gynco Air National Guard Station (Air National Guard/Homeland Security), Brunswick; Savannah International Airport (Air National Guard). The installations listed above do not include sites that are less than 10 acres in size or have a replacement value of at least than \$10 million. In the state of Georgia, the Army holds 92 such sites; the Navy has four; the Air Force owns ten; and the Marine Corps two (Office of the Under Secretary of Defense 2003). For a complete list of all DoD facilities within the state of Georgia please see Section 5, Table 8. Some of the thirteen installations are host to other intra-service operations and have distinctive areas set aside for those services. These areas are discussed in the host installation's specific history.

National Guard sites and Reserve Centers are not discussed within the study unless one is part of one of the thirteen subject installations. While National Guard elements are important components of the DoD, the budget for this study precluded any in-depth research in this area. However, a survey and assessment of Naval Reserve Centers within the Southern Division area has been completed and specifically highlights: Naval and Marine Corps Reserve Center (NRC), Atlanta; Naval and Marine Corps Reserve Center, Augusta; Naval Reserve Center, Columbus; and Naval and Marine Corps Reserve Center Savannah (Moore et al. 1995). The Moore report believed that NRC Augusta (1947) and NRC Savannah (1948) are likely to be determined eligible for the National Register of Historic Places (NRHP) if integrity remains.

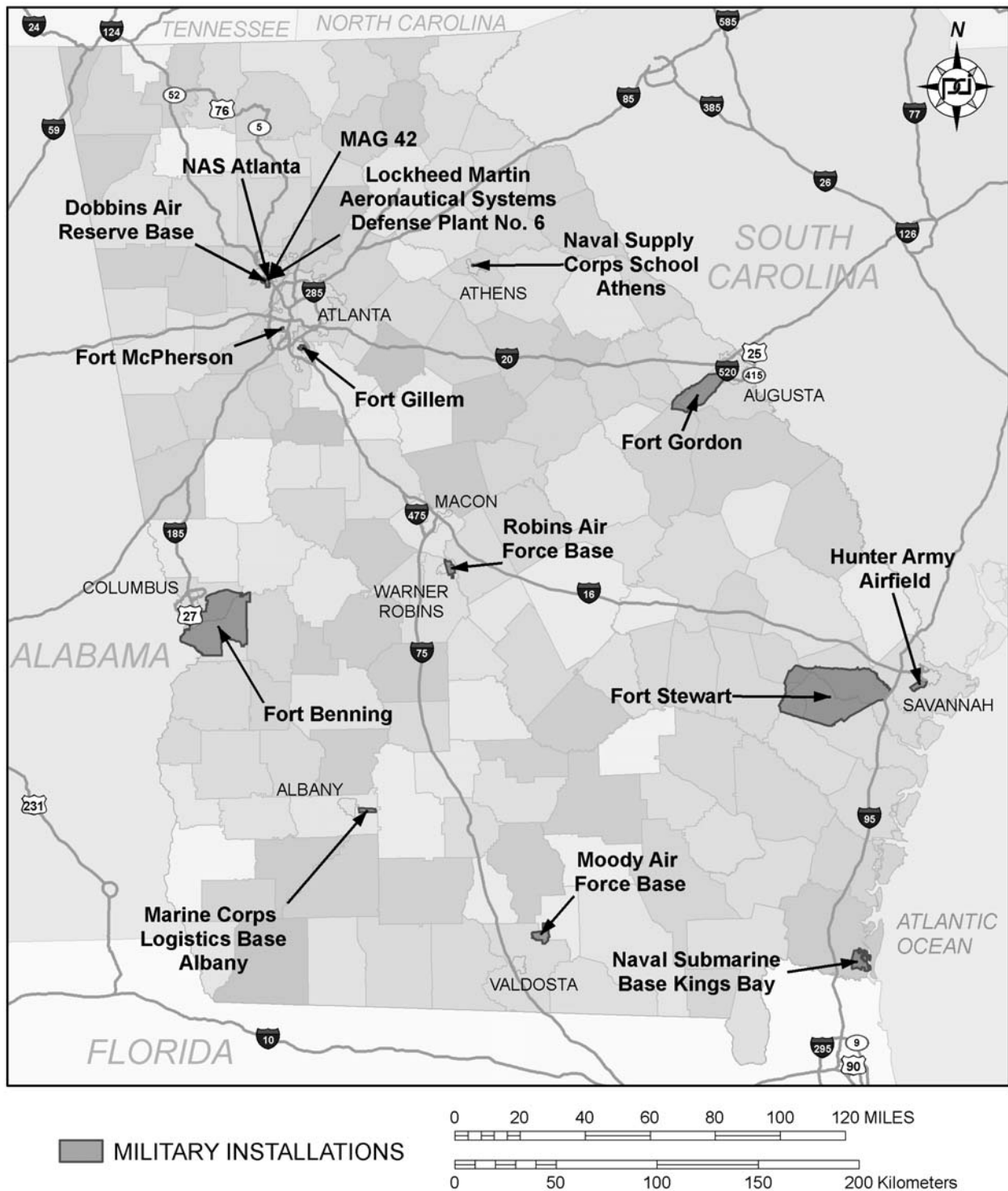


Figure 1. Location of Department of Defense installations in the state of Georgia highlighted for this study.

The Department of Homeland Security (DHS) has begun using some defunct installations as training schools for law enforcement officers and other first responders for the next possible terrorist attack. One of these is the Naval Air Station (NAS)-Glynco, Brunswick, GA, which had been built to boost America's defensive might at the beginning of World War II. Although a small Air National Guard contingent is located at NAS-Glynco; it is essentially a DHS site. The transition of this installation from the Pentagon to Homeland Security is considered a major success story (McMurray 2004).

After NAS-Glynco closed in 1974, the U.S. Congress began to notice lax police work at the federal level and authorized the creation of the Federal Law Enforcement Training Center at NAS-Glynco. The training environment took advantage of the former installation's barracks, offices, aircraft runways and other infrastructure in order to create realistic training scenarios (McMurray 2004).

DoD operates 108 small sites (less than 10 acres and at least \$10,000,000 Plant Replacement Value (PRV) in the state of Georgia. The Navy Space Command operates two receiver sites in Georgia, one at Tattal and one at Hawkinsville, which would fall into this category. The other 106 sites are not known and none of them are covered within this study.

The Navy Space Command provides space support on day-to-day operations of the Fleet and Fleet Marine Forces worldwide. Space support provided to terrestrial and naval forces can be categorized across a broad spectrum of activities that encompasses communications, surveillance and indication, and warning, intelligence, navigation, and remote sensing. Toward this end, the Navy Space Command operates a surveillance network of nine field stations located across the southern United States. Three are transmitter sites and six are receiver sites. These surveillance stations produce a "fence" of electromagnetic energy that can detect objects out to an effective range of 15,000 nautical miles (Thomson 2004).

More than a million satellite detections or observations are made each month through this network. The data gathered is transmitted to a computer at the Naval Space Command Headquarters in Dahlgren, VA. The information is then used to constantly update a database of orbital elements. The information is then passed on to Fleet and Fleet Marine Forces to alert them when particular satellites of interest are overhead (Thomson 2004).

**Closed Installations.** In establishing a regional context and placing an installation within it, it is helpful to understand that existing installations may have had long standing relationships and/or housekeeping duties related to installations that are no longer extant or that are no longer used as originally intended. In some cases, these former installations still have some of their original buildings and parts of their infrastructure.

In some communities former installations have been successfully converted into private sector industrial complexes as part of local/regional redevelopment efforts. A true success story in this category is the former Turner Air Force Base (AFB), Albany, GA. Turner began as a new U.S. Army Air Corps training facility in 1941 and by 1947 was Turner Air Force Base home of the venerable 31<sup>st</sup> Fighter Group, which had seen action in the Mediterranean and European theaters during World War II. Turner hosted both Strategic Air Command and Tactical Air Command units. In 1957 the 31<sup>st</sup> went to Ninth Air Force at Laughlin AFB, TX, and in 1967 the base was commissioned as Naval Air Station Albany with some Marine and Reserve components. In 1974, like NAS-Glynco, NAS-Albany closed (GlobalSecurity.Org 2004o).

The city of Albany went to school to learn how to deal with “Uncle Sam” and initiated a major redevelopment and industry-recruiting effort. The city’s effort is now considered a classic, textbook example of installation reuse and is hailed by the General Services Administration. By 1976 Kroger/Tara Foods acquired a building, and by 1980 Miller Brewing, Delco-Remy, and Proctor & Gamble had moved substantial operations into the former base. Now Miller Brewing is the largest employer in the Albany area, and the community’s economy is back on track (GlobalSecurity.Org 2004o).

The Defense Distribution Depot Albany (DDAG) is still physically located on a portion of the former Turner AFB but is technically part of Marine Corps Logistics Base (MCLB) Albany, GA. The MCLB also had housing, Boyette Village, at Turner, but divested itself of that housing in 1996 in a public/private venture (GlobalSecurity.Org 2004o).

At the beginning of World War II, the Army created hundreds of small airfields all over the United States, many of which were housekeeping activities for large installations. These small Army airfields in many cases became the municipal airports, both large and small, of today. At the end of World War II more than 500 military airfields were declared surplus and given to cities, counties, or states for civilian aviation use with the caveat that they be available to the government in the event of a national emergency. Many of these civilian airports still show traces of their military past in scattered metal World War II-era hangars or associated National Guard training units. In Georgia, the known former Army airfields (AAF) include: Decatur County Industrial Airpark (Bainbridge AAF); Savannah International (Chatham AAF); Middle Georgia Regional (Cochran Field); Daniel Field, Augusta (Daniel Field); W.H. “Bud” Barron, Dublin (Dublin AAF); unknown, Newport (Harris Neck AAF); Moultrie Municipal (Moultrie AAF); Plantation Airpark, Sylvania (Sylvania AAF); Thomasville Municipal (Thomasville AAF); Henry Tift Myers, Tifton (Tifton AAF); Industrial Park, Albany (Turner AAF); Vidalia (Vidalia AAF); and Waycross-Ware County (Waycross AAF) (Murdock 2002).

Several auxiliary airfields once associated with Turner AAF seem to be unaccounted. These include: Leesburg Auxiliary #1 (8.5 miles northeast of Leesburg), West Smithville Auxiliary #2 (4.5 miles southwest of Smithville), West Leesburg Auxiliary #3 (2.5 miles southwest of Leesburg), North Smithville Auxiliary (3.5 miles northeast of Smithville), and Cordele Auxiliary #7 (1.5 miles southeast of Cordele) (Freeman 2004). Moody AFB also had a number of auxiliary fields including: Rocky Ford Auxiliary #1 (no longer extant); Lake Park Auxiliary Army Airfield #2 (no longer extant); and Bemiss Auxiliary AAF #3 (now being considered by Moody for a training area). Bainbridge AAF, now Decatur County Industrial Airpark also had a number of auxiliary (AUX) fields including: Reynolds AUX AAF (no longer extant); Vada AUX AAF #4 (no longer extant); Babcock AUX AAF #5 (no longer extant); and Commodore Decatur AUX AAF #6 (exists but is no longer used for air traffic) (Freeman 2004).

Many installations, especially Air Force bases, at one time supported Nike missile stations. This was true of Turner, which was surrounded by a ring of Nike Hercules surface-to-air missiles, as was customary at B-52 bases during the Cold War. Turner’s Nikes were installed at two nearby off-base locations and were armed with nuclear warheads (Freeman 2004).

At least one site, the Shellbine Airfield and Rocket Test Site, Bemiss, GA, was the location of a former Thiokol rocket engine plant with National Aeronautics and Space Administration (NASA) contracts (Freeman 2004). Although an auxiliary AAF associated with Moody AFB was located at Bemiss, it is not known if Shellbine had a relationship with Moody. Thiokol was heavily



invested during the Cold War in liquid propellant rocket engines, and has continued to be a major player in the military-industrial complex. Certainly, other defunct military sites exist within Georgia. Nevertheless, this small sampling should provide enough information to help point interested individuals to other possible resources.

## 1.2 LIMITATIONS

Panamerican encountered a number of obstacles that may have impacted the study. Primary among these was the large, both in terms of geography and research required, scope-of-work and the relatively modest budget, which precluded visits to suggested research locations and to each of the thirteen installations. It had been negotiated that installation-specific research would be limited to that provided by the installations in their cultural resource management or historical reports, which they were to provide to Panamerican. Only four installations sent any information and one declined to be part of the study. As a result, it is probable that some things have been overlooked in this study because of a lack of information. In order to rectify the lack of installation-specific information, Panamerican conducted research at the Georgia Historic Preservation Office (GA HPO), studying all archived information on each of the thirteen installations.

While these archives are certainly helpful, not every installation files, or is even compelled by law to file, all its cultural resource documents with the HPO. Internal facility documents, such as Integrated Cultural Resource Management Plans (ICRMPs, or similar), or special research does not legally have to be filed with the State Historic Preservation Officer (SPHO). Further, some installations seemed to have had very limited contact with the GA HPO or, in the case of Kings Bay Submarine Base, are so new and have so few remaining above ground resources that it has not been necessary to file any Section 106 (of the National Historic Preservation Act) compliance documents. Because of the nature of the GA HPO installation documents, it was not always possible to fully assess a particular installation's resources.

Historical data was supplemented by readily available information and a number of historical or cultural resources studies relating to commands, weapons and strategy and/or communications systems, and specific building/structure types. However, after 9/11, many installations pared down the information presented to the public on the Internet, and, in some cases, took off information that had been previously provided. Maps of some installations are impossible to obtain, while others offered them online. It was not always clear that the lack of maps and information was related to an installation's mission and security since Kings Bay, a nuclear facility, readily provides all types of information, pictures and maps on its web site. Nevertheless, information gaps no doubt remain and some aspects of a specific installation's cultural resources were not identified.

Another significant issue was the multiplicity of tasks, tenants and missions, service branches, and organizations that are located on or associated with a single installation. Many times an installation's basic history reports or surveys do not even mention the fact that another service branch or organization also is located at the site. The services tend to ignore areas of an installation that do not immediately relate to their mission. Clarifying relationships through history was many times virtually impossible given the information provided or available.

Working across service branches was interesting. For example, the definitions of terms such as "Cold War," the dates of the Cold War, the concept of mission, and the significance of particular

buildings/structures, systems, and doctrine change dramatically from service to service and decade to decade within the Cold War years. The Army and Air Force have instituted a series of Cold War guidelines and have written contexts for a number of major commands and events. The Navy and Marine Corps, on the other hand, have no such guidelines and have only small contexts written for specific entities, such as guided missiles. Because the Air Force was the preeminent service during the Cold War, the other service branches many times were engaged in great turf battles with that service. Doctrine and training were created in small part as a reaction to these turf disputes. While these internal wars can be briefly discussed within the historic context and within installation-specific histories, they can never fully illuminate the great concerns that each service had for its very existence, for adequate funding, and for public and congressional attention.

The two hot wars, Korea and Vietnam, embedded within the Cold War further muddy the waters. Although reams have been written about these conflicts, including some unit histories and a few contexts for aspects of the Cold War, no service-specific contexts exist for these two hot wars. There are a few big-picture doctrinal- and systems-analysis books for some of the services during these wars, but on the whole these monographs focus very tightly on the doctrine and systems and their relationships to the wars, not the wars themselves. Even establishing the dates of these conflicts alone posed a problem. Until military contexts are developed for the hot wars, it is difficult to adequately mesh them with the Cold War and to an installation's specific history. Further, in the case of most installations, written histories generally gloss over the two wars providing a single paragraph for both or at best one paragraph for each.

The role of the military-industrial complex is vital to understanding the Cold War. However, the purpose and objectives for this study leave little room for the exploration of it. The relationship is discussed in a small way within the study, but its vital role is outside the SOW for this project. For example, it is known that Shellbine Airfield and Rocket Test Site, Bemiss, GA, was the location of a former Thiokol rocket engine plant with NASA contracts (Freeman 2004). Thiokol was heavily invested during the Cold War in liquid propellant rocket engines, and has continued as a major player in the military-industrial complex (see Nolte et al. 1999 for an example of the military-industrial complex in New Jersey). Nevertheless, the importance of the military-industrial complex within Georgia and the Cold War military is only briefly highlighted

Although outside of the scope of this study, exploration of the relationships between defunct and existing installations would deepen the discussion of Cold War military in Georgia. Known relationships are very briefly discussed in this study, however, it is incumbent upon the reader to further explore particular relationships. As the military continues to shrink or "right-size" in the face of changing missions and cost uncertainty, information may be lost as installations are deactivated and their missions turned over to different commands. The full scope of an activity and the complexity of the Cold War are poorly understood when installations are discontinued and their records are not considered. Avenues of further research include delineating defunct installations, detailing their missions and commands and linking them with current installations and missions to fill in anticipated gaps.

Finally, the Defense Technical Information Center (DTIC) serves as a central clearing house for many technical and cultural resources reports for the DoD and the various service branches. However, the inclusion of some cultural resource documents, particularly those pertinent to the Cold War and historic contexts of particular programs is sporadic, perhaps because of the once classified nature of some of these missions. In most cases, searching the Internet, networking within the military community, and accidentally stumbling over reports seems to be the only

methods to find them. While Panamerican has collected military cultural resources documents for more than 10 years, scoured the Internet and spoken to hundreds of individuals, it is inevitable that some documents were not found. Some services, like the Navy, are presently creating documents—in the Navy’s case a Cold War context—that will ultimately be very helpful in understanding military history. Therefore, this study should be considered the beginning and not the end of Georgia’s military Cold War context.

### **1.3 USING THIS CONTEXT**

The goal of this study is to establish Cold War, above ground cultural resource commonalities between thirteen DoD installations in the state of Georgia to aid cultural resource managers in the timely identification of resources and the accurate assessment of their significance in order to reduce or eliminate delays to training or other mission-related activities. There are, of course, many hurdles to jump in comparing buildings, structures and landscapes across Army, Navy, Air Force and Marine Corps installations. Moreover, the earliest part of the Cold War and resources pertinent to that period have only recently turned 50 years of age, which does not afford the perspective of history through which to view them. The Cold War, which lasted more than 40 years, was the United States’ longest “war,” and was embedded with two “hot” wars, Korea and Vietnam. In fact, the majority of Cold War resources at any given installation are less than 50 years old. For installation CRMs, or even the interested amateur, assessing Cold War resources can be incredibly confusing. This study attempts to address some of the confusion by providing a series of Cold War definitions (terminology and dating), building/property types, military landscape definitions, names of architects/engineers/builders, bibliographies, contexts, and histories.

Because of the nature of the Cold War, its length and relative age—its end date was less than 20 years ago—each of the service branches have specific criteria defining the war and dealing with its cultural resources. When assessing a Cold War era cultural resource, a CRM should first know each particular service’s dating of and definitions related to the Cold War (see Section 2.1 Definitions). These dates and definitions provide the initial framework for consideration of NRHP eligibility. Although the hot wars of Korea and Vietnam are discussed within this report, they are not the focus of this text. Nevertheless, Panamerican would be remiss if it did not mention that cultural resources may be eligible for the NRHP as Korean or Vietnam War resources, which are not typically treated as a part of the Cold War.

For many CRMs, the resources being managed date to a period when a different service was responsible for the installation. As a result, it becomes necessary for the CRM to understand the original service’s terminology, dating, and mission, if possible. This section of the report, therefore, is clearly divided by DoD service branch for easy reference.

Each service also provides its CRMs with a list of Cold War property types, both NRHP eligible and not eligible. Unfortunately, each service lists its eligible/not eligible properties in quite different ways and has a number of “tests” that a building/structure or landscape must pass in order to be eligible for listing in the NRHP (see Section 2.2 Cold War Building/Property Types). This section combined with specific bibliographic references from the Annotated Bibliography (see Section 3.0) provides the CRM with a way to compare building types across the services.

What may be a more helpful property-type reference is the compilation of known architects and engineers who worked at Georgia’s DoD installations (see Section 2.2 Cold War

Building/Property Types, Table 7). This list provides the name and location of the architect, the name and location of the installation, the service branch for which the architect designed, and the resource (building, structure or landscape) designed. This is a good quick reference for architects and the types of buildings designed.

Another helpful property-type reference may be the individual histories of the thirteen DoD installations themselves (see Section 5.0). All of the histories are arranged in the same order and address the same topics. These brief installation-specific histories are not meant to be comprehensive, and only note prominent activities occurring at the facility, while illustrating potential commonalities with other the installations. A CRM can look at the information provided in any of the categories and cross-reference that information. In addition to the individual histories, several installations have come together to form the Georgia Military Working Group (GMWG). This informal group seeks to share cultural resources information and is willing to answer questions about its resources. Table 1 lists members of the GMWG as well as those CRMs, and other interested individuals, contacted for this study. Having a list of CRMs, or those individuals serving in that position, throughout the state may be of great assistance in tracking down cultural resources information.

One of the most important pieces of information provided is the Annotated Bibliography (see Section 3.0). Despite the existence of DTIC, no one clearing house for Cold War-specific DoD cultural resources information and contexts exists. This extensive cross-service bibliography serves as a first step in gathering that disparate information. The Annotated Bibliography covers a range of topics and provides notes to which installation a document may be pertinent. In addition, the history of each of the thirteen installations has a bibliography specifically related to that installation, which also may be helpful.

Finally, this study provides a general context of events and activities that occurred during the Cold War and relates those activities, or reactions to them, to installations in the state of Georgia. It is not intended to be the final word on the Cold War in Georgia or a definitive history; it is, instead, meant to provide a common historical backdrop against which to identify and assess shared cultural resources.

While this study provides the CRM with tools to assist in identifying and assessing common cultural resources, there are a number of things it cannot do. This study cannot definitively assess a particular building, structure or landscape as eligible or not eligible for the NRHP. It cannot provide a definitive history of the state of Georgia during the Cold War or the two hot wars. This study does not provide a definitive history of the thirteen profiled DoD installations during the Cold War. It does not provide a definitive inventory of each installation's buildings, structures or landscapes nor does it cover all of their National Register or National Historic Landmark (NHL) eligible and nominated properties. Nevertheless, it does provide to the CRM the kind of information that will be helpful in comparing cultural resources throughout the state and assisting in their timely identification and accurate assessment of significance in order to reduce or eliminate delays to training or other mission-related activities.

**Table 1.**  
**Members of the Georgia Military Working Group, Cultural Resources Managers at Georgia DoD Installations, and Other Helpful Cultural Resources Individuals**

Name	Installation	Address	Phone Number	Email Addresses
Mr. Allen Braswell*	Fort Gordon	Attn: ATZH-DIE (Forestry) Building 14600, 15th Street, Fort Gordon, GA 30905	706-791-6136	braswela@gordon.army.mil
Ms. Julia Cantrell	Air Force Center For Environmental Excellence	HQ AFCEE/ECC 3207 North Rd Brooks AFB, TX 78235	205-536-3515	Julia.Cantrell@hqafcee.brooks.af.mil
Mr. Jim Cobb*	IMA, Southeast Region	SERO, Attn: SFIM-SE-PW-E 1593 Hardee Avenue, SW Fort McPherson, GA 30330	404-464-0713	cobbj@forscom.army.mil
Mr. Robert Drumm	Fort Gordon	FGGA Cultural Resources Specialist, Fort Gordon, GA 30905		robert.drumm2@us.army.mil
Mr. Mark Floyd	Dobbins ARB	Base Conservation Program Manager, 94MSG/CEV, 901 Industrial Drive, Dobbins ARB, GA 30069	678-655-3549	Mark.Floyd@dobbins.af.mil
Ms. Beth Grashof	Architect	Grashof Design Studio 1696 McLendon Avenue, NE Atlanta, GA 30307	404-337-1226	bgrashof@joimail.com
Mr. Brian Greer	HQS 3D IN DIV (MECH) and Fort Stewart	Chief, Environmental Branch Directorate of Public Works 1557 Frank Cochran Drive Fort Stewart, GA 31314	912-767-0992	brian.greer@stewart.army.mil
Ms. Jennifer Grover*	HQS 3D IN DIV (MECH) and Fort Stewart	Chief, Environmental Branch Directorate of Public Works 1557 Frank Cochran Drive Fort Stewart, GA 31314	912-767-3359	jennifer.grover@stewart.army.mil
Dr. Chris Hamilton*	US Army Infantry Center, Fort Benning	Directorate of Facilities Engineering & Logistics Attn: ATZB-ELEN-E Meloy Hall Fort Benning, GA 31905	706-545-2377	hamiltonc@benning.army.mil
Mr. Stephen Hammack	Robins AFB	455 Byron Street Suite 419 Robins AFB, GA 31098	478-926-7392	Stephen.Hammack@robins.af.mil
Mr. Lee Harrison	Fort Gordon	FGGA Cultural Resources Specialist Fort Gordon, GA 30905		hubert.lee.harrison@us.army.mil
Mr. Ron Johnson*	Navel Facilities Engineering Command, Southern Division	Code ES14-Head Cultural Resources Branch P O Box 190010 North Charleston, SC 29429-9010	843-820-5990	
Mr. Larry Jones	US Army Infantry Center, Fort Benning	Directorate of Facilities Engineering & Logistics Attn: ATZB-ELEN-E Meloy Hall Fort Benning, GA 31905		JonesLR@benning.army.mil
Mr. Brian Lione	DoD Legacy Resource Management Program	Cultural Resources Management Specialist	703-604-1724	Brian.Lione.CTR@osd.mil

<b>Name</b>	<b>Installation</b>	<b>Address</b>	<b>Phone Number</b>	<b>Email Addresses</b>
Mr. Paul Maggioni*	HQS 3D IN DIV (MECH) and Fort Stewart	Chief, Environmental Branch Directorate of Public Works 1557 Frank Cochran Drive Fort Stewart, GA 31314	912-352-6027	paulmaggioni@yahoo.com
Mr. Chris McDaid	IMA, Northeast Region	Commander, HQ TRADOC Attn: ATBO-SE Fort Monroe, VA 23651		chris.mcdaid@monroe.army.mil
Ms. Julie Morgan	US Army Corps of Engineers	Savannah District P O Box 889 Savannah, GA 31402-0889	402-697-2505	julie.a.morgan@asa02.usace.army.mil
Ms. Felicia Nichols	Georgia Department of Defense	Biologist Environmentalist II 935 E. Confederate Ave. Bldg. #21 P O Box 17965 Atlanta, GA 30316-0965	404-642-6585	felicia.nichols@ga.ngb.army.mil
Mr. Jean Paul Pentecoteau*	Fort McPherson	Directorate of Installation Support Attn: AFZK-IS-E 1322 Cobb Street SW Fort McPherson, GA 30330	404-464-4148	
Mr. Rick Pittman	Naval Supply Corps School	Public Works Office 1425 Prince Avenue Athens, GA 30606-2205	706-354-7298	Pittman rick@nscs.com
Mr. Ernie Seckinger	USACE, Mobile District	Department of the Army Mobile District, Corps of Engineers CESAM-PD-EI PO Box 2288 Mobile, AL 36628-0001	251-694-4107	Ernie.seckinger@us.army.mil
Mr. Marty Tagg	HQ AFMC/MS (CEVQ)	4225 Logistics Avenue Room A-128 Wright-Patterson AFB, OH 45433-5747	937-656-1281	martyn.tagg@wpaf.af.mil
Ms. Johnna Thackston*	Moody AFB	347 CES-CEVA 3485 Georgia Street Moody AFB, GA 31699	229-257-2396	johnna.thackston@moody.af.mil
Dr. Jay Thomas	Naval Facilities Engineering Command	Code BDD Headquarters, Naval Facilities Engineering Command 1322 Patterson Ave., SE Suite 1000 Washington Navy Yard, D.C. 20374	202-685-9196	
Mr. Larry White	Naval Air Station Atlanta	Public Works Office 1000 Halsey Ave Marietta, GA 30060-5099	770-919-6519	
Mr. Jim Wilde	Air Force Center For Environmental Excellence	HQ AFCEE/ECC 3207 North Rd Brooks AFB, TX 78235		
Mr. Ron Wilkinson*	King's Bay Submarine Base	Code FE42 King's Bay Submarine Base 1063 USS Tennessee Avenue King's Bay, GA 31547	912-673-2001 x4678	wilkinsonron@subasekb.navy.mil

\*Members of the Georgia Military Working Group

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## 2.0 METHODOLOGY

This study was undertaken to develop an historic context emphasizing the Cold War for DoD installations in the state of Georgia, and establish cultural resource (e.g., infrastructure, landscape, buildings/structures) commonalities between the thirteen selected installations to aid in the identification and assessment of resources and their significance in order to expedite training or other mission-related activities. Tasks to be employed in preparation of the present report were identified in the scope-of-work. They included:

- Develop a statewide and regional historic context for the existing Army, Air Force, Navy and Marine Corps installations in Georgia, including but not limited to: Fort McPherson (established 1885), Fort Benning (1918), Fort Stewart (1940), Hunter Army Air Field (1940), Moody Air Force Base (1940), Fort Gillem (1941), Robins Air Force Base (1941), Fort Gordon (1941), Dobbins Air Force Base (1942), Naval Supply Corps School (1954), and Naval Submarine Base (King's Bay) (1978). Reserve and National Guard components will be included as appropriate.
- The primary focus of the study shall be mission and infrastructure oriented, with emphasis on the period from World War II through the end of the Cold War. Of particular interest is the physical plant required to support those missions.
- Develop/analyze the history of each installation to place each installation within the larger context of the military history of the state and the southeast region, and to establish the relative significance and context of the various installations in relation to each other. This will require research into the general military strategy of the United States as a whole at the time each installation was established.
- Analyze differences and similarities between installations in terms of military/mission history, installation site plan and building types constructed to support mission.
- Establish a Georgia Military Working Group of cultural resources personnel from the above installations and with the Georgia State Historic Preservation Office to provide a forum in which to discuss management issues as they relate to all cultural resources types.

An approach also was suggested, as follows:

- Convene first meeting of GMWG, along with the SHPO. The purpose of this meeting is two-fold. First, the GMWG shall meet with the contractor to discuss the scope-of-work, research requirements, and other general issues that relate to the history of the participating installations. The second purpose shall be a workshop for the participating installation cultural resources program managers. Each installation shall present a paper describing their program including an overview of the installation's history, summary of cultural resources, status of cultural resources identification/evaluation, management challenges, effects on mission and/or training, partnerships, Integrated Cultural Resources Management Plans (ICRMP), etc. Major Army Commands (MACOM) representatives will act as facilitators as well as presenters, providing information on policy, management challenges, reporting requirements, budget constraints, etc., at the MACOM and headquarters level.
- Study existing installation histories. The focus of the study, and any subsequent research, shall be primarily mission oriented, with emphasis on the period from World War II through the end of the Cold War (although it is expected that a brief discussion of any pre-World War II history will be required). Of particular interest is the physical plant required to support those missions.
- Conduct primary research as required for installations with inadequate histories. It is expected that some research may be required to provide the detail necessary to determine the reasons for establishing a particular installation. Research locations can



include, but are not limited to, the National Archives, both the Army and the Army Corps of Engineer's Centers for Military History, the US Army Military History Institute, the Naval Historical Center, and similar centers for military history [This item was later negotiated out of the SOW].

- Analyze existing historic context studies of various building types, which have been prepared by/for the services.
- Develop statewide historic context, including some discussion of regional and national context as appropriate. Determine why site was selected for each installation, both political and strategic reasons. Include any discussion of proximity to other installations existing at the time each of the subject installations was established. Also to be included is a discussion of the mission of each installation and how/where that mission fit into the overall military strategy of the United States both at the time each installation was established and throughout it's history through the end of the Cold War.

As noted, the GMWG was preexisting and had held its first meeting at which installation representatives presented papers and/or information about their cultural resources or suggested potential areas to be addressed by this study. During the initial project planning with the GMWG, it was determined that visits to suggested research locations and to each of the thirteen installations would not be required. As a result, primary research was not conducted to the extent suggested in the SOW and it was negotiated that installation-specific research would be limited to that provided by the installations in their cultural resource management or historical reports, which they were to provide to Panamerican. Although several installations were present at the first GMWG meeting and agreed to provide such materials to any contractor conducting the study, this did not happen. Only four installations provided any information. In order to rectify the lack of installation-specific data, Panamerican conducted research at the GA HPO, studying all archived information on each of the thirteen installations, analyzed readily available documents, including those on the Internet and area libraries, and reviewed numerous studies related to commands, weapons and strategy, and/or communications systems. Monographs discussing specific building/structure types also proved helpful in reducing information gaps.

Service-branch historic contexts for specific building types were analyzed. Many contexts cross services and can be useful, if not specifically, then generically, to discuss the period. Panamerican found it useful to review service-specific building types, such as Unaccompanied Personnel Housing (UPH) or ammunition storage, because many times distinctive differences, if any, between services were discussed. Section 3.1 contains an annotated bibliography of monographs, reports and contexts that may be useful in the evaluation of military cultural resources. The annotation notes the pertinent installations in this study for which the context might be of use.

In general, installations contain a number of commands and/or organizations, each of which has a specific mission. For this study, an installation's mission is its command mission (e.g., Fort Benning's mission is tied to the U.S. Army Training and Doctrine Command [TRADOC]) and not its garrison or regional command. While the garrison does need buildings/structures, it is the command's needs that actually shape an installation's infrastructure and buildings/structures. Tenant commands generally adapt existing buildings to their needs. While a tenant may construct support buildings, the installation's original fabric was and is determined by the command mission. In some cases, an installation may have been under totally different services and/or totally different commands; in that case, if any original fabric was left from the original command, that fabric was discussed. If, however, the original fabric was gone, the second

command infrastructure and buildings were discussed. A blending of the two commands and/or services may have occurred, and in those occurrences, that too was noted.

Section 4.0 presents Cold War historic contexts applicable to understanding the role and activities of the particular installations subject to this report. The discussion provides a chronological and brief thematic context in which CRMs can place their respective installations to understand the relationship of their installation to the larger military, cultural and political activities of the period, and, therefore, to better understand the significance of the resources at their installation within the Cold War. The Cold War, shorthand for American opposition to the communist worldview, was fought on many diverse fronts, ranging from actual wars in Korea and Vietnam to military and economic aid to non-communist nations. Containing communist expansion through the profound build up of military might, especially the immense stockpile of nuclear weapons and the diverse methods to delivery them, was the hallmark of the American response.

To prepare the context, general and specific archival and documentary records were consulted to prepare as comprehensive a history as possible. In general, literary properties, such as textual and non-textual information and documents, was consulted to acquire information about the period, then site-specific data was utilized to verify, if possible, general findings or clarify obscure or under-discussed topics. Textual records include such things as books; charts; catalogs; journals; diaries; machine-readable records such as tapes, computer discs, and microfiche; oral histories and interviews; inventories and master plans; building permits and land records; published and unpublished histories; and telephone directories. Not all of these types of data were available for this project based on time and budget constraints. Non-textual records include architectural and landscape specifications; drawings; blueprints; maps and plats; electronic and video recordings; optical discs; films and photographs; and artwork such as paintings, drawings and prints. Again, not all of these types of data are available for a particular installation.

Background and archival research efforts are designed to provide a cultural/historical context of a specific area during a period of time to help explain a specific set of events. Numerous scholarly books and reports were consulted about the period and events of the Cold War in general augmented by installation-specific cultural resources reports, environmental reports and documents, and installation aerial photographs may provide useful land use information. This data can be found in the installation's environmental or public affairs offices.

When available, other research venues include local institutions, such as historical societies, libraries or town/county historical offices, which contain local histories, gazetteers and directories, oral histories, historic maps or other information on area land use. Previous archaeological and cultural resources reports and publications, scholarly reports and cultural resource management surveys for the surrounding area also provide information appropriate to the preparation of an historic context. These data can be found at the SHPO and at the installation CRM, when available. Much information on numerous social, economic and military topics is available on the Internet, and this resource was used extensively because of project constraints.

The Army and the Air Force have prepared numerous monographs, reports and contexts on aspects of their mission or a specific command or weapon type (see Section 3.1 for more information on these resources) that have been useful in delineating aspects of the period as well as several areas that these services believed have been important to their missions. The Navy also has several useful contexts that elaborate aspects of their history during the period.

In order to assist all Cultural Resource Managers (CRMs), Section 5.0 provides an overview and history of each of the thirteen Georgia installations in this study. These histories include information about each installation organized by the same categories. In some cases addendums were added because of the presence of a significant DoD component on that installation. Each of these histories includes a bibliography related to that installation's history and a general bibliography of all known monographs, reports, and contexts applicable to that installation. In addition, a review of each service's NRHP evaluation criteria is included, which may assist CRMS who work on installation with structures erected by an earlier service.

## 2.1 DEFINITIONS

Because this study discusses all DoD service branches it is important to understand how each service branch defines itself within the context of the Cold War. This section provides service definitions that may be of assistance in dealing with an installation that has had multiple service occupants during the period. Panamerican's rationale for other dates, such as the two hot wars within the Cold War, is also included.

**Army Terminology.** As noted previously, the Army and Air Force have specific definitions and dates relating to the Cold War. The Army dates the Cold War from March 1946 (Churchill's "Iron Curtain" speech) to the fall of the Berlin Wall in November 1989 and has three major definitions relating to the assessment and evaluation of Cold War material and cultural resources.

*The Army Cold War Property Identification, Evaluation and Management Guidelines* (USACE, Fort Worth 1997) define the Cold War as:

The prolonged ideological, economic, military and political competition, tension, and conflict short of actual war between the U.S. and the Soviet Union from 1946-1989. The Cold War was marked by the effects of the policies of the two superpowers:

- the reliance on high technology for national security, culminating in the possession of nuclear weapons for strategic and political value;
- the establishment of spheres of interest and alliances with other nations;
- the division of Europe into two military alliances, the North Atlantic Treaty Organization (NATO) and the Warsaw Pact;
- the formation of military-industrial complexes, a complex union of the military, universities and industry formed to provide the technological edge deemed necessary for national security;
- attempts to start or prevent revolution in smaller third world nations; and
- less-than-total confrontations between the superpowers such as the Berlin Blockade of 1948-49 and the Cuban missile crisis of 1962 [USACE, Fort Worth 1997:2].

It defines Cold War Era property as

Any Army property that existed during the Cold War era (1946-1989) and is not considered a Cold War property. Cold War era properties do not reflect through design or association, the US/Soviet relationship in a direct manner. Base Operations (BASEOPS) buildings such as administration, powerhouses, swimming pools, barracks, etc. are Cold War era properties. They are not considered a direct response to the Soviet threat, but were needed to maintain a standing army for any military mission, regardless of the

adversary. Cold War era properties are not exceptional for their Cold War associations unless they contain essential elements that would qualify it as a Cold War property [USACE, Fort Worth 1997:2].

Cold War property is defined as

Through the physical design or association with people or events, a property that embodies the mistrust of the Soviet Union and in contrast, promotes American policy, objectives and ideology of the period. An Army Cold War property meets one or more of the following criteria:

1. Was constructed or used between March 1946 and November 1989 in order to:
  - meet a specific real or perceived Soviet military threat; or
  - project force designed to influence Soviet objectives and policy; or
  - carry out major national objectives and policy toward the Soviet Union; or
  - affect global opinion of the relationship between the superpowers.
2. Through its architectural or engineering design, clearly reflects one or more primary themes of the Cold War period.
3. Directly related to the US/Soviet relationship through association with a milestone event of the period.
4. Directly related to the US/Soviet relationship through association with the life of an exceptionally significant figure during the period of their contribution.
5. Not normally considered a Cold War property, but an integral contributing part to a Cold War historic district and fundamental to the understanding of the district as a whole [USACE, Fort Worth 1997:2].

It is the Army's belief that if a Cold War property or a Cold War Era property is within five years of attaining 50 years of age, that property should be evaluated under normal NRHP criteria (see Appendix A) (USACE, Fort Worth 1997:37). The specific criteria identifying and evaluating historically significant Army Cold War properties are included in Section 2.2 and Appendix A.

***Air Force Terminology.*** The Air Force dates the Cold War from 1945 to 1991. No one "beginning" point can be identified since the Cold War was underway even before World War II ended in the autumn of 1945 (Weitze 2003:Vol. I), with an earlier work indicating that the exploding of the atomic bomb in New Mexico marked the beginning (Green 1993). The end date, 1991, is based on the signing of the Strategic Arms Reduction Treaty, the formal end of the Strategic Air Command alert by Presidential order, and the dissolution of the Soviet Union (Weitze 2003:Vol. I).

The Air Force does not have an official definition of the term "Cold War" nor does it differentiate *per se*, as the Army does, between Cold War and Cold War era properties. Certainly, the Air Force recognizes that there are political, economic, and scientific benchmarks within the period and that these benchmarks profoundly affected both Soviet Union and the United States, but it does not use these benchmarks to codify cultural resource significance as the Army does.

Unlike the Army, however, the Air Force divides the Cold War into four phases. Phase 1 (July 1945-January 1953) begins with the explosion of the first atomic bomb by the United States and spans President Harry Truman's administration. Phase 2 (January 1953-November 1963)

begins with President Dwight D. Eisenhower's administration and ends with the signing of the Limited Nuclear Test Ban Treaty by President John F. Kennedy. Phase 3 (November 1963 to January 1981) begins with the Limited Nuclear Test Ban Treaty and ends with inauguration of President Ronald Reagan. Phase 4 (January 1981-November 1989) begins with the start of Reagan's administration and ends with the fall of the Berlin Wall (Lewis et al. 1995). As noted earlier, the Air Force in some cases extends the end of the period to 1991 (Weitze 2003).

The Air Force defines Cold War Historic Properties as "buildings, structures, sites, objects, and districts built, used or associated with critical events or persons during this period and that possess exceptional historic importance to the Nation or that are outstanding examples of technology or scientific achievement" (Greene 1993:np, item 5.1).

The Air Force relies on specific criteria related to the NRHP eligibility criteria and the Criteria Considerations to identify its Cold War buildings and structures (Green 1993). The specific criteria for identifying and evaluating historically significance Air Force Cold War properties are included in Section 2.2 and Appendix C.

***Navy Terminology.*** As mentioned earlier, the Navy is in the process of preparing a Cold War context, and it is possible that this terminology has changed or been expanded.

The Navy dates the Cold War from 1946 to 1989. Like the Army, the Navy marks the beginning of the Cold War with Winston Churchill's speech in Fulton, MO, in which he coined the phrase, "Iron Curtain," and the ending with the fall of the Berlin Wall (Kuranda et al 1995).

For the Navy, the term, "Cold War," generally refers to "the period 1946-1989 [which] was marked by tension between the United States and allies, and the communist nations, led by the Union of Soviet Socialist Republics and the People's Republic of China" (Kuranda et al 1995:15). Like the Air Force, the Navy does not differentiate, *per se*, between Cold War and Cold War era properties. It does establish two levels of significance: "those properties that are exceptionally [sic] on a national level and those properties that are important on a state or local level. Only those Cold War properties that are exceptionally significant on a national level are eligible for listing on the NRHP" (Kuranda et al. 1995:296, underlining in original).

The Navy establishes eligibility based on specific criteria related to the NRHP eligibility criteria and the Criterion Considerations (Kuranda et al. 1995). The specific criteria for identifying and evaluating historically significance Navy Cold War properties are included in Section 2.2 and Appendix D.

***Marine Corps Terminology.*** As noted previously, Panamerican was unable to locate specific information related to the Marine Corps and their Cold War cultural resources.

***Dating.*** In order to provide the reader with specific dates and timelines, and to afford easy comparison, Panamerican has divided installation histories into the following categories: Pre-World War I, World War I (1917-1918), Interwar years (1919-1938), Limited National Emergency/Protective Mobilization/World War II (1939-1945), Cold War (1946-1991), Korean War (1950-1953), and Vietnam War (1954-1975). The dating prior to Korea and Vietnam are generally established within the historical community; however, the dates for Korea and Vietnam are less established, especially as defined by the military services.

For the purposes of this report, the dates marking the Korean War are 1950 (the crossing of the 38<sup>th</sup> parallel by North Korean forces) and 1953 (the signing of the cease fire), and the dates marking the Vietnam War are 1954 (the fall of Dien Bien Phu and the signing of the Geneva Accords) to 1975 (the evacuation of the U.S. embassy and the fall of Saigon). Some historians have called this the Second Indochina War, the first conflict involving the French and its colony, Indochina (Vietnam), while the Vietnamese refer to it as the American War (Parrish 1996). Regardless, it was the longest war ever fought by the United States (Arms 1994; Parrish 1996).

It was during both hot wars that many military innovations were tested and incorporated into doctrine and training. The use of helicopters within the infantry was one of these. It is interesting to note that, during the Cold War, while the United States was preparing to fight the ultimate nuclear battle, it actually fought hot wars that were insurgent activities that precluded the use of nuclear weapons, tactics, and doctrine.

## 2.2 COLD WAR BUILDING/PROPERTY TYPES

Almost all of the services have completed surveys of particular building types or building types associated with some aspect of that service's mission during the Cold War. Most of these studies are related to a specific command (e.g., former Strategic Air Command [SAC] for the Air Force and Army Materiel Command [AMC]) but are generally used across the commands if no specific report has been completed. The Air Force and the Army have produced the bulk of these reports with the Navy producing a few very select surveys. Panamerican was unable to find any information on Marine Corps building types during the Cold War, and because of the lack of information, Panamerican has applied a generic approach to discussing building types within that service. While this is not an optimal course, it is valid in that the DoD, by the Cold War, had numerous standardized plans that were used throughout the services.

***Army Cold War Building/Property Types.*** In 1997 the Army issued Cold War property identification, evaluation and management guidelines (USACE, Fort Worth 1997). These guidelines were intended to establish standards for evaluation of the Cold War properties, to assist CRMs in the management of these properties and to provide a source of information and reference material for use in coordination with the SHPO (USACE, Fort Worth 1997). These property-type categories are used by Panamerican when discussing Army Cold War properties.

For Army CRMs, this is probably the single most important document on the management of Cold War cultural resources. One section of the Army Cold War guidelines deals specifically with Army Cold War property types, which was greatly expanded in *Looking Between Trinity and the Wall* (Gaither 1997), a study of AMC during the Cold War. Gaither expanded the basic property list to include: primarily thematic associations and probability of significance (see Section 2.1 Definitions: Army Cold War Terminology, this report for explanations of association and significance; Gaither 1997:133-137). Gaither's expanded table follows as Table 2.

**Table 2.  
Army Cold War Property Types, Thematic Associations, and Significance**

<b>Property Type Subtype</b>	<b>Primary Thematic Associations</b>	<b>Probability of Exceptional Significance</b>	
		<b>Thematic</b>	<b>Architecture/ Engineering/ Technology</b>
<b>Storage Facilities</b>			
Igloos	nuclear warfare chemical and biological warfare other themes	moderate moderate low	low low low
Warehouses	nuclear warfare other themes	moderate low	low low
Maintenance facilities	missile development other themes	moderate low	low low
Shipping facilities	will need installation-specific determination	low	low
<b>Production Facilities</b>			
Pilot plants	chemical and biological warfare other themes	high moderate	low low
Manufacturing and chemical processing facilities	chemical and biological warfare other themes	High moderate	low low
General assembly buildings	will need installation-specific determination	moderate	low
Missile assembly buildings	missile development nuclear warfare chemical and biological warfare	moderate, high for early examples moderate, high for early examples moderate, high for early examples	high high high
Nuclear warhead assembly buildings	nuclear warfare	high	high
Re-entry vehicle assembly buildings	missile development nuclear warfare chemical and biological warfare other thematic associations (i.e., meteorology or technology base)	moderate moderate moderate moderate	unknown unknown unknown unknown
Other assembly buildings	will need installation-specific determination	low	low
Production support	will need installation-specific determination	low	low
<b>Research and Development Facilities</b>			
Laboratory complexes	technology base	low to moderate, depending on equipment remaining	moderate
Chemical and biological laboratories	chemical and biological warfare	moderate to high, depending on equipment remaining	moderate
Radiation laboratories	nuclear warfare	moderate to high, depending on equipment remaining	moderate
Electronics laboratories	communications  technology base  other thematic associations (i.e. electronic warfare)	low to moderate, depending on equipment remaining moderate to high for important technology base associations, depending on equipment remaining low to moderate, depending on equipment remaining	moderate  moderate  moderate
Specialized research facilities	space and technology base other thematic associations	high unknown	high unknown
Clean rooms	nuclear warfare chemical and biological warfare other thematic associations	moderate moderate unknown	low low unknown
Hot rooms	nuclear warfare chemical and biological warfare	moderate moderate	low low
Nuclear power plants	technology base other thematic associations	high high	moderate unknown
Other research and development facilities	will need to be determined	unknown	unknown

<b>Property Type Subtype</b>	<b>Primary Thematic Associations</b>	<b>Probability of Exceptional Significance</b>	
		<b>Thematic</b>	<b>Architecture/ Engineering/ Technology</b>
<b>Communications Facilities</b>			
Single antennas	ground-based communications  communications via outer space intelligence gathering and surveillance other thematic associations	low  moderate moderate  unknown	low, moderate for early examples moderate moderate  unknown
Antenna ranges	ground-based communications  communications via outer space intelligence gathering and surveillance other thematic associations	low  moderate moderate  unknown	low, high for early examples of new technologies moderate moderate  unknown
Communications terminals	international relations (i.e., MOLINK) ground-based communications communications via outer space other thematic associations	moderate low moderate unknown	unknown low moderate unknown
<b>Intelligence and Surveillance Facilities</b>			
	intelligence gathering, surveillance	moderate	low, moderate for early examples of new technologies
<b>Test and Evaluation Facilities</b>			
Exposure chambers	nuclear warfare chemical and biological warfare other thematic associations	moderate moderate low	unknown unknown unknown
Environmental chambers	nuclear warfare chemical and biological warfare other thematic associations	high high low	unknown unknown unknown
Nuclear effects facilities	nuclear warfare	high	high
Anechoic chambers	communications  other thematic associations	moderate, high for early examples  moderate, high for early examples	moderate, high for prototypes moderate, high for prototypes
Test ranges and grids	nuclear warfare chemical and biological warfare other thematic associations	high high low	low moderate low
Missile launch sites	missile development  other thematic associations	low, moderate to high for early and specialized examples unknown	low, moderate to high for early examples low
Missile tracking and telemetry facilities	missile development other thematic associations	low low	low low
Launch vehicle test stands	missile development other thematic associations	moderate, high for early examples moderate	high high
Blockhouses	missile development nuclear warfare other thematic associations	moderate, high for early examples high unknown	high high unknown
Other control and instrumentation facilities	will need installation-specific determination	moderate	High
Specialized test facilities	will need installation-specific determination	moderate	moderate
Test tracks	missile development other thematic associations	low, high for early examples low, moderate for early examples	high unknown
<b>Training Facilities</b>			
	nuclear warfare chemical and biological warfare other thematic associations	moderate moderate low	unknown unknown low
<b>Troop and Employee Support</b>			
	will need installation-specific determination	low	Low



Property Type Subtype	Primary Thematic Associations	Probability of Exceptional Significance	
		Thematic	Architecture/ Engineering/ Technology
<b>Utility and Basic Infrastructure</b>			
	will need installation-specific determination	low	low
<b>Weapons Systems and Platforms</b>			
Aircraft	will need to be determined for each cultural resource	moderate	unknown
Missiles	nuclear warfare	moderate	unknown
	biological and chemical warfare	moderate	unknown
	other thematic associations	low	unknown
Tanks and fighting vehicles	nuclear warfare	moderate	unknown
	biological and chemical warfare	moderate	unknown
	other thematic associations	low	unknown
Mobility equipment	nuclear warfare	low	unknown
	biological and chemical warfare	low	unknown
	other thematic associations	low	unknown

The “Primary Thematic Associations” column lists individually the thematic associations that are most likely to be associated with property types and subtypes and that are most likely to have bearing on the significance of cultural resources that belong to these property types and subtypes.

The “Probability of Exceptional Significance, Thematic” column shows the likelihood that property types associated with various Cold War-era themes may be determined to be significant. A “low” assessment does not mean that cultural resources associated with these property types and themes should be assumed to be less significant by those doing installation-specific inventories and assessments, but rather that few of these cultural resources extant throughout the nation are *expected* to be found to warrant inclusion in the NRHP under Criteria Consideration G. Individual resources may be found to have been extremely significant during the Cold War.

The “Probability of Exceptional Significance, Architecture/Engineering/Technology” column shows the likelihood that property types may include individual resources that are significant because of architectural, engineering, or technological design. Like the column immediately to its left, a “low” assessment does not mean that cultural resources associated with these property types and themes should be assumed by those doing installation-specific inventories and assessments to be less significant, but rather that few of these cultural resources extant throughout the nation are *expected* to be found to warrant inclusion in NRHP under Criteria Consideration G because of architectural or engineering design or style, or their incorporation of new technology. Some individual resources may be found to have been extremely significant during the Cold War [Gaither 1997:137].

Although this list seems thorough, before any conclusions are drawn about specific Cold War buildings, the larger Gaither text and the Army Cold War guidelines should be consulted since numerous caveats exist (see Gaither 1997:133-143). Moreover, the Army Cold War guidelines have a list of “Excluded Properties,” all of which fall in the category of BASEOPS (USACE, Fort Worth 1997:33-35). The list of Army excluded properties is as follows, and detailed in Table 3.

**BASEOPS.** Individual properties associated with base operations are excluded from consideration for Cold War exceptional significance except under *extremely rare and unusual circumstances* as defined in Base operation facilities including but are not limited to:

**Table 3.  
Army NRHP Excluded Cold War Properties**

Administrations Buildings
Banking Facilities
Chapels
Clubs
Commissaries/Exchanges
Educational Facilities
Classroom Buildings
Public Schools
Fire Stations
Garages
Gas Stations
General Storage
Cold Storage Plants
Magazines
Storehouses
Warehouses
Guard Houses
Housing
Barracks
Dormitories
Hotels
NCO Quarters
Officers' Quarters
Laundries
Lavatories
Libraries
Medical Facilities
Clinics
Hospitals
Infirmaries
Mess/Dining Halls
Motor Pools and Maintenance Facilities
Museums
Post Offices
Recreational Facilities
Bowling Alleys
Craft Shops
Field Houses
Gyms
Outdoor Facilities
Basketball Courts
Playing Fields
Swimming Pools
Tennis Courts

Stadiums
Theaters/Auditoriums
Restroom Facilities/Latrines
Sheds
Equipment
Hay
Lumber
Maintenance
Stables
Static Displays
Utilities
Electrical Power Stations
Incinerators
Sewage Treatment Plants
Switch Houses
Telephone Exchanges
Water Towers/Tanks
Water Treatment Plants
Visitor Centers
Other Miscellaneous Support Facilities

To exclude these property types seems harsh to those who feel that the construction of these facilities may be the direct result of a response of the general perception of a Soviet threat by building a strong CONUS [continental United States] military infrastructure. Many SHPOs may share this view and disagree on the issue of BASEOPS eligibility.

However, the argument for inclusion of BASEOPS properties for individual Cold War consideration loses merit when the ramifications of accepting a broad definition of what is currently historic from the Cold War. To exclude these property types is not to say these properties have no significance, it simply maintains that these properties are not what was exceptionally significant in the larger context of US/Soviet relations.

Collectively, these properties do represent the general perception of the need for a strong military, but the overriding theme of the Cold War was investment in high technology instead of the support of men and materiel (i.e., BASEOPS). Most BASEOPS facilities were needed to maintain readiness in a standing army regardless of mission and are therefore considered properties of the Cold War era, not true Cold War properties (see definitions). Therefore, these types of properties do not individually represent the basic themes of the Cold War in an exceptional manner [USACE, Fort Worth 1997:35].

While it is important to know the general property types that are potentially eligible or are excluded from eligibility, it is vital to understand how the assessment of these properties is conducted. The Army Cold War Guidelines are quite specific as to this assessment process and the process is quite rigorous. Only those Cold War properties with “exceptional” significance should even be considered.

According to the guidelines, the determination of exceptional importance can be made only after a resource has been shown to be important to one or more Army Cold War themes. These

themes, in broad terms are: Balance of Power; Ideological Confrontation; Technological Imperative; and Survival and Preparation for a Hot War. Specific Army themes include: Mission Focus; Survival; Technology; Militarization of Space; Extraordinary Measures; and Secrecy. The more direct the relationship of the building to one of these themes, the more likely it is to meet the exceptional criteria. In addition, there are five tests, each building on its predecessor in complexity, that an Army property must undergo to determine its significance (USACE, Fort Worth 1997:44-45). For a complete breakdown of the five tests, please see Appendix A.

***Navy Cold War Building/Property Types.*** The Navy has not yet produced a general Cold War property type list. It currently uses a generic categorization based on NRHP classifications of: site, district, building, structure, or object. Examples are presented in Table 4.

**Table 4.  
Navy Criteria for Evaluation of Cold War Resources**

Cold War resources eligible for listing on the National Register include buildings, structures, objects, sites, or districts that possess exceptional value or quality in illustrating the Cold War heritage of the United States; that possess a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association; and,

- A. That are directly associated with events that have made a significant contribution to, and are directly identified with, or that outstandingly represent, the broad national pattern of United States Cold War history and from which an understanding and appreciation of those patterns can be gained; or
- B. That are associated directly and importantly with the lives of persons *nationally significant* in the Cold War history of the United States; or
- C. That embody the distinctive characteristics of an architectural, engineering, technological, or scientific type specimen *exceptionally valuable* for a study of a type, period, or method of construction or that represent a significant distinctive and *exceptional* entity whose components may lack individual distinction; or
- D. That has yielded or may be likely to yield, information important in prehistory or history.

While the Navy uses a generic approach to identifying eligibility status, it does have a six-step methodology for identifying and evaluating Navy Cold War Resources (see Appendix D).

The Navy has established property types for guided missile facilities like Kings Bay Submarine Base. The five categories are: guided missile systems, Research & Development laboratories, Testing & Evaluation facilities, training and education, and logistical support. These categories have a general grouping of subheadings: test facilities include drop towers, winds tunnels, environmental test, static test, captive test, and computer simulation; test ranges include installation facilities, range control buildings, free-flight launch equipment and support facilities; training includes classroom buildings; and logistics support includes inspection and test buildings, assembly buildings and missile magazines (Kuranda et al 1995:153-155).

***Air Force Cold War Building/Property Types.*** In 1993 the Air Force issued *Interim Guidance Treatment of Cold War Properties for U.S. Air Force Installations* (hereafter referred to as the Air Force Interim Guidelines; Green 1993). These guidelines were intended for use in evaluating

Cold War Air Force properties for achieving compliance with Section 106 of the National Historic Preservation Act (Green 1993). It is anticipated that the Air Force will have final guidelines in the future (Green 1993). Property type categories are discussed within this document and expanded within other studies. These property-type categories are used by Panamerican when discussing Air Force Cold War properties and are presented in Table 5.

**Table 5.**  
**Air Force Cold War Property Types**

The Air Force Interim Guidelines suggest five property type groups, which may adequately characterize Cold War assets. They include: operational and support installations; combat weapons and support systems; training facilities; material development facilities; and intelligence facilities. The original Air Force groupings were supplemented in 1995 in a systemic study of Air Combat Command (ACC) Cold War material culture (Lewis et al. 1995), creating a more extensive list. The revised groupings include:

**Group 1: Operational and Support Installations**

- Base and Command Centers
- Missile Stations
- Launch Complexes
- Housing
- Storage
- Base Retail
- Recreation
- Infrastructure
- Mess/Social
- Memorial
- Communications
- Documentation

**Group 2: Combat Weapons and Support Systems**

- Missiles
- Alert Facilities
- Ground Vehicles and Equipment
- Maintenance Docks/Hangars
- Communications
- Storage
- Memorial
- Weapons Platforms
- Documentation

**Group 3: Training Facilities**

- Base Support
- Flight Training
- Intelligence Training
- Combat Training
- Combat Support Training
- Launch Complexes

- Combat Training Ranges
- Impact Areas and targets
- POW Training Camps
- Communications
- Documentation

#### Group 4: Material Development Facilities

- Research Laboratories
- Manufacturing Sites
- Test Sites
- Proving Grounds
- Communications
- Documentation

#### Group 5: Intelligence Facilities

- Radar Sites
- Spy Satellites
- Listening Posts
- Communications
- Documentation

The above-listed property type groups and subgroups are geared toward real property, in particular buildings and structures. In practice, however, objects, personal property and record/documents also are integral to the understanding and interpretation of the real property groups. These resources often are found either inside or in direct association with real property. For instance, personal property of Cold War interest could certainly be encountered at a training facility, particularly in a residential area. Also, record/documents, such as plans, maps, illustrative models, even videotapes, which provide valuable information regarding real property, could be located at design or test facilities. The ACHP [Advisory Council on Historic Preservation] notes that objects, such as the sleeping hammock of a shuttle astronaut, and documents, including detailed printed information about rocket design, missions, and hardware are often of most interest to the general public, although they may not necessarily warrant NRHP consideration [Lewis et al 1995:113].

Although this list seems quite thorough, before any conclusions are drawn about specific Cold War buildings, various other texts should be examined closely. For a full list of generic and Air Force Cold War specific texts, please see, Section 3.0 Annotated Bibliography. The Air Force also has a list of excluded properties.

Air Force's reading of "exceptional significance" excludes many real property assets which are typically the subject of Section 106 consultations on *older, pre-WWI bases*, e.g., family housing (Capehart, Wherry, etc), BOQ's, base exchanges, administrative buildings, garages & motor pools, maintenance shops, sewage treatment plants, etc. The Air Force will instead focus specifically on operational missions and equipment of unmistakable national importance and a *direct*, not merely temporal, Cold War relationship. The vast support complex that lay behind the "frontline", combat or intelligence units will, in due time, be inventoried for historic significance. Limited funds and the need to act quickly argue for this system of priorities [Green 1993:np].

While it is important to know the general property types that are potentially eligible or are excluded from eligibility, it is vital to understand how the assessment of these properties is conducted. The Air Force Interim Guidelines, augmented by the ACC Cold War material culture study (Lewis et al. 1995), are quite specific as to this assessment process and the process is quite rigorous. Only those Cold war properties with “exceptional” significance should even be considered.

The Air Force seeks consensus for Cold War resources within a national context, while also providing an initial prioritization for all Cold War resources (Lewis et al. 1995:126). In order to help create this consensus and establish those priorities, the ACC developed a Priority Ranking Matrix. The ranking matrix is made up of six topics that lend themselves to numerical ranking. The topics include: Relationship of a resource to the role the base played in the Cold War; the relationship of the resources to aspects of a specific U.S. Air Force Cold War context; relationship to the temporal established time phases (see Section 2.1 Air Force Terminology for phases); the level of importance of a resource to the “premier,” “high,” “medium,” and “low” designations; percentage of historic fabric remaining; and the severity of existing threats to the resource. Ultimately, fully inventoried resources will be compared using a national priority matrix (Lewis et al. 1995; for a complete explanation of the six matrix topics, please see Appendix C).

**Marine Corps Cold War Building/Property Types.** As indicated earlier, Panamerican was unable to find information concerning Marine Corps cultural resources and guidance concerning their assessment or evaluation. When discussing Marine Corps Cold War cultural resources, Panamerican has used a more generic approach blending Navy and Army guidelines.

**Military Landscapes.** Military installations include some of the most historically significant properties in the American cultural landscape and, as with any landscape, the military landscape reflects the history and cultural traditions within which it has evolved (Loechl et al. 1996:3). In an effort to identify and evaluate historic military landscapes, U.S. Army Construction Engineering Research Laboratory (USACERL) developed *Guidelines for Documenting and Evaluating Historic Military Landscapes: An Integrated Landscape Approach*, to evaluate significance and integrity and assist in determining eligibility and boundaries of historic military landscapes. (Loechl et al. 1996). The guidelines are designed to be used in conjunction with National Register Bulletins 15, 16, 18, 30, and 40 as well as additional bulletins and materials addressing specific property types and issues providing a systematic evaluation.

The Department of the Interior provides specific information about the evaluation of landscapes in *How to Evaluate and Nominate Designed Historic Landscapes, National Register Bulletin 18* (Keller and Keller 1995) and *Guidelines for Evaluating and Documenting Rural Historic Landscapes, National Register Bulletin 30* (McClelland et al. 1990). The NRHP defines a designed landscape as any of the following:

- a. A landscape that has significance as a design or work of art.
- b. A landscape consciously designed and laid out by a master gardener, landscape architect, architect, or horticulturalist to a design principle, or an owner or other amateur using a recognized style or tradition in response or reaction to recognized style or tradition.
- c. A landscape having a historical association with a significant person, trend, event, etc., in landscape gardening or landscape architecture: or
- d. A landscape having a significant relationship to the theory or practice of landscape architecture (Keller and Keller 1998:2).

Many historic landscapes are NRHP eligible based primarily on their design merits; however, a substantial number of others also possess significance in other areas such as social history (Keller and Keller 1998:2). A property may meet the NRHP criteria but if it does not have integrity, it cannot be eligible. The specific features that a designed historic landscape must retain to have integrity differ for various landscape types. Such features may include, but are not limited to: spatial relationships, vegetation, original property boundary, topography/grading, site furnishing, design intent, architectural features, and circulation system. Although a landscape may not retain all of the characteristic features that it had during its period/s of significance, it must retain enough or have been restored enough of the essential features to make its historic character clearly recognizable. The clearest definition of integrity related to landscape is the presence of identifiable components of the original design (Keller and Keller 1998:8).

Using the DoD landscape approach to researching historic and cultural resources provides a framework for understanding the relationships among history, architecture, landscape architecture, planning, and archaeology (Loechl et al. 1996:3). The USACERL document presents a systematic evaluation process with which to assess the unique development and historical contexts of military installations, emphasizing the importance of the relationships among the individual buildings, structures, and grounds that contribute to an historic military landscape (Loechl et al. 1996:3). The document defines the historic military landscape as:

a military landscape that is significantly associated with historically important persons or events, or is an important indicator of the broad patterns of history, or represents a significant example of design or construction. For the purposes of the National Register, a historic military landscape is a category of property eligible for listing on the National Register of Historic Places as a historic site or district. To be eligible for nomination to the Register, a historic military landscape must have sufficient integrity to convey its significance [Loechl et al. 1996:8].

The guidelines further describe different contexts and characteristics with which to interpret and understand the military landscape helpful in making a determination of historical significance and associations. Using this overall landscape approach provides a framework for recognizing the different stages of development of military installations and the relationships among historical trends, military missions, installation types, and landscape appearance (Loechl et al. 1996:19).

**Architects/Engineers/Builders.** The military services have always had a need for structures that facilitate the efficient functioning of a standing army and naval force. The construction of basic administration buildings, stables, repair facilities, docks, barracks, and small manufacturing concerns are vital for the creation and maintenance of successful defense. The architectural styles of these structures mirrored those of the greater non-military community. A survey of military installations today shows a wide range of architectural styles, reflective of changing times. As the services grew in size and number, the need for standardized building plans became apparent. Standardized plans for all types of construction would ensure that the military was building adequate structures from thought out plans, with the appropriate materials at a price that the general tax-paying public might find palatable as well as one that would not bankrupt the services.

The majority of the architects, engineers, and builders used by the services in the twentieth century were civilian; nevertheless, the DoD did and still does use architects, engineers and builders from within the services. Although the DoD made strong moves in the second half of



the twentieth century toward the use of standardized plans, the diversity of weapons and training of the period often required buildings and structures specifically designed for a particular activity. During the Cold War, the need for nuclear storage and transport facilities, “hardened” buildings, simulation areas, chemical and biological weapons facilities, as well as a host of other new and seemingly exotic needs further fueled the already burgeoning military industrial complex. Architectural, engineering and specialty construction companies sprang up to fill the new niches in the military-industrial complex. While many specialized in one service or type of construction activity, many other roamed through the system from service to service and project to project. These firms have become an important part of the DoD’s cultural history. The Army Materiel Command included a list of known architects working for the Army during the Cold War in its context (Gaither 1997). This list of known architects is presented in Table 6.

**Table 6.**  
**Firms Involved in the Architectural and Engineering Design**  
**of Cold War-Era Army Facilities**

(Gaither 1997:141-143)

<b>Name of Firm</b>	<b>Facility</b>	<b>Comments</b>
Ballinger Company, Philadelphia, Pennsylvania	Natick Laboratories, original facilities	Designed and constructed between 1952 and 1953
Black and Veatch, Kansas City, Missouri	Iowa Army Ammunition Plant; atomic warhead production facility	Black and Veatch was very important during the Cold War, designing many military facilities and playing a prominent role in the design of facilities with nuclear-related missions
Burns and Roe Industrial Services Corporation, Paramus, New Jersey	Pine Bluff Arsenal; BZ Demilitarization Facility	Designed equipment and oversaw installation in 1983 and 1984
Catalytic, Incorporated	Newport Chemical Plant; QL production facility	Engineering design; facility probably not completed
C.E. Lummus Company, Newark, New Jersey	Newport Chemical Plant; VX production facility	Structure design
Chemical Corps Engineering Command	Newport Chemical Plant; VX production facility	The Chemical Corps had developed the pilot plant design by 1956
Chemical Corps Engineering Command and Corps of Engineers	Fort Detrick; chemical agent production and biological agent fermentation facilities	Chemical Corps Engineering Command developed specifications and drawings and acted as design consultant
Corps of Engineers, Omaha District	Indiana Army Ammunition Plant; automated black powder production facility	Designed in 1978
Day and Zimmerman, Inc., Philadelphia, Pennsylvania	Lone Star Army Ammunition Plant; Maintenance Shop, Central Stores Warehouse, and Administration Area	Designed and constructed between 1950 and 1953
E.I. DuPont de Nemours and Company, Inc., Wilmington, Delaware	Kansas Army Ammunition Plant; Lead Azide Facility	Designed between 1967 and 1968
Ellerby Associates, Minneapolis, Minnesota	Harry Diamond Laboratories; Administration and Laboratory Complex	Houses main offices and laboratories, designed between 1974 and 1976; Ellerby may have also designed other facilities
Food Machinery and Chemical Corporation, San Jose, California	Newport Chemical Plant; VX production facility	Designed at least some of the process equipment; much of the existing equipment was in good condition and was used in the new facility
Buckminster Fuller	Dymaxion Deployment Units at Fort Monmouth and Dugway Proving Ground, perhaps at other Army sites	These are examples of Fuller’s futuristic, visionary architectural style; although designed and built during WWII, their use during the Cold War in communications testing allows consideration under this context
Gilboy, O’Malley, and Stopper, Philadelphia, Pennsylvania	Tobyhanna Army Depot, rehabilitation and new construction throughout the entire depot	Carried out from 1951 through 1955

<b>Name of Firm</b>	<b>Facility</b>	<b>Comments</b>
H.K. Ferguson Company, Cleveland, Ohio	Badger Army Ammunition Plant; powder production facilities	H.K. Ferguson Company may have only been the construction contractor
Hayes, Seay, Mattern and Mattern, Roanoke, Virginia	Radford Army Ammunition Plant; rocket propellant casting facilities, triple-base powder and nitroglycerin manufacturing facilities	Designed ca. 1951
Hayes, Seay, Mattern and Mattern, Roanoke, Virginia	Mississippi Army Ammunition Plant; load, assemble, and pack area	Designed and constructed between 1980 and 1983
Howell Lewis Shay and Associates, Philadelphia, Pennsylvania	Edgewood Arsenal; Amos A. Fries Building	
Albert Kahn, Detroit, Michigan	Mississippi Army Ammunition Plant; Cargo Metal Parts Building	Designed and constructed between 1980 and 1983
M.W. Kellogg Company	Newport Chemical Plant; VX production facility	Kellogg Company conducted process, research and development studies and additional pilot plant studies in conjunction with the Chemical Warfare Laboratories in 1958 and 1959
Massman-Patti-Tanner and Mitchell Construction Company	Sunflower Army Ammunition Plant; powder production facilities	Designed and constructed between 1951 and 1955
Parsons-Aerojet Company	Redstone Arsenal; first static test stand and associated laboratory and blockhouse	Designed the facility ca. 1952, now located in the Marshall Space Flight Center and listed on NRHP
Raymond and Rado	Watervliet Arsenal; Product Assurance/Gage Laboratory with temperature and humidity controlled laboratories	
Redstone Arsenal Post Engineer's Office	Redstone Arsenal; first Missile Research and Development Facilities	Designed facilities, dating from 1950, based on drawings sent from Fort Bliss
Remington Rand Corporation	Louisiana Army Ammunition Plant; 155-mm shell manufacturing line and other facilities	
United Engineers and Constructors, Inc., Boston, Massachusetts	Mississippi Army Ammunition Plant; Projectile Metal Parts Building	Designed and constructed between 1980 and 1983
Universal Match Corporation, St. Louis, Missouri	Longhorn Army Ammunition Plant; pyrotechnics load, assemble, and pack facility	Designed ca. 1952
Vitro Corporation of America	Rocky Mountain Arsenal; GB manufacturing facility	May have only been involved in the process design; some of Vitro's work supervised by North Atlantic Division Engineers
Minoru Yamasaki	Detroit Arsenal, Propulsion System laboratory (formerly the High Temperature Building and the Automotive Components Laboratory)	Constructed in 1954; the Propulsion System Laboratory has been assessed as exceptionally significant (Criteria Consideration G)
Z Division of Sandia Laboratory	Sandia Laboratory	Noted to have been responsible for the engineering details, production sites, and military-assisted assembly, testing and maintenance of nuclear weapons, worked closely with the architect/engineer firm of Black and Veatch

The Air Force Materiel Command Cold War Context (Weitze 2003) also discusses architectural, engineering and contracting firms in great detail. The text did not, however, have an easily reproducible table of all architects.

Table 7 lists architects, engineers, and builders known to have worked at least one of the thirteen installations highlighted in this report.

**Table 7.  
Known Architects/Engineers at Georgia DoD Installations**

<b>Name/Location of Architect</b>	<b>Name/Location of Installation</b>	<b>Service Branch Designed For</b>	<b>Buildings/ Structures/ Landscapes Designed</b>
A & E Design Group	NAS Atlanta, Cobb County	Navy	Building 08, Security Pass Office
Advanced Builders	NAS Atlanta, Cobb County	Navy	Building 251, Pesticide Storage/ Mixing
Air Corps Plans and Design Branch	Moody AFB, Lowndes and Lanier Counties	Army	Standardized aircraft hangars, incl. Facilities 701 and 718
Aqua Systems, Inc., New York	Robins AFB, Warner Robins	Army	Aircraft Fueling System
A.R. Briggs Company	Robins AFB, Warner Robins	Army	Civilian Housing Area
Architectural Corporation of Atlanta	NAS Atlanta, Cobb County	Navy	Building 19, Spray Paint Booth
Architectural Engineers and Contractors	NAS Atlanta, Cobb County	Navy	Buildings 118 & 119, Recreational Lodges, Lake Allatoona site
Army Corps of Engineers, Charleston	Hunter Army Air Field, Savannah	Air Force	Building 1003, Maintenance Building
Army Corps of Engineers, Savannah	NAS Atlanta, Cobb County	Navy	Building 555, Safety
	Hunter Army Air Field, Savannah	Army; Air Force	Most of Hunter AAF between 1941-1945; designed Buildings 1128, 1129, 1155, 1156, 1157, 8570, 8581, 8662, 8663, and the development of SAC ASP in 1950s
	Robins AFB, Warner Robins	Army	Standard building plans
	Robins AFB, Warner Robins	Air Force	Wherry Housing plans
Army Motion Picture Service	Fort Benning, Columbus	Army	24 <sup>th</sup> Infantry Theater, #72
Artley Company, Savannah	Moody AFB, Lowndes and Lanier Counties	Army	Unknown, but held major War Department contracts
A.S. Goebel, City of Savannah Engineer	Hunter Army Air Field, as Savannah Airport	Civilian	Building 1206, the civilian WPA hangar
Atlanta Building Systems, Atlanta	NAS Atlanta, Cobb County	Navy	Building 78, Recreational Lodge
Baker and Horres	NAS Atlanta, Cobb County	Navy	Building 60, Enlisted Dining Facility
Bateson-Cook Company	NAS Atlanta, Cobb County	Navy	Building 35, Water Supply Reservoir; Building 41, Tank Truck Unloading; Buildings 43-46 Aircraft Fuel Storage
William Bennefield	NAS Atlanta, Cobb County	Navy	Building 120, Recreational Lodge, Lake Allatoona site
Cletus Bergen	Hunter Army Air Field, Savannah	Air Force	Wherry Housing
William Bergen	Hunter Army Air Field, Savannah	Air Force	Buildings 1275, 1276, 1277
H.M. Beutell	Fort McPherson, Atlanta	Army	Buildings 138-141, Non-Commissioned Officers' Quarters
Black & Veatch, Kansas City	Robins AFB, Warner Robins	Air Force	Buildings 94, 97 & 98, Nuclear Munitions Igloos
	Hunter Army Air Field, Savannah		SAC ASP, including nuclear and thermonuclear weapon-storage and maintenance facilities

Name/Location of Architect	Name/Location of Installation	Service Branch Designed For	Buildings/ Structures/ Landscapes Designed
W.F. Bowe	Fort McPherson, Atlanta	Army	Building 56, Double Barracks; Building 60, Triple Barracks; Building 101, Commissary Storehouse
Bowers & Barbalat, Pittsburgh	Hunter Army Air Field, Savannah	Air Force	Building 145, SAC Chapel
W.F. Brown, County Engineer, Savannah	Hunter Army Air Field, as Savannah Airport	civilian	Responsible for clearing landing field before Army takeover
Burge & Stevens, Atlanta (James R. Wilkinson)	Hunter Army Air Field, Savannah	Army	North cantonment
The Butler Manufacturing Co.	Hunter Army Air Field, Savannah	Army	Building 1290, hangar
Charles M. Graves Company	NAS Atlanta, Cobb County	Navy	Building 82, Outdoor Swimming Pool
Coffee Construction Company, Eastman, GA	Moody AFB, Lowndes and Lanier Counties	Army	Grading
Constructing Quartermaster's Office	Fort Benning, Columbus	Army	Numerous Admin and Office Buildings
	Fort Gordon, Augusta	Army	Standardized building plans; 700 Series Barracks
	Moody AFB, Lowndes and Lanier Counties	Army	Standardized building plans; 700 Series Barracks
Leo A. Daly, Omaha, NE	Hunter Army Air Field, Savannah	Air Force	Saber Hall Complex
	Robins AFB, Warner Robins	Air Force	SAC Alert Molehole
Day and Zimmerman	NAS Atlanta, Cobb County	Navy	Building 18, VMFA Storage
Diedrich Architects & Associates, Atlanta	Hunter Army Air Field, Savannah	Army	Building 1327, Vehicle Maintenance Shop; Building 6020, Post Exchange
Lt. Col. Robert Elliot, U.S. Army Corps of Engineers	Robins AFB, Warner Robins	Army	Supervision of construction and contracts
Espy Paving & Construction Company, Savannah	Moody AFB, Lowndes and Lanier Counties	Army	Unknown, but held major War Department contracts
	Hunter Army Air Field, Savannah		Paved roads and parking aprons
Fickling & Walker Rental Agency	Robins AFB, Warner Robins	Air Force	Wherry Housing
Fleming Corporation	NAS Atlanta, Cobb County	Navy	Building 118, Recreational Lodge
George B. Ford	Fort Benning, Columbus	Army	Landscape
Gann Pruitt Womack	NAS Atlanta, Cobb County	Navy	Building 450, Petroleum/ Oils/ Lubricants Building
Ganteaume & McMullen, Boston	Robins AFB, Warner Robins	Air Force	Buildings 52, 76 & 86, associated with Molehole
Giffles and Rosetti, Detroit	Robins AFB, Warner Robins	Air Force	Buildings 78 & 79, associated with Molehole
The Goode Company, North Carolina	Hunter Army Air Field, Savannah	Army	North Cantonment
Griffin, Mion and Shepherd, Atlanta	Robins AFB, Warner Robins	Army	Various industrial buildings, including: Building 110, Aircraft Maintenance Hangar; Building 125, Maintenance Hangar; Buildings 300 & 301, Warehouse Supply Depots #2 & #1
Gunn & Meyerhoff, Savannah	Hunter Army Air Field, Savannah	Army	Building 1282, Movie Theater; Building 1336, Vehicle Maintenance Shop

<b>Name/Location of Architect</b>	<b>Name/Location of Installation</b>	<b>Service Branch Designed For</b>	<b>Buildings/ Structures/ Landscapes Designed</b>
Hardy Heck Moore and Myers	NAS Atlanta, Cobb County	Navy	Building 01, Hangar; Building 03, Administration Building
Harris Company	Fort McPherson, Atlanta	Army	Buildings 6-8, Staff Row; Building 400, original Quartermaster Stables
Heery & Heery, Atlanta	Navy Supply Corps School Athens, Athens	Navy	Royar Square
Helfrich, Grantham, and Helfrich	Hunter Army Air Field, Savannah	Army	Building 1287, Community Service Center; Building 1288, Automotive Center
Hentze, Adler and Schultze, Atlanta	Fort Benning, Columbus	Army	Building 101, Post Chapel
Holabird & Root, Chicago	Robins AFB, Warner Robins	Army	Second Warehouse Project; hospital & laundry additions
Holabird, Root & Burgee, Chicago	Robins AFB, Warner Robins	Army	Centurion buildings
	Hunter Army Air Field, Savannah	Air Force	Buildings 1130, 1131, 1132 (with Farm-Rite Implement Company)
Henry A. Howard	Fort McPherson, Atlanta	Army	Buildings 1-4, Staff Row; Building 42, original Guardhouse; Building 171, Post Hospital
S.J. Huffstetter	NAS Atlanta, Cobb County	Navy	Building 80, Family Services Center; Tennis Court
Nicholas Ittner	Fort McPherson, Atlanta	Army	Buildings 5, 9-14, Staff Row; Buildings 58 & 62, Double Barracks; Building 41, original Post Headquarters
John J. Harte & Associates	NAS Atlanta, Cobb County	Navy	Building 21, Aircraft Arresting Gear/East
Brig. Gen. Joshua West Jacobs	Fort McPherson, Atlanta	Army	Initial planning/ layout; standardized building plans
Jordan, Jones & Golding	NAS Atlanta, Cobb County	Navy	Building 07, Liquid Oxygen/Nitrogen Building
Jones Construction Company, Charlotte, NC	Fort Gordon, Augusta	Army	First phase of administration buildings
L. P. Kooken and Amman & Whitney	Robins AFB, Warner Robins	Air Force	Buildings 380 & 385, Special AMC Warehouses
Kuhlke and Wade, Augusta, GA, w/ Raymond J, Gauger	Hunter Army Air Field, Savannah	Air Force	Buildings 925, Gymnasium; Building 1252, Base Operations, and Building 8059, Fire Station
Kun-Young & Associates	NAS Atlanta, Cobb County	Navy	Building 05, Maintenance Hangar
J. Lerner/ SOUTHDIV	NAS Atlanta, Cobb County	Navy	Building 24, Ready Service Mag; Building 54, Bachelor Enlisted Quarters
Merrill A. Levy, Savannah	Hunter Army Air Field, Savannah	Army	Building 8593, National Guard Reserve Center
Liles and Clarke, Greenville, SC	Hunter Army Air Field, Savannah	Army	Building 1279, Administration Facility
Lopatka-McQuaig, Winter Park, FL Morales-Shumer, Jacksonville, FL	Hunter Army Air Field, Savannah	Army	Building 1292, Training Facility
The Luria Engineering Company, New York	Hunter Army Air Field, Savannah	Air Force	Buildings 840, 841 and 842, KC-97 nosedocks
Main-Way Construction Company	Robins AFB, Warner Robins	Air Force	Building 155 renovation, Logistical Facility for Depot Operations

<b>Name/Location of Architect</b>	<b>Name/Location of Installation</b>	<b>Service Branch Designed For</b>	<b>Buildings/ Structures/ Landscapes Designed</b>
J.B. McCray, Atlanta	Fort Gordon, Augusta	Army	Unknown
McDougall Construction Company, Atlanta	Fort Gordon, Augusta	Army	First phase of administration buildings
McKim, Mead and White, New York	Fort Benning, Columbus	Army	Infantry School Building 35, Ridgway Hall
Milton Pate and Associates	NAS Atlanta, Cobb County	Navy	Building 400, Racquetball/Fitness Center, Building 1108, Combat Vehicle Maintenance Facility
George H. Morrow, Baltimore	Fort McPherson, Atlanta	Army	Buildings 17 & 19, Staff Row; Buildings 137 & 142, Non-Commissioned Officers' Quarters
R.D. Cole Manufacturing Company, Newnan, GA	Moody AFB, Lowndes and Lanier Counties	Army	Facility 618, Water Tank
Reynolds, Smith & Hills, Jacksonville, FL	Hunter Army Air Field, Savannah	Air Force	Building 8586, Administration Facility
Reynolds, Stockman & Hills, Jacksonville, FL	Moody AFB, Lowndes and Lanier Counties	Army	Initial construction
Robert and Company, Atlanta	Air Force Plant 6, Cobb County	Army/ National Guard/ Air Force	"Required buildings"
	Dobbins ARB, Cobb County	Air Force	Flight Operations Hangar; Radar Electronics Buildings
	NAS Atlanta, Cobb County	Navy	Building 30, Supply Warehouse; Building 32, Special Service Center; Building 34, Pump house; Building 40, Railroad siding; Public Works Building
	Robins AFB, Warner Robins	Army	Buildings in Cantonment Area; Steam and Electrical utilities
	Fort Gillem, Atlanta	Army	A/E for Atlanta General Depot ca. 1941
Sanders & Thomas	NAS Atlanta, Cobb County	Navy	Building 1101, Applied Instruction
SDG/Hansen Architects-Land Planners, Savannah	Hunter Army Air Field, Savannah	Army	Building 8212, Sports Equipment Facility
Seabees	NAS Atlanta, Cobb County	Navy	Static Displays
Fred N. Severud, NY	Robins AFB, Warner Robins	Air Force	Modified Albert Kahn Hangar to a transport and flight test hangar, Building 110
George & Dorothy Sheddon, NY with drawings by R. D. Raines, Columbus, GA	Fort Benning, Columbus	Army	Building 128, Officer's Club
R.L. Sistrunk	NAS Atlanta, Cobb County	Navy	Buildings 114-120, Recreational Lodges, Lake Allatoona site
Sixth Naval Division	NAS Atlanta, Cobb County	Navy	Building 47, Storage; Building 81, MCSS Shopette
E. Jack Smith, Atlanta	Moody AFB, Lowndes and Lanier Counties	Army	Paving runways, taxi strips, and aprons
Smith - Pew Construction Company, Atlanta	Fort Gordon, Augusta	Army	First phase of administration buildings
	Fort McPherson, Atlanta	Army	Reception Center, 1940

<b>Name/Location of Architect</b>	<b>Name/Location of Installation</b>	<b>Service Branch Designed For</b>	<b>Buildings/ Structures/ Landscapes Designed</b>
Southeastern Construction	NAS Atlanta, Cobb County	Navy	Carports and Storage sheds
Southern Division, NAVFAC	NAS Atlanta, Cobb County	Navy	Building 10, Refueling-Vehicle Shop; Building 25, Solvent Storage; Building 41, 42, Tank Truck Unloading; Buildings 43-46, Aircraft Fuel Storage; Building 550, Dispensary and Dental Clinic
Southern Engineering	NAS Atlanta, Cobb County	Navy	Building 74, Stand-by Generator
Spector and Montgomery Architects, Falls Church, VA	Fort Benning, Columbus	Army	Hammerhead Barracks
	Hunter Army Air Field, Savannah	Air Force	Building 8056, Navigation Aid Facility
Stanley L. Peters and Associates	NAS Atlanta, Cobb County	Navy	Building 402, Recreational Services
Stevens & Wilkinson, Atlanta	Air Force Plant 6, Cobb County	Air Force	Building B-54, Modification Hangar; Hangars for the B-47 Bombers
	NAS Atlanta, Cobb County	Navy	Support and Personnel Structures at Dobbins location
P.D. Stuart	NAS Atlanta, Cobb County	Navy	Building 130, Comfort Station, Lake Allatoona site
Taylor Ironworks & Supply Company, Macon	Hunter Army Air Field, Savannah	Air Force	Building 8634, Water Tower
Thomas and Hutton & Associates, Savannah	Hunter Army Air Field, Savannah	Air Force	Building 128 restoration, NCO Club; Buildings 6005 7 6010, Bachelor Officers' Quarters; Building 6015, Officers Club; Building 8058, Flight Control Tower
Toombs & Company, Atlanta	Hunter Army Air Field, Savannah	Air Force	Building 935, Communications Facility, Building 1032, Heat Plant, and Building 1036, Warehouse
Bradley Trebilok	NAS Atlanta, Cobb County	Navy	Building 35, Water Supply Reservoir
Trippet Clepper Associates	NAS Atlanta, Cobb County	Navy	Building 83, Pool Bath House
Tri-State Engineers, Savannah	Hunter Army Air Field, Savannah	Air Force	Building 865, Training Facility; Building 1030, Worldcom Receiver Facility; Building 1154, Administration Facility; Buildings 1212 and 1228, Supply; Building 1295, Fire Station; and Building 8464, Standby Generator Plant
J. Gordon Trumbull, Cleveland	Robins AFB, Warner Robins	Army	Building 158, Armament Repair Shop; Building 181, Engine Test Cells
Walter Hook & Associates, Charlotte, NC	Hunter Army Air Field, Savannah	Air Force	Buildings 1450 and 1451, Hospital and Heat Plant
Whalley and Associates, Savannah	Hunter Army Air Field, Savannah	Army	Building 1310, Vehicle Maintenance Shop
Wilcox, Erickson, Vogelbach, and Baumann, New York	Hunter Army Air Field, Savannah	Air Force	Building 8583, Operations Center
Wise Simpson Aiken and Associates	NAS Atlanta, Cobb County	Navy	Building 64, Child Care; Building 85, MWR Service Station
Wurz, Wisecarver, Pruett	NAS Atlanta, Cobb County	Navy	Building 77, Public Works Storage
Leon H. Zach	Fort Gordon, Augusta	Army	Planning; creation of "typicals," Typical installation layouts
Col. Francis Zeigler	Robins AFB, Warner Robins	Army	Base planning

### 3.0 ANNOTATED BIBLIOGRAPHY

Numerous DoD and service-specific documents relating to the management of cultural resources have been prepared within the past fifteen years. This section presents a selected list of documents and monographs that may be useful to CRMs and were useful to Panamerican during this study. Each document has been annotated with the specific Georgia installation(s) to which it may be applicable. These documents are by no means the only ones available. However, they should prove useful as a beginning point. In addition, many of these reports can be found on the Internet. An asterisk—“\*”—indicates that the installation is directly mentioned.

#### Advisory Council on Historic Preservation

1991 *Balancing Historic Preservation Needs with the Operation of Highly Technical or Scientific Facilities*. To U.S House of Representatives, Committee on Interior and Insular Affairs, Subcommittee on National Parks and Public Lands, and the Committee on Science, Space and Technology. Advisory Council on Historic Preservation, Washington, D.C.

This report is a response to a request from several House committees and the ACHP analyzing how organizations whose primary missions involve active research and highly technical operations can meet their NHPA obligations. Case histories are used to illustrate policy and legislation, public interpretation and education, administrative procedures, staffing and training, funding, and mitigation measures. The primary thrust of this document is that agencies engaged in scientific research need to acknowledge and meet their NHPA obligations and strengthen their commitment to the preservation of that legacy.

Applies to: Robins AFB (1941), Dobbins ARB (1942), Kings Bay Submarine Base (1978), and Fort Stewart (1940)

#### Assistant Chief of Staff for Installation Management

1997 *Report to Congress on Historic Army Quarters*. Department of the Army, Washington, D.C. For the Senate Subcommittee on Appropriations to accompany FY 1996 Military Construction Appropriation Bill (Report 104-287).

While this report covers well-worn ground and re-reviews 36 CFR 800, Appendix B lists Army properties on the NRHP. Some properties are missing; however those listed may provide valuable information to installations considering nominating or delisting a property.

Applies to: Army installations, but the types of properties listed could easily apply to all services

#### Bacevich, A.J.

1986 *The Pentomic Era: The U.S. Army Between Korea and Vietnam*. National Defense University Press, Washington, DC.

Book looks at the Army's mindfulness regarding the implications of nuclear warfare. It covers the Army's concerns, reflecting a complex mixture of instructional, strategic and operational considerations that lead to major changes in Army organization, doctrine,



and weapons. This monograph is helpful in understanding the numerous changes that affected all aspects of the Army including construction programs.

Applies to: Fort Gillem (1941), Fort Gordon (1941), Fort McPherson (1885), Fort Stewart (1940), and Fort Benning (1918)

Bilderback, Daniel R., and Michael S. Binder

1999 *Early DoD-Sited Nuclear Warhead Infrastructure*. USC Legacy Project, University of South Carolina, Columbia, and Milsite Recon, Dallas, TX. For the Department of Defense Legacy Resource Management Program.

This report documents the civilian-controlled, DoD-based facilities that directly supported the nuclear weapons policies of the United States during the first half of the Cold War (ca. 1946-1966). It includes an historic context for early Cold War nuclear military strategy; an inventory of extant properties at twelve decommissioned nuclear warhead activities on currently active DoD installations; identification of significant properties and the preparation of a multiple property, thematic National Register nomination; preparation of HABS of representative properties; and production of informational brochures for public dissemination tailored to the specific resources and missions of the twelve installations.

Applies to: Kings Bay Submarine Base (1978)\*

Cannan, Deborah K., Leo Hirrel, Katherine E. Grandine, Kathryn M. Kuranda, Bethany M. Usher, Hugh B. McAloon, and Martha R. Williams

1995 *National Historic Context for Department of Defense Installations, 1790-1940, Volumes I-IV*. R. Christopher Goodwin & Associates, Inc., Frederick, MD. For U.S. Army Corps of Engineers, Baltimore District, Baltimore.

This study provides a methodological and historical framework for the assessment of the relative significance of DoD historic properties within the context of nationwide military construction. CRMs and contractors can assess the relative significance of pre-1940 construction without conducting extensive background research to develop appropriate national historic contexts. This document provides comparative data that enables the analysis of site-specific information within the board pattern of nationwide military construction activities.

Applies to: Fort McPherson (1885)\* and Fort Benning (1918)\*

Cannan, Deborah K., Leo Hirrel, Hugh B. McAloon, and Brooke V. Best

1996 *Historic Context for the Army Materiel Command's World War II Facilities*. R. Christopher Goodwin & Associates, Inc., Frederick, MD. For USACE, Baltimore District, Baltimore.

Report provides an historic context for permanent and semi-permanent property constructed between 1940 and 1946 at AMC installations. A framework for evaluating AMC properties was devised to assist CRMs in the assessment of World War II properties. Although no World War II AMC properties are found in Georgia, this report covers a wide range of buildings and structures that may be of use.

Applies to: Potentially all

CEHP Inc., Robinson & Associates, Maureen Rogers Communications, and Thomas F. King and *Reference Guide to Historic Properties*. CEHP Inc., Robinson & Associates, Maureen Rogers Communications, and Thomas F. King, np. For the Department of the Navy, Historic and Archeological Resources Protection Program in association with the Legacy Resource Management Program.

This monograph was probably compiled in the mid-to-late 1990s. It identifies known historic properties that have been evaluated and/or documented to the time of compilation. It is arranged by state and includes some disestablished properties as well as ships.

Applies to: Kings Bay Submarine Base (1978)\*, NAS Atlanta (1941), and Naval Supply Corps School, Athens (1954)\*

Center for Air Force History

1994 *Coming in from the Cold: Military Heritage in the Cold War*. Center for Air Force History under the guidance of the Deputy Under Secretary of Defense (Environmental Security) with assistance from the Department of the Army, National Conference of State Historic Preservation Officers, National Park Service and CEHP, Inc., np. For Legacy Resources Management Program

This is the initial DoD summary in response to the congressional mandate to inventory, protect and conserve the heritage of the DoD during the Cold War. It is considered a seminal Cold War report.

Applies to: All as a general history and way of looking at Cold War resources

Chattely, Paul, Horace Foxall, Flossie McQueen, Cynthia Nielsen, Mary Shipe, Terry Taylor, and Jamie Tippet

1997 *Context Study of the United States Quartermaster General Standardized Plans, 1866-1942*. U.S. Army Corps of Engineers, Seattle District, Seattle. For U.S. Army Environmental Center, Environmental Compliance Division, Aberdeen Proving Ground, MD.

The Quartermaster Corps constructed thousands of buildings, generally using standardized plans, throughout the United States. This study provides an historic context, ways to determine integrity, landscape plans, building plans, and building evolutions and associations. It also covers “semi-military” buildings such as YMCAs, YWCAs, Liberty Theaters, Knights of Columbus halls/buildings and some types of libraries.

Applies to: Fort McPherson (1885), Fort Benning (1918), Fort Stewart (1940), Hunter Army Air Field (1940), Moody AFB (1940), Fort Gillem (1941), Robins AFB (1941), Fort Gordon (1941), and Dobbins ARB (1942)

Fine, Lenore, and Jesse A. Remington

1989 *The Technical Services: The Corps of Engineers: Construction in the United States*. Part of the United States Army in World War II [generally called the “Green Books”]. Center of Military History, United States Army, Washington D.C.

Literally everything you always wanted to know about Army Corps of Engineers construction during World War II including policies, detailed installation construction histories, architects, builders and engineering firms used, costs, construction innovations ... the detail is excruciating but incredibly helpful.

Applies to: Fort McPherson (1885), Fort Benning (1918), Fort Stewart (1940), Hunter Army Air Field (1940), Moody AFB (1940), Fort Gillem (1941), Robins AFB (1941), Fort Gordon (1941), and Dobbins ARB (1942)

Gaither, Steve

1997 *Looking Between Trinity and the Wall: Army Materiel Command Cold War Material Culture within the Continental United States, 1945-1989*. U.S. Army Materiel Command Historic Context Series, Number 11. Geo-Marine, Inc., Plano, TX. For U.S. Army Corps of Engineers, Fort Worth District, Fort Worth.

This report provides a national historic context for the properties within the inventory of the Army Materiel Command. The object was to investigate and document themes and events about construction, modification, and use of buildings and structures by the AMC and predecessor organizations throughout the Cold War.

Applies to: Fort Benning (1918), Hunter Army Air Field (1940), Fort Stewart (1940), Fort McPherson (1885), Fort Gordon (1941), Fort Gillem (1941), Robins AFB (1941), and Dobbins ARB (1942)

Garner, John S.

1993 *World War II Temporary Military Buildings*. USACERL Technical Report CRC-93/01. U.S. Army Construction Engineering Research Laboratories, Champaign, IL.

This study is a part of the Memorandum of Agreement (MOA) between the DoD, the ACHP, and the National Conference of State Historic Preservation Officers to document temporary World War II buildings so that they could be demolished. It describes the principal types of temporary buildings constructed during mobilization for the war (1939-1946), documents their approximate numbers and locations, and provides a historical context to support DoD's future assessment of this architecture's historical significance.

Applies to: Fort McPherson (1885), Fort Benning (1918)\*, Fort Gillem (1941)\*, Fort Gordon (1941)\*, Fort Stewart (1940)\*, Hunter Army Air Field (1940)\*, Moody AFB (1940), Dobbins ARB (1942), and Robins AFB (1941)

Grandine, Katherine E., and Deborah K. Cannan

1995 *Support and Utility Structures and Facilities (1917-1946) Overview, Inventory and Treatment Plan*. R. Christopher Goodwin & Associates, Inc., Frederick, MD. For the Department of the Navy Atlantic Division, Naval Facilities Engineering Command, Norfolk, VA.

The purpose of this report was to provide the DoD with a mechanism for the classification, evaluation and treatment of support and utility buildings and structures constructed between 1917 and 1946. This report covers general storage, ordnance storage, fuel storage, water supply systems, sewage disposal systems, power and

heating systems, and refuse-disposal systems for the Army, Army Air Corps, Navy and Marine Corps. This is an invaluable tool for making decisions about “mundane” structures that appear on every DoD installation.

Applies to: Fort McPherson (1885), Fort Benning (1918), Fort Stewart (1940), Hunter Army Air Field (1940), Moody AFB (1940), Fort Gillem (1941), Robins AFB (1941), Fort Gordon (1941), and Dobbins AFB (1942)

Grashof, Bethany C.

1986 *A Study of United States Army Family Housing Standardized Plans 1866-1940 (PX-0001-5-0835)*. Six volumes. Center for Architectural Conservation, College of Architecture, Georgia Institute of Technology, Atlanta. For the Assistant Chief of Engineering, Office of the Engineers, U.S. Army Corps of Engineers under contract to the National Park Service.

This report gathers information regarding the then number, type genesis and prevalence of standardized designs for Army family quarters up to World War II. It provides the necessary background information for the determination of historic and architectural significance of quarters. This was part of a larger Army study related to its historic family housing. Volume 1 serves as an introduction to the Army’s three phases of standardized quarters’ plans. Volume 2 discusses the first phase, 1866-1890; Volumes 3 and 4 discuss second phase plans, 1890-1917; and Volume 5 discusses the third phase, 1917-1940. Volume 6 provides appendices and specifications for some of the standard plans.

Applies to: Fort McPherson (1885), Fort Benning (1918), Fort Stewart (1940), Moody AFB (1940), Fort Gillem (1941), Robins AFB (1941), Fort Gordon (1941), and Dobbins AFB (1942)

Green, Paul

1993 *Interim Guidance Treatment of Cold War Historic Properties for U.S. Air Force Installations*. Headquarters, United States Air Force, Washington, D.C.

While this document has been expanded upon numerous times within the Air Force, it is still the basic guide for evaluating Air Force Cold War resources and for achieving compliance. At its publication the guide was considered an ongoing work; therefore it is incumbent upon CRMs and contractors to consult specific command and installation histories to further determine eligibility.

Applies to: All Air Force installations

Hardlines Design Company

2003 *Study of Antiterrorism/Force Protection (ATFP) Base Entrance Improvements in a Historic District*. Hardlines Design Co., Columbus, OH. For Southern Division Naval Facilities Engineering Command, Department of the Navy, North Charleston, SC.

This is a case study of Fort McPherson and Navy Supply Corps School Athens for recommendations and cost estimates of an entrance gate at each installation that considers the historic nature of the installations. While it is specific to these two installations, the recommendations are intended to provide general information for use by other bases in considering security upgrades to gates located in or adjacent to historic districts.

Applies to: Naval Supply Corps School, Athens (1954)\*, Fort Benning (1918)\*, Fort McPherson (1885)\* and potentially others seeking information on security in an historic area

Kane, Kimberly, Steve Gaither, and Duane E. Peter

1995 *Historic Context for the World War II Ordnance Department's Government-Owned Contractor-Operated (GOCO) Industrial Facilities, 1939-1945*. U.S. Army Materiel Command Historic Context Series. Geo-Marine, Plano, TX. For U.S Army Corps of Engineers, Fort Worth District, Fort Worth, TX.

Although is report is geared specifically toward GOCOs, the general information about buildings and structures related to industrial/production facilities is exceptional.

Applies to: Robins AFB (1941) and Dobbins ARB (1942)

Kuranda, Kathryn M., Brooke V. Best, Eliza H. Edwards, and Leo Hirrel

1995 *Navy Cold War Guided Missile Context: Resources Associated with the Navy's Missile Program, 1946-1989*. R. Christopher Goodwin & Associates, Inc., Frederick, MD. For Department of the Navy, Atlantic Division Naval Facilities Engineering Command, Norfolk, VA.

This report provides guidance in identifying, evaluating, and treating Cold War resources that played a major role in the Navy's guided missile program. The nationwide context provides a framework for assessing the relative significance of built resources associated with the Navy's guided missile program.

Applies to: Kings Bay Submarine Base (1978)\*

Kuranda, Kathryn M., Brian Cleven, Nathaniel Patch, Katherine Grandine, and Christine Heidenrich  
2004 *Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)*. R. Christopher Goodwin & Associates, Inc., Frederick, MD. For U.S. Army Environmental Center, Aberdeen Proving Ground, MD.

The objective of this context is to provide a framework for the evaluation and treatment of the Army's UPH for the Cold War period. This study should be used for the identification, evaluation, and treatment of historic properties, and includes a listing of all known UPH properties within the United States.

Applies to: Fort Benning (1918)\*, Fort Gillem (1941)\*, Fort Gordon (1941)\*, Hunter Army Air Field (1940)\*, Fort McPherson (1885)\*, and Fort Stewart (1940)\*

Kuranda, Kathryn M., Katherine Grandine, Brian Cleveen, Thomas W. Davis, and Nathaniel Patch  
2002 *Historic Context for Army Fixed-Wing Airfields 1903-1989*. R. Christopher Goodwin & Associates, Inc., Frederick, MD. For U.S. Army Environmental Center, Aberdeen Proving Ground, MD.

The objective of this context is to develop a framework for the evaluation of Army fixed-wing airfields by applying the Secretary of Interior's guidelines and guidance. It is designed to assist CRMs in the identification, evaluation, and treatment of historic properties.

Applies to: Fort Benning (1918)\*, Fort Stewart (1940; for Wright Army Air Field), and Hunter Army Air Field (1940)\*

Kuranda, Kathryn M., Kristen Peeler, Christine Heidenrich, Carrie Albee, and Katherine Grandine  
2003 *Housing an Army: The Wherry and Capehart Era Solutions to the Postwar Family Housing Shortage (1949-62)*. R. Christopher Goodwin & Associates, Inc., Frederick, MD. For U.S. Army Environmental Center, Aberdeen Proving Ground, MD.

This report was prepared as part of the programmatic agreement with the ACHP concerning Wherry and Capehart housing. This study expands upon *For Want of a Home...* A Historic Context for Wherry and Capehart Military Family Housing by the U.S. Army Environmental Center, MD. This study broadens the social history of housing and includes a number of case studies and blueprints.

Applies to: All Army installations and can be used by all others, with the exception of Kings Bay Submarine Base (1978) for its basic history

Lewis, Karen, Katherine J. Roxlau, Lori E. Rhodes, Paul Boyer, and Joseph S. Murphey  
1995 *A Systemic Study of Air Combat Command Cold War Material Culture*. Volume I: Historic Context and Methodology for Assessment. With contributions by Paul R. Green, James A. Lowe, R. Blake Roxlau, and David P. Staley. Mariah Associates, Inc., Albuquerque, NM. For U.S. Army Corps of Engineers, Fort Worth District, TX.

This report supercedes the 1993 Air Force interim guidelines for the treatment of historic properties, and is a baseline assessment of ACC's potential historic resources. Twenty-seven ACC bases were evaluated, interpreted and material cultural was prioritized on each to form the baseline. From this baseline an historic context was created and guidelines for the elevation of Cold War properties created.

Applies to: Hunter Army Air Field (1940), Moody AFB (1940)\*, Dobbins ARB (1942), and Robins AFB (1941)\*

Loechl, Suzanne Keith, Samuel A. Batzli, and Susan I. Ensore  
1996 *Guidelines for Documenting and Evaluating Historic Military Landscapes: An Integrated Landscape Approach*. AEC Technical Guideline. U.S. Army Construction Engineering Research Laboratory, Champaign, IL.

This document, designed for used by CRMs on active Army installations, and preservation professionals contracted by the Army, provides guidelines for identifying and evaluating historic military landscapes and for preparing the documentation required for nominating landscape sites and districts to the NRHP.

Applies to: All Army installations, but can be used broadly by all services for establishing a systematic approach to landscape evaluation

Lonnquest, John C., and David F. Winkler  
1996 *To Defend and Deter: The Legacy of the United States Cold War Missile Program*. USACERL Special Report 97/01. U.S. Army Construction Engineering Research Laboratory, Champaign, IL. For Department of Defense, Legacy Resource Management Program, Cold War Project.

The goal of this report was to develop the history and a reference guide for use in identifying and evaluating the historical significance of missile-related cultural resources. The information supplied can help locate, identify, and understand Army and Air Force guided missile facilities.

Applies: Robins AFB (1941)\* and Naval Air Station Atlanta (1941)\*

Moore, David, Terri Myers, Diane Williams, Anne I. Malanka, Sara Kirtland, Angel Lighty, Brian Pendley, and Diana Nicklaus

1995 *Cultural Resources Survey and Assessment of Naval Reserve Centers within the Geographic Area of Responsibility of Southern Division, Naval Facilities Engineering Command, Charleston, South Carolina*. Turner Collie & Braden, Inc., Houston, TX and Hardy-Heck-Moore & Associates, Inc., Austin, TX. Prepared for Legacy Resources Management Program.

This report created under the auspices of the Legacy Resources Management Program includes an historic context for the development of the Naval Reserve Program and the types of resources within it. The report establishes a framework for assessing the significance of and the potential for listing associated properties on the NRHP. The Centers surveyed in this report all predate 1980.

Murphey, Joseph, Dwight Packer, Cynthia Savage, Duane E. Peter, and Marsha Prior

2000 *Army Ammunition and Explosives Storage in the United States: 1775-1945*. Geo-Marine Inc., Special Publications Number 7). Geo-Marine, Inc., Plano, TX. For U.S. Army Corps of Engineers, Fort Worth District, Fort Worth, TX.

This report provides an historic context for Army ammunition and explosives storage structures in the continental United States. Although an Army context, ammunition facilities within the DoD are discussed and were investigated. This context can be used by any DoD installation with explosives storage structures built between 1775 and 1945. Later storage structures are also discussed.

Applies to: Fort Gillem (1941)\*, Fort McPherson (1885)\*, Hunter Army Air Field (1940)\*, Fort Benning (1918)\*, Fort Gordon (1941)\*, Fort Stewart (1940), Robins AFB (1941), and Dobbins AFB (1942)

Office of the Deputy Under Secretary of Defense

2003 *Department of Defense Base Structure Report (A Summary of DoD's Real Property Inventory), Fiscal Year 2003 Baseline*. Office of the Deputy Under Secretary of Defense (Installations & Environment), Washington, D.C. Online (available)  
<http://www.defenselink.mil/pubs/almanac>

This report is a summary of DoD's entire real property inventory.

Applies to: All installations

Pedrotty, Michael A., Julie L. Webster, Gordon L. Cohen, and Aaron R. Chmiel

1999 *Historical and Architectural Overview of Military Aircraft Hangars, A General History, Thematic Typology, and Inventory of Aircraft Hangars Constructed on Department of*

*Defense Installations.* U.S. Army Construction Engineering Research Laboratory, Champaign, IL. For U.S. Air Force Headquarters, Air Combat Command, Langley AFB, VA.

The objectives of this study were to identify and describe the principal types of military aircraft hangars built before 1996, document hangar origins, locations and approximate numbers; and to provide a context for understanding the aviation and construction history related to major hangar types. The report excludes most Reserve and National Guard installations. Each chapter is subdivided according to service and includes such information as milestone events including: military conflicts, aircraft technology and production, military aviation operations, military aviation administration and military aviation construction.

Applies to: Hunter Army Air Field (1940)\*, Dobbins ARB (1942), Moody AFB (1940)\*, Robins AFB (1941)\*, Fort Benning (1918)\*, Fort McPherson (1885)\*, Fort Stewart (1940)\*, and NAS Atlanta (1941)\*

R. Christopher Goodwin & Associates, Inc.

2003 *Neighborhood Design Guidelines for Army Wherry and Capehart Era Family Housing.* R. Christopher Goodwin & Associates, Inc., Frederick, MD. For the Department of the Army.

This report was prepared as part of the programmatic agreement with the ACHP concerning Wherry and Capehart housing. It explores the design approaches used in the Wherry and Capehart neighborhoods and identifies compatible treatments for new work, considerations are presented to assist in planning maintenance, modification, demolition, and construction activities that will retain the design integrity of the neighborhoods. Included are site plans, circulation networks, landscape plants, plant materials and walls/fences, public space such as streetscapes, shopping centers, playgrounds, courtyards and parking areas.

Applies to: All Army installations and can be used by all others for its basic history and plan considerations

Schaffel, Kenneth

1991 *The Emerging Shield, the Air Force and the Evolution of Continental Air Defense 1945-1960.* Office of Air Force History, United States Air Force, Washington, D.C.

This is the story of the rise of air defense after World War II. It focuses on the Air Force's predominant role in the defense of the continental United States against manned bomber attacks. While the Army can be said to have fielded a complementary air defense system separate from the Air Force, this monograph examines the Army's role only as it concerns the Air Force.

Applies to: Hunter Army Air Field (1940)\*, Moody AFB (1940), Dobbins ARB (1942)\*, Robins AFB (1941)\*

Shiman, Philip

1977 *Forging the Sword: Defense Production During the Cold War.* USACERL Special Report 97/77. U.S. Army Construction Engineering Research Laboratory, Champaign,



IL. For the U.S. Air Force Air Combat Command and the Department of Defense Legacy Resource Management Program, Cold War Project.

This study is a contextual overview of Cold War industrial facilities in the United States. The major theme of this study is the role of government in production and the various factors that influenced that role. Another theme is the nature of the production facilities themselves.

Applies to: Robins AFB (1941)\*, Dobbins ARB (1942)\*

U.S. Army Corps of Engineers, Fort Worth

1997 *Army Cold War Property Identification, Evaluation and Management Guidelines*. U.S. Army Corps of Engineers, Fort Worth District, Fort Worth, TX.

This document establishes a standard for evaluating Army Cold War properties for the NRHP; assists Army personnel tasked with management of cultural resources in the identification, evaluation and management of Cold War properties; and provides a source of information and reference material for use in coordination with SHPO on Cold War properties.

Applies to: Fort Benning (1918), Hunter Army Air Field (1940), Fort Stewart 1940), Fort McPherson (1885), Fort Gordon (1941), Fort Gillem (1941), Robins AFB (1941), and Dobbins ARB (1942)

U.S. Army Environmental Center

1997 *Thematic Study and Guidelines: Identification and Evaluation of U.S. Army Cold War Military-Industrial Historic Properties*. U.S. Army Environmental Center, Aberdeen, MD.

This document provides a national historic context for the Army's military-industrial involvement during the Cold War. The two-fold objective of this document was to develop a thematic study and provide guidelines for the identification and evaluation of Cold War era military-industrial historic properties.

Applies to: Fort Benning (1918), Hunter Army Air Field (1940)\*, Fort Stewart (1940)\*, Fort McPherson (1885)\*, Fort Gordon (1941)\*, and Fort Gillem (1941)\*

2002 *"For Want of a Home...": A Historic Context for Wherry and Capehart Military Housing*. U.S. Army Environmental Center, Aberdeen Proving Ground, MD.

Report analyzes the legislative, architectural and planning issue that influenced two of the larger and more influential military family-housing programs in DoD history: Wherry and Capehart housing. This Army-wide historic context was developed as guidance on the analysis of this housing and evaluation of its significance on specific installations. Although this is an Army context, the basic history of the legislation applies across the services. The Navy and Air Force are currently creating a Wherry-Capehart context to cover their services.

Applies to: All but Kings Bay Submarine Base (1978), and Fort Benning (1918)\*

Wagner, Richard

1996 *Preserving a Heritage, Standards and Illustrated Guidelines for Rehabilitating Historic Air Force Buildings and Structures*. Center for Continuing Studies, Goucher College, Baltimore, MD. For Cultural/Natural Resources Program, Office of The Civil Engineer, U.S. Air Force.

This report is based on the Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings. It is intended for use by CRMs, base architects, engineers, facility managers and their consultants. It is intended for use with all types of buildings regardless of materials, methods of construction and buildings of high quality materials.

Applies to: Dobbins ARB (1942), Moody AFB (1940), Hunter Army Air Field (1940), and Robins AFB (1941)\*

Wasch, Diane Shaw, Perry Bush, Keith Landreth, James Glass, and Arlene R. Kriv

1991 *World War II and the U.S. Army Mobilization Program: A History of the 700 and 800 Series Cantonment Construction*. U.S. Army Construction Engineering Research Laboratory, Champaign, IL, and HABS/HAER, Washington, D.C. For Legacy Resources Management Program and the U.S. Department of the Interior, National Park Service, HABS/HAER.

This report is an in-depth look at the Army's barracks buildings of World War II. An historic context and a detailed building components list complete with drawings and case studies are provided. There is some basic information about POW facilities. This is an excellent survey of Army's barracks.

Applies to: Fort McPherson (1885), Fort Benning (1918), Fort Stewart (1940), Hunter Army Air Field (1940), Moody AFB (1940), Fort Gillem (1941), Robins AFB (1941), Fort Gordon (1941), and Dobbins ARB (1942)

Weitze, Karen J.

1999 *Cold War Infrastructure for Air Defense: The Fighter and Command Missions*. KEA Environmental, Inc., Sacramento, CA. For Headquarters, Air Combat Command, Langley AFB, VA.

The primary goal of this context is to establish a detailed history for categories of Strategic Air Command, Aerospace Defense Command and Tactical Air Command Cold War infrastructure for the fighter and command missions. The problems of defining integrity in buildings that change across time are discussed and parameters are established.

Applies to: Moody AFB (1940)\*, and Hunter Army Air Field (1940)

1999 *Cold War Infrastructure for Strategic Air Command: The Bomber Mission*. KEA Environmental, Inc., Sacramento, CA. For Headquarters, Air Combat Command, Langley AFB, VA.

The primary goal of this context is to establish a detailed history for categories of SAC, ADC and TAC Cold War Infrastructure for the bomber mission. The problems of defining

integrity in buildings that change across time are discussed and parameters are established.

Applies to: Moody AFB (1940)\*, and Hunter Army Air Field (1940)

2003 *Keeping the Edge: Air Force Materiel Command Cold War Context (1945-1991)*. Vols. I-III. EDAW, Inc., through Prewitt and Associates, Inc., np. For Headquarters Air Force Materiel Command, Wright-Patterson Air Force Base, Ohio and U.S. Air Force.

This series of monographs was created to provide guidance and contextual references to assist base historians and CRM in determining how to handle the task of inventorying, documenting and evaluating Air Force Materiel Command (AFMC) Cold War properties. Volume I discusses command lineages, scientific achievement, and major tenant organizations; Volume II discusses installations and facilities; and Volume III is the index. Although this document is aimed specifically at AFMC, it is an excellent review of the birth of the Air Force and the Air Force in general during the Cold War.

Applies to: Robins AFB (1941)\*, Dobbins ARB (1942)\*, Moody AFB (1940)\*, Hunter Army Air Field (1940)\*, and Fort Benning (1918)\*

Winkler, David F.

1997 *Training to Fight: Training and Education During the Cold War*. USACERL Special Report, 97/99. U.S. Army Construction Engineering Research Laboratory, Champaign, IL. A joint study for the Department of Defense Legacy Program, Cold War Project and the U.S. Air Force Air Combat Command.

This report provides a contextual foundation for the documentation, and some cases preservation of, Cold War era military training and educational facilities within United States. The report features a state-by-state listing of training and education sites, even those sites, which have been disestablished.

Applies to: Navy Supply Corps School Athens (1954)\*, Fort Benning (1918)\*, Fort Gordon (1941)\*, Moody AFB (1940)\*, and Fort McPherson (1885)\*

Many of these contexts contain additional bibliographic information on building types, blueprints, architects and studies at other installations that might prove to be useful. Each of the thirteen installations highlighted in this study also have a bibliography specifically related to that installation, mission, or some other specific aspect of an individual installation.

## 4.0 HISTORIC CONTEXT

This section contains a discussion of historic events (chronology) and themes that provide a context for the development and activities conducted at the various military installations in the state of Georgia during the Cold War era. The chronology is not a comprehensive history of the Cold War but attempts to relate events occurring during the period to general developments at these installations. A timeline of important events occurring during the Cold War appears in USAEC 1998a: Appendix D, as well as in *Coming in from the Cold* (Center for Air Force History 1994:Appendix V).

The U.S. Army defines the Cold War as “the prolonged ideological, economic, military and political competition, tension, and conflict short of actual war between the United States and the Soviet Union from 1946 [to] 1989” (USACE, Fort Worth 1997:8). Some writers date the beginning of the Cold War to the detonation of the first atomic bomb at the Trinity test site near Alamogordo, New Mexico (July 16, 1945) or the end of World War II with the signing of Japan’s unconditional surrender (September 2, 1945) and others date the end of the conflict as 1991, based on the signing of the Strategic Arms Reduction Treaty (START), the formal end of the Strategic Air Command (SAC) alert by Presidential order, and the dissolution of the Union of Soviet Socialist Republics (USSR) by the end of December (Lewis et al. 1995; Marolda 2003; Weitze 2003). The DoD itself differs over the span of the Cold War. The Defense Prisoner of War/Missing Personnel Office considers the Cold War era to extend from 1946 to 1991, while DTIC presented Cold War Recognition Certificates to personnel who served during the period from September 2, 1945 to December 26, 1991 in accordance with the National Defense Authorization Act for Fiscal Year 1998 (DTIC 2002). While the seeds of this competition were planted prior to World War II, the defeat of the Axis powers provided the air and light that allowed them to germinate. While this conflict first centered on the nations in recently devastated Europe, it quickly spread to all parts of the world. For the purposes of this study, the Cold War is dated from former British Prime Minister Winston Churchill’s “Iron Curtain” speech in March 1946, which iterated the results of Soviet activities in Eastern Europe to control countries freed from Nazi occupation during World War II, to the fall of the Berlin Wall in November 1989 (Gaither 1997:1-3; USAEC 1998a:9; Kuranda et al. 1995:15).

The United States military played an essential role in containing the spread of communism during the Cold War. During this period, “the primary mission of the Army was to deter or defeat communist growth in conjunction with other services or allied nations, without using strategic nuclear warfare, preferably without using nuclear weapons. A secondary mission was to support the defense of the United States through anti-aircraft missiles and antiballistic missiles” (USAEC 1998a:2). The U.S. Air Force was itself created as an autonomous service during the Cold War, and the mobility of the U.S. Navy’s aircraft, ships and submarines provided essential support and intelligence gathering in relation to continental air defense and the United States’ international responsibilities. In an effort to accomplish these missions, the military services underwent significant reorganization that included the National Security Act of 1947 and the reorganization of the Army’s technical services and formation of AMC in 1962. The Navy and Air Force also underwent periodic reorganizations, especially during the 1960s. Underpinning the military’s ability to carry out its missions was a growing reliance on increasingly sophisticated technology “that involved communications, surveillance, logistics, guidance, and early warning systems, as well as research, development, and testing in institutions both public and private” (Gaither 1997:9-10). The following sections will review and discuss national events and developments that form a general context in which the developments occurring at Georgia military installations can be placed.

The build-up to World War II and its prosecution changed America. Between 1938 and 1945, the federal government invested billions of dollars in the creation and support of military installations throughout the nation, including the South, as well as funded numerous war-related production industries. Georgia benefited greatly from massive federal appropriations, notably the creation of military posts throughout the state. The Army and the Army Air Forces, in particular, but also the Navy and Marine Corps recognized that Georgia's preexisting railroad infrastructure, extensive flat and open spaces, and advantageous climate provided an excellent environment for the training of infantry and armored units as well as pilots.

The army had more training facilities concentrated in Georgia than in any other state except Texas. Every major Georgia city housed a substantial military installation of some type. Among them, Fort Benning, founded during World War I near Columbus, was the largest infantry training school in the world; Robins Air Service Command was a \$30 million Air Corps base located near Macon that at its peak employed fifteen thousand civilians; Fort Gordon was an army training center near Augusta; and Hunter Field, near Savannah, provided training for Army Air Corps crewmen [Bartley 1991a:339].

What would later become NAS Atlanta was formerly located at Camp Gordon at Chamblee. In 1940 the Navy selected the post as the site for a Naval Reserve Aviation Base (NRAB), and by March 1941 the base began to train Navy and Marine Corps aviators (Moore et al. 2000:I-1). By 1943, in addition the Fort McPherson and Fort Benning, at least ten other large military installations were located in the state of Georgia, including Camp Stewart, Hunter Field, Moody Field, Atlanta General Depot (now Fort Gillem), Robins Field (now Robins AFB), Camp Gordon, NRAB Atlanta (now NAS Atlanta), Turner Field, Marietta Army Air Field (now Dobbins ARB), and NAS Glynco (a lighter-than-air base housing antisubmarine blimps), among others.

The federal government also spent copiously on support facilities (e.g., public housing, health-care facilities, schools) as well as needed infrastructure (roads, highways, water, sewer and electrical lines). For example, the state's first four-lane highway connected Atlanta to Marietta was under construction in 1941, partly to attract potential war-production contracts to its new airport—Rickenbacker Field (later, Marietta Army Air Field). As a result, the arrival of soldiers and workers swelled the population near these facilities, turning them into industrial centers (Ambrose 2005; Mikesell 2000:7/1-2; Bartley 1991a:339, 341; Scott 2003).

The Bell Aircraft Company in Marietta employed some twenty thousand workers; shipbuilding facilities at Savannah and Brunswick boomed; large ordnance plants sprang up in Macon and Milledgeville; and numerous Georgia firms received hefty war contracts. In Georgia as in the nation, World War II accomplished what the New Deal had been unable to do: it generated the payrolls and production that brought to an end the Great Depression and touched off an era of prosperity [Bartley 1991a:341].

This new prosperity was not all roses. The Valdosta area boomed with government spending on payroll and construction in support of Moody Field. However, "the rapid influx of people [into a primarily rural area of pine barrens and open fields] also created problems such as housing shortages and strains on public utilities such as water and sewer systems. The need for

recreational facilities for soldiers required difficult social adjustments and even changes in city ordinances. One divisive local issue was the December 1941 decision to allow the public showing of motion pictures on Sundays” (Messick 1999:27).

Another divisive issue was the segregation. During the war, African-American troops, many from the northern states and often unaccustomed to segregated facilities, sometimes fought back by refusing to sit in the backs of buses. Fights erupted and a number of soldiers were arrested (Bartley 1991b:362). To enable African-American soldiers to participate in the war effort, the military accommodated segregation by housing and supporting African-American troops in ‘separate but equal’ facilities (Messick 1999:18-19; Wasch et al. 1991:22). At Moody, “separate facilities for two African-American squadrons included a mess hall and housing for three officers and 140 enlisted men” (Messick 1999:18). At Camp Stewart, the Army erected a separate “Colored Camp” for African-American troops who were receiving anti-aircraft training. “The Colored Camp at Fort Stewart was probably not unlike other Colored Camps the Army built. These camps utilized the Theater of Operations (T.O.) construction style with indoor latrines and showers and were heated with one central heater” (Fortune and Maggioni 2002:13). President Harry S. Truman, recognizing the inconsistency of championing freedom and democracy for the world while practicing racism at home, formally initiated the desegregation of the Armed Services by issuing Executive Order 9981 on July 26, 1948

After the war in 1945, the services underwent an extensive demobilization of personnel with dramatic reductions in funding for operations and equipment. Installations experienced a variety of conditions, ranging from deactivation to maintenance with caretaker detachments to sporadic use for National Guard training. Some installations reverted to the private sector. Camp Gordon, Fort McPherson, and Camp Stewart served as Separation or Deactivation Centers facilitating the transition of discharged servicemen back into private life.

#### **4.1 GROUNDWORK OF THE COLD WAR (1945-1949)**

In 1945 while the battles of World War II still raged in Europe and the Pacific, a number of events occurred that could be seen in retrospect as part of the “beginning” of the Cold War. The Yalta Conference in February 1945 is often cited as one of those early events presaging future acrimony between the United States and the USSR. It marked a point where American-Soviet mistrust, while having earlier roots, became apparent. This rivalry also was manifested at the Potsdam Conference in July 1945 and was nourished by specific disputes, among them Germany, Eastern Europe, and atomic weapons (LeFeber 1985:1-7, 14-18, 24-28). In August of that year, the United States dropped atomic bombs on Hiroshima and Nagasaki, and announced its intention to occupy Korea south of the 38<sup>th</sup> parallel. The following month Ho Chi Minh seized power in Hanoi and declared an independent Vietnam, followed closely by the re-entry of French troops. In Eastern Europe, the Soviet Union, which had begun to consolidate its control over Poland and Czechoslovakia, was quickly expanding its influence and hold. Despite the fact that the Communists received a small percentage of the vote in the Hungarian elections, Soviet dictator Josef Stalin sent in troops to crush the opposition. Soon after, Yugoslavia became a federated republic under Tito. The Western powers viewed these actions as imperialistic or hegemonic (i.e., an attempt by the Soviets to spread communism on a global scale). This dynamic helped lay the groundwork for the 45 years of misunderstanding and mistrust that were to follow, and was exacerbated by the fact that the western allies could not negotiate from a position of strength, much less impose their will on Stalin. At the end of the

war, the Soviet army in Europe consisted of 12 million men in 300 divisions compared to General Dwight Eisenhower's 4 million men in 85 divisions.

U.S. Secretary of State James F. Byrnes' "get tough with Russia" speech, early in 1946, was closely followed in March by Churchill's famous speech at Westminster College in Missouri. Churchill stated that an "Iron Curtain" had come down across Europe. This speech marked the "official" start of the Cold War. The year 1946 saw the formation of the Strategic Air Command (SAC), an icon of the Cold War, as well as the beginning of the French Indochina War. On-going hostilities between communist and anticommunist forces in Greece and Turkey led to the formulation of the Truman Doctrine (1947) which offered support and funding to forces resisting communism. The Marshall Plan (1947), which offered economic assistance to 16 European countries, further bolstered this policy, the precursor of the Containment policy, a basic Cold War framework.

In addition to SAC, three other U.S. Army Air Forces<sup>1</sup> commands were created by the War Department in 1946—these were the Tactical Air Command (TAC), Military Airlift Command (MAC), and Aerospace Defense Command (ADC). SAC's initial Cold War role was to prepare to conduct strategic warfare and its primary role throughout the Cold War was to provide a long-range strategic strike force.

During the Cold War TAC's mission was "preparation to deploy and employ adequate forces to deter war and if deterrence fails, provide the margin of excellence to win" (Lewis et al. 1995:58). As a result, TAC maintained fighter forces and tactical reconnaissance aircraft. Moody AFB was a TAC installation. MAC's responsibility during the Cold War was resupply of military forces in support of SAC and TAC. In addition, MAC conducted "aeromedical support, special air missions, operational support airlift, combat rescue, special operations, audiovisual documentation, and weather services (Lewis et al. 1995:58). ADC was responsible for the development of early warning systems in conjunction with outside agencies, the operation of early warning systems upon deployment, and the maintenance and operation of fighter interceptors.

The following year the National Defense Act was passed, reorganizing the American military and intelligence-gathering apparatus. As part of this act, the Air Force was created as a separate branch of the armed services, and Central Intelligence Agency (CIA), the National Security Council (NSC), and the Joint Chiefs of Staff were also formed. "The Act designated authority for strategic missile development to the Air Force and tactical missile development to the Army" (Lewis et al. 1995:28, 67). Further, the U.S. Congress created a National Military Establishment at that time, which united the Army, Navy, Marines under a Secretary of Defense. The Congress strengthened this effort at unification by creating a DoD with the Army, Navy, and Air Force as subordinate departments within it (Kuranda et al. 1995:18).

The early post-war period was marked by the dramatic and extensive demobilization of military personnel with a concomitant decrease in funding for military operations and equipment. Army strength declined from more than eight million soldiers and 89 divisions in September 1945 to 684,000 soldiers and 12 divisions in June 1947, with additional reductions occurring in 1948. The number of Navy carriers dropped from 98 in September 1945 to 23 one year later. By the beginning of the Korean War the number of carriers declined further to 15. "By December 1946

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<sup>1</sup> The U.S. Army Air Corps became known as the U.S. Army Air Forces (USAAF) on June 20, 1941, and as the U.S. Air Force (USAF) in 1947.

the number of ships was reduced to 319 major combatants and 724 auxiliary ships” (Kuranda et al. 1995:18-19). Military spending declined from approximately \$45 billion in 1946 to \$13 billion by 1949. Further, the Army and Navy endured the severest cuts, while the “[s]trategic defense of the United States was chiefly in the hands of the Air Force by 1949,” notably SAC’s B-29, B-36, B-47 and B-50 bombers, with the older services curtailing funding allocated for research and development projects (Lewis et al. 1995:28-29). The Army Air Forces maintained 1,895 installations at the conclusion of World War II, 1,333 were within the continental United States (CONUS). After three years of demobilization, the Air Force was responsible for 290 bases with 112 CONUS, of which 90 were active (Lewis et al. 1995:65).

In the early Cold War period, nuclear weapons and the ability to deliver them were key justifications for increased funding. Until the development of guided missiles, the Air Force was the only service with the ability to deliver them. SAC, with its heavy bombers, was almost the exclusive user of nuclear weapons, and as nuclear weapons became more important in the American arsenal, the Air Force played an essential role in the formulation and later implementation of the defense strategy of containment (Kuranda et al. 1995:16-17; Lewis et al. 1995:23).

The Air Force had three distinct nuclear roles. First, it was responsible for the early warning system, the great web of radar that would be incorporated into the North American Air Defense (NORAD). Second, until the early 1960s, only the Air Force Strategic Air Command (SAC) bombers were capable of delivering a nuclear weapon to the Soviet Union or any other potential target. Third, during most of the Cold War the Air Force had primary responsibility for development of intercontinental ballistic missile (ICBM) and intermediate range ballistic missile (IRBM) systems, which had a nearly exclusive nuclear application [Mikesell 2000:8/6-7].

The unification of the services provoked animosity within the Army and Navy, which affected their relations with the other services throughout the 1950s. The timing of the process of unification dovetailed with post-war budget and funding reductions that affected all the services. Both the Army and Navy were angered about receiving disproportionate budget cuts in the wake of the increasing importance (and dollars) the Truman and Eisenhower administrations were placing in the Air Force. As a result, the Army and Navy competed with the Air Force not only for appropriations for development of long-range missiles, but also to assert relevance during the Cold War in terms of nuclear deterrence.

Prior to the formulation of the containment policy, President Truman utilized the Navy as a symbol of the United States’ opposition to Soviet expansion as well as force projection. In 1946, Truman sent the battleship Missouri to the eastern Mediterranean after Stalin exerted pressure on Iran and Turkey for territorial concession. Shortly thereafter, the United States established the U.S. Sixth Task Fleet (later, the Sixth Fleet) with responsibilities in the region (Marolda 2003; Allard 1984:291-292). In the Far East, the Navy operated what would be called the Seventh Task Fleet at the time of the Korean Conflict.

With the growing importance of nuclear weapons to American defense policy, both the Navy and the Army proposed new solutions to counter the Air Force supposition that strategic bombing “rendered conventional ground and naval forces obsolete.” During the Truman administration, the Navy began development of a new aircraft carrier that could launch heavy



bombers (and, hence, deliver nuclear bombs), but the president canceled the project (Kuranda et al. 1995:19). During the 1950s the Navy “increased its ability to protect the North Atlantic sea lanes” and American communications with its European allies (Kuranda et al. 1995:19), through the development of supercarriers such as the *Forrestal*, surface-to-air missiles (SAMs), and later the nuclear-powered submarine *Nautilus*. To counter the Air Force, the Army developed the Pentomic concept and later air mobility (discussed below).

One of the major events of this period was the Berlin Blockade/Airlift, which began April 1, 1948. In an effort to force the western powers out of West Berlin, the Soviet Union blocked all land routes in and out of the city, leaving only the three air corridors open. The West responded by blockading East Germany and undertaking a massive airlift of supplies to West Berlin. Faced with the resolve of the West, the Soviets ended the blockade a little less than a year later.

By this time relations with the Soviet Union had deteriorated to the point where Congress re-instituted Selective Service in June 1948, which allowed the services to rebuild their strength. In 1949 a reinvigorated Navy gaining increased Congressional appropriations and the following year won approval for its first super carrier, the U.S.S. *Forrestal* (Kuranda et al. 1995:18).

A number of important events marked the end of this period. They included the formation of the North Atlantic Treaty Organization (NATO) in April 1949. Initial membership included the United States, Great Britain, France, Italy, Canada, Belgium, the Netherlands, Luxembourg, Iceland, Denmark, Norway and Portugal. Greece, Turkey and Spain joined in later years. The Federal Republic of Germany (West Germany) was formed in September and would later become a NATO member. This initial groundwork period of the Cold War came to an end with the unexpected Soviet explosion of an atomic bomb in August and the formation of the People’s Republic of China in October.

One of the more significant advances in military technology to emerge from World War II was the development of ballistic missiles (e.g., the German V-2). A group of American officers visiting Europe at the end of the war saw the potential of this weapon. This group was the first to suggest the development of weapons to defend against such a weapon and thus the ballistic missile defense (BMD) concept was born. Operation Paperclip, by the end of 1945, moved 130 German rocket scientists along with tons of captured documents to Fort Bliss, Texas. Soon afterward, the Nike project began. The Nike was a surface-to-air missile that, in later versions, became the basis for an anti-ballistic missile (ABM). This group of German scientists contributed to the development of medium range ballistic missiles (MRBMs) and intercontinental ballistic missiles (ICBMs) by the late 1950s. They also played a crucial role in the development of the U.S. space program.

After World War II, the Army also placed a greater emphasis on developing chemical weapons, especially those utilizing the nerve agent sarin<sup>2</sup>. The policy of the U.S. government for use of chemical and biological weapons (CBW) had been retaliation in kind through the Korean War, although after World War II efforts to construct CBW production facilities received increased support. The emphasis placed on production of sarin-filled munitions was demonstrated by the construction of the Muscle Shoals Phosphate Works and production facilities at Rocky Mountain Arsenal in the early 1950s (Harris and Paxman 1982:184; Gaither 1997:17).

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<sup>2</sup> Nerve agents are considered the most toxic chemical agents because of their ability to attack the nervous system of the human body; as little as one milligram of inhaled nerve agent can kill a healthy adult (McElroy 1989:3).

## 4.2 KOREA AND NUCLEAR PRODUCTION EXPANSION (1950-1954)

As a result of negotiations during the end game of World War II, the Soviet Union had occupied the Korean peninsula north of the 38<sup>th</sup> parallel, while the United States took responsibility for the peninsula south of the 38<sup>th</sup> parallel. However, by the time of the American arrival, the Soviets had effectively sealed off their half of the county and were well on the way to installing a communist government under Kim Il Sung. Not limited to the north, Communist influences in the American protectorate led to demands for land redistribution and other socialistic policies. General Douglas MacArthur, the commander of the allied occupation force, moved to disband the Korean Communist Party and leftist trade unions and canceled their economic reform programs. Right-wing politician Syngman Rhee was installed as governor. The two sides could not be reconciled and a guerilla war had developed in the south by 1947 (Arms 1994).

In the meantime, by 1950, the Soviets had the atomic bomb and, with the TU-4 strategic bomber (a reverse engineered B-29), the means to deliver it. This development, along with the Sino-Soviet Pact in February, created enough paranoia in the United States to allow the “Red Scare,” smoldering since the establishment of the President’s Security Loyalty program during the Truman administration, to ignite into the so-called McCarthy Era. McCarthyism, as the phenomenon became known, dominated this entire period, at least on the American domestic front. Senator Joseph McCarthy’s “hearings” and the House Un-American Activities Committee (HUAC) prominently hunted for communists in all sectors of American society, from government services, such as the State Department and the Army, to the private sector, including the media and the arts. Most called before the committee had their reputations tainted, if not destroyed, often by innuendo. Many, especially writers, were blacklisted for even the most indirect connection to the Communist Party. Despite the condemnation of McCarthy’s tactics by President Truman in 1952 and a subsequent denunciation by President Dwight Eisenhower, the era did not end until the Senate condemned McCarthy in December 1954. The blacklisting, however, continued for many years afterward.

Of critical importance during this period was National Security Circular No. 68 (NSC-68). In early 1950, President Truman directed the secretaries of Defense and State to re-examine the Soviet threat in light of its newly acquired nuclear capability. The resulting report, delivered in April, was NSC-68, which shifted the Cold War emphasis from the political to the military sphere based on the appraisal that the Soviets were bent on global military dominance. The report called for increased defense spending for a build-up of both nuclear and conventional forces. While this recommendation was unpopular domestically, it received support, of sorts, when the North Koreans (with the approval of the Soviets) crossed the 38<sup>th</sup> parallel a few months later, beginning the Korean War (LaFeber 1985:96-98). The United States immediately pressed the United Nations for condemnation of the attack, which it did while also calling for an immediate cease-fire and withdrawal of northern forces to the 38<sup>th</sup> parallel. The United States prodded the south into laying the foundations for the UN military command that the United States would essentially lead (Arms 1994).

In July 1950 American and the British troops landed in Korea and General MacArthur assumed command. The bulk of the forces in Korea were American, although 16 nations provided ground units and 42 nations supplied money or arms. Within several months, South Korean and American forces had pushed the North Koreans back and were nearly in control of the peninsula when, on October 19<sup>th</sup>, Chinese forces (“volunteers”) crossed the Yalu River. The allied forces, which eventually became a United Nations coalition, were forced back, south of

the 38<sup>th</sup> parallel. During the war political infighting in the United States pitted MacArthur against President Truman, deeply dividing the U.S. Congress, the American people, and the allies of the United States. MacArthur's insistence on escalating the war throughout Asia led Truman to relieve him of his command. Although MacArthur was hailed as a hero at home, his removal instigated the beginning of peace talks that stretched on for two years (Arms 1994; Parrish 1996; Marolda 2003). During the following three years, the war remained more or less stalemated. After Stalin's death in March 1953, the pace of cease-fire negotiations quickened. A cease fire was negotiated by the newly installed Eisenhower administration in 1953, and is still technically in effect. However, the area has never been truly secured, and great uncertainty remains about North Korea's nuclear capabilities at present.

After the outbreak of war in Korea, U.S. policy was to defend South Korea against communist expansion. To support this policy, the Air Force planned to increase from 48 wings to 95 wings by 1951, resulting in a need for more trained pilots. Numerous installations that had either closed or lapsed into caretaker status or reverted to the private sector were reactivated, including Moody as an Air Force base in 1951, and Dobbins AFB, which trained Air Force Reservists (Messick 1999:31-32; Van Voorhies and Russo 1996). Army installations also saw a rebirth at the onset of Korea, such as Camp Stewart, which reopened as the 3<sup>rd</sup> Army Anti-Aircraft Artillery Training Center, and Camp Gordon, which expanded its Military Police and Signal Corps training roles (Joseph et al. 1994a).

Aside from the two hot wars, Korea and Vietnam, which were spawned largely as a consequence of the Cold War, the Army was primarily concerned with planning for waging war on a nuclear battlefield during the 1950s. In the first five years after World War II, the Soviet Union and the United States developed atomic weapons, the means of delivering them to distant targets, and the basic technology that would underpin the enormous communications and surveillance infrastructures then emerging (Gaither 1997). During this confrontational period, an atmosphere of distrust and a shaky balance of power was established. In 1953 the administration of President Eisenhower adopted a strategy of massive nuclear retaliation, replacing President Truman's strategy of limited war. The massive retaliation policy resulted in an effort to redefine the roles of the services and a shifting of their importance (Gaither 1997). From the late 1940s to the early 1960 the Navy was tasked with Continental Air Defense and supporting early early-warning systems (Bouchard 1999).

The Korean War was an important stimulus to military expansion during this period, notably the Navy. Army and Marine Corps ground forces were supported by carrier-based aviation and naval gunfire, and Navy aviators disrupted communist supply lines by bombing bridges and highways. Navy contributions were essential to the dramatic amphibious landing at Inchon, reaffirming the importance of amphibious operations. The importance of theater-based aircraft was affirmed by the success of the Navy's carrier-based aircraft in Korea, which could engage the hostile aircraft in enemy territory. As a result, the Navy accelerated the development of jets (e.g., the Crusader and Phantom), and new weapons to accompany them. The new weapons included air-to-air and air-to-surface missiles, in addition to surface-to-air missiles to protect the fleet near enemy shores (Kuranda et al. 1995:20; Marolda 2003).

Late in 1952, the United States exploded the first hydrogen bomb, upping the ante in the U.S.-Soviet arms race. The Soviets responded by exploding their first hydrogen bomb in August of the following year. The arms race was a dominant issue for the next 40 years.

This period also saw the first “proxy wars”: the Soviets providing military aid to the Chinese and North Koreans, while the United States was giving military aid to the French in Vietnam. In December 1950, the United States and Vietnam signed a mutual defense assistance agreement that marked the beginning of America’s twenty-five-year involvement in that country. President Eisenhower had authorized covert, rather than overt, military support to relieve the besieged French garrison at Dien Bien Phu (e.g., the use of civilian pilots contracted by the Central Intelligence Agency), but the French were defeated at Dien Bien Phu and withdrew from Vietnam. At the Geneva Conference on Indochina and Korea in 1954, Vietnam was divided at the 17<sup>th</sup> parallel pending elections for a unified government in 1956. The Eisenhower administration believed that the maintenance of pro-Western governments in Vietnam and neighboring Laos was an essential bulwark against communist influence spreading from China and the Soviet Union (i.e., the domino theory). As a result, the United States refused to sign the accords, stating that it would refrain from sending troops to Vietnam, and viewed any renewal of aggression as a violation of the agreement. This left the United States in the position as chief supporter of any anti-communist leader. In any event, elections were never held since the Eisenhower administration believed that the communist Viet Minh (later called Viet Cong) led by Ho Chi Minh would win. By the beginning of the 1960s, the Viet Cong was openly supported by many in South Vietnam and to a lesser extent by Laos and Cambodia. American troop would strength increase during the subsequent administrations of presidents John F. Kennedy and Lyndon B. Johnson (Arms 1994; Grant 2004).

Josef Stalin died in March 1953 and, after a bitter power struggle between Nikita Khrushchev and Georgi Malenkov, was finally succeeded by Khrushchev, who consolidated his power over the following two years. Later, Khrushchev would begin the process of “de-Stalinization” which resulted in the release of hundreds of thousands from forced labor camps (the “gulag”) and exposed, for the first time, the magnitude of the crimes committed by Stalin against his own people. While some moderation in Soviet domestic policy occurred during this period, their foreign policy remained essentially intact.

Relying on the private sector, American military technology progressed throughout the period. When the Soviets unveiled their first jet-propelled, long-range bomber, the United States immediately followed by the deployment of the Nike Ajax missile, arguably the first developmental step in the American ballistic missile defense program. Nike was a program that covered surface-to-air, anti-aircraft guided missile systems as a defense against maneuverable, high-flying jet aircraft. They were the first guided missiles. Nikes would be used in the event that the Air Force failed to intercept and destroy attacking Soviet bombers. In the Nike system, the missiles were targeted and guided entirely through ground-based radar and computer systems. The first in the series, the Nike Ajax, was initially fired in 1946 and successfully tested in 1951, with deployment beginning in 1954. Power was supplied to the two-stage Nike Ajax missile by a liquid-fueled motor using a combination of unsymmetrical dimethyl hydrazine (UDMH), inhibited red fuming nitric acid (IRFNA), and JP-4 jet petroleum, with a solid-fuel booster. The Ajax had a range of only 25 miles and carried three separate high explosive, fragmentation-type warheads. By 1958 nearly 200 Nike Ajax batteries had been deployed throughout the United States (Bender 1999; White Sands Public Affairs Office 2001a; Lonquest and Winkler 1996:165, 170-172).

#### **4.3 INTER-WAR YEARS AND MEETING THE NUCLEAR CHALLENGE (1954-1962)**

This period is generally characterized by the increasing belief among American policy-makers that the Soviet Union was a nuclear threat; an issue that would come to dominate the Cold War.

In May 1955, the Warsaw Pact was formed by the Soviet Union to offset NATO. The military alliance consisted of the Soviet Union, Poland, Hungary, Bulgaria, East Germany, Rumania, Albania, and Czechoslovakia. In the following month, the United States conducted its first national civil defense exercise. Although the B-52 bomber was deployed by the United States in 1955, there was a widespread belief that a “bomber gap” existed between the U.S. and Soviet Union. (This was only the first “gap”-issue to be raised by American politicians: missile, warhead and conventional forces gaps would follow.)

Eisenhower’s New Look defense policy, which emphasized nuclear weapons for maximum military effectiveness at a minimum cost, since these weapons were cheaper than conventional weapons, “and by focusing on nuclear striking power, the United States could reduce the size of its conventional military forces” (Lewis et al. 1995:25, 30). “This was based on Secretary of State John F. Dulles’ suggestion that the United States rely chiefly on its nuclear superiority and the threat of massive retaliation to thwart Communist aggression” (Lewis et al. 1995:30).

Further, the Eisenhower administration-created Surprise Attack Panel, chaired by James R. Killian, issued a report in 1954, which laid the groundwork for defense strategy through the 1950s. The so-called “Killian Report” was prepared for the NSC as an assessment of the United States’ capability to maintain deterrence. The report found that despite an initial advantage in nuclear airstrike capability, the United States was vulnerable to a surprise attack because of the lack of an early warning system and an inadequate air defense. The Eisenhower buildup in nuclear weapons would off set Soviet improvements to their bombers. The report concluded by exploding the myth held in the United States that by the end of the 1950s American science and technology would easily keep its forces superior to those of the Soviet Union. The report concluded by offering a number of recommendations that when implemented became essential elements of American defense policy.

The report recommended that the highest national priority be placed on the development of the USAF ICBM program, IRMB capabilities for land and shipboard launch, construction of an early warning system in the Arctic, and research and development into a possible anti-missile system.

To monitor Soviet nuclear capabilities, especially their ICBM development, the Killian Report also recommended that the most advanced technology be utilized for intelligence gathering. The result was the development and use of the high-flying U-2 photo-reconnaissance plane by 1956, and the highest priority and approval for project WS-117L, the development of reconnaissance satellites.

The Killian report concluded by recommending the study of limited nuclear war as an alternative to massive retaliation and the New Look. The report foresaw that the nuclear arms race would result in a stalemate (deterrence) based on the idea that a first-strike by either side would result in retaliation and MAD [mutually assured destruction]. Limited nuclear war was a means by which MAD could be avoided. This concept allowed for successful military exchanges, or an intercontinental counterforce strike, without leading to a strategic exchange involving deliberate nuclear attacks on cities [Lewis et al. 1995:32].

The initial early warning/air defense system utilized patrols by Navy radar picket destroyer escorts and PB-1W and PO-1W airborne early warning aircraft, mostly in the Northeast. “The first air surveillance radar system covering the entire northern approach to the United States—the “Pine Tree Line,” stretching across southern Canada—became operational in 1951” (Bouchard 1999). Following a recommendation in the Killian Report, the DEW (Distant Early Warning) Line, a chain of 63 radar and communication systems stretching 3,000 miles from western Alaska to eastern Canada opposite Greenland, was constructed. It was completed across Alaska in 1953, and across northern Canada in 1956.

The early warning systems evolved from radar and manual control of information; to the SAGE system, a semi-automated, digital data system which could control aircraft in flight; to a satellite transmission of information to BMEWS [Ballistic Missile Early Warning System] stations with tropospheric scatter capabilities; to the Position Acquisition Vehicle Entry Phased Array Warning System (PAVE PAWS) electronic phased array, satellite and missile identification and tracking systems. The most important element of the early warning systems in reference to communications with NORAD, and the subsequent dissemination of early warning information, is that each early warning update made the system more efficient. This was achieved through the operation of equipment which could process more data at a faster rate and the reduction of the number of channels through which information had to pass [Lewis et al. 1995:69]

The Air Force ADC was responsible for the development of early warning systems in conjunction with outside agencies, the operation of early warning systems upon deployment, and the maintenance and operation of fighter interceptors. The DEW line across the Arctic, the Pinetree Line along the Canada-United States border, Semi-Automatic Ground Environment (SAGE) and other radar and satellite systems were included in the early warning systems mission. The fighter interceptor mission involved the readiness to intercept Soviet bombers in the event of an attack (Lewis et al. 1995:58).

During the period from the mid-to-late 1950s to the early 1960s, programs to develop chemical and biological weapons centered on understanding the ways in which the agents affected their victims and how these agents could be dispersed, which resulted in the creation of more potent chemical and biological warfare agents (Gaither 1997:26). The first open-air test of a biological agent occurred at Dugway Proving Ground, Utah. Production of many biological agents was standardized and many delivery systems were developed, but only a few biological weapons were standardized (Smart 1997:51). In the 1950s, the biological warfare program was one of the most highly classified programs.

Another major area of concern for the U.S. Army during this period was to meet the changing needs for protective equipment as new threats generated by chemical, biological, and radiological warfare arose.

Weighing 60,000 tons, over twice the weight of World War II carriers, the *Forrestal* could support more than 100 aircraft, including an array of fighters, fighter-bombers, early warning radar aircraft, and helicopters. During the 1950s three other supercarriers were introduced, including the *Saratoga*, the *Ranger*, and the *Independence* (Kuranda et al. 1995:20; Marolda 2003). The Navy’s complement of cruisers, frigates, and destroyers operated both

independently and as part of a carrier task force. In a task force, these vessels served to protect the carrier from enemy submarines and aircraft. Ships equipped with sonar were essential to anti-submarine warfare. Also during this period the Navy developed surface-to-air missiles (SAMs), designated Talos, Terrier, and Tartar (Kuranda et al. 1995:20).

In addition to supercarriers and surface ships, submarines became increasingly important components of the fleet. The development of the *Nautilus*, the first nuclear power warship, was a tremendous advance over diesel-powered submarine. While diesel-powered submarines needed to surface for air, nuclear power allowed for submersions of extended durations. Captain Hyman Rickover was charged with development of the nuclear propulsion system. In the summer of 1959, the *Nautilus* traveled beneath the North Pole icecap from the Pacific to the Atlantic to demonstrate the potential of the new submarine. Two corollaries of developing nuclear propulsion were the creation of nuclear attack submarines and submarine-launched ballistic missiles (SLBM), the first of which was called Polaris (Kuranda et al. 1995:20; Marolda 2003). The first submarine to carry and launch a ballistic missile, the *George Washington*, was completed in 1960. The Navy would have 47 ballistic-missile submarines by 1967. Two types of submarines were built by the Navy for the rest of the Cold War: attack submarines and ballistic missile submarines. "Attack submarines, such as the *Nautilus*, were designed to attack enemy ships or submarines. Ballistic submarines carried nuclear weapons that could strike the Soviet heartland" (Kuranda et al. 1995:21). An expected result of the creation of nuclear-powered submarines was the development of nuclear-powered surface ships. By the beginning of 1958, the guided missile cruiser *Long Beach* and the aircraft-carrier *Enterprise* were both under construction.

The year 1956 saw the Suez crisis (Great Britain, France and Israel attacked Egypt) as well as the Hungarian Revolt. In the latter, the Hungarian parliament rescinded communist control. The Soviets invaded to restore communist control at the cost of thousands of Soviet and Hungarian lives. Eisenhower assigned the highest national priority to the development of an Intermediate Range Ballistic Missile (IRBM), and soon thereafter, the Air Force developed the Thor IRBM. Soviet and American intercontinental ballistic missiles (ICBMs) made their first appearance in 1957. Concurrent with these were developments in space. While the United States had announced, in 1955, its intention to launch a satellite, they were beaten to the punch by the Soviets who launched Sputnik in October 1957 and Sputnik 2 (carrying a dog) in November. Three months later, the United States launched Explorer I into orbit, and thus began the space race. NORAD, a joint United States-Canada air defense command, also was created in 1957.

Amid the rapid build-up in nuclear forces on both sides, relations between the two superpowers moderated in the late 1950s. In late 1959, Khrushchev and Eisenhower met at Camp David and agreed to a major summit in Paris the following year. This defrosting of Cold War relations was short-lived, however. Just as the summit was about to begin, Francis Gary Powers' U-2 was shot down over Russian territory and the summit collapsed. Much of the U-2 incident was public relations and posturing by the Soviet Union. They had known about the overflights and had been able to track them for a number of years, but they had not had the surface-to-air missile technology to shoot the planes down.

Cuba became one of the dominant issues of the latter part of this period. In 1959, Fidel Castro assumed power after revolution overthrew the regime of Fulgencio Batista. Though not initially a devout communist, Castro was convinced that Cuba's best interest were served by alignment with the Soviet Union. The following year, the United States began to train Cuban exiles who would be used to undermine Castro's regime. In January 1961, the United States broke

diplomatic relations with Cuba and three months later sponsored an invasion of Cuba by U.S.-trained exiles. Known as the Bay of Pigs incident, the operation failed when promised American air support was withdrawn and Castro's forces quickly routed the exile force. Eighteen months later, as a result of U-2 photographs showing the construction of Soviet missile sites, President John Kennedy ordered a naval blockade of Cuba. Threatening to invade the island if the bases were not removed, Kennedy also informed Khrushchev that an attack on the United States from the Cuban bases would be considered an attack by the Soviet Union and result in full American retaliation. Less than a week after the crisis began, Khrushchev agreed to dismantle the bases. In return, the United States withdrew its aging missiles from Turkey and promised not to sponsor incursions by Cuban exiles.

Significant events with Cold War repercussions also occurred in other parts of the globe. In 1961, East Germany closed the Brandenburg Gate that linked the two halves of the divided city of Berlin, and began construction of the infamous Berlin Wall, another Cold War icon. The wall turned out to be a public relations boon to the West since it was erected to keep people from leaving East Germany suggesting that communism was something from which to escape. At about the same time, the first American advisors arrived in Vietnam, deepening American involvement there. After years of bickering and on-again, off-again aboveground testing, the Limited Test Ban Treaty was agreed to and signed by the president. The period came to a tragic close with two assassinations in November 1963: President John Kennedy and Vietnamese President Ngo Dinh Diem.

In the missile area, the Ajax's successor beginning in 1958 was the Nike Hercules. The Hercules had a range of approximately 90 miles and was designed to carry a nuclear warhead, but could carry a high explosive, fragmentation-type warhead, the T-45. Moreover, the Hercules package had improved radar and more sophisticated electronic guidance especially by the early 1960s. During the Cold War, 145 Nike Hercules batteries were deployed. In 1963, the last Ajax in the United States was deactivated. By the end of the decade of the 1960s the Nikes were considered obsolete and included within the reductions agreed to by the United States and the Soviet Union in the Anti-Ballistic Missile (ABM) Treaty of 1974 (Bender 1999; White Sands Public Affairs Office 2001b; Lonquest and Winkler 1996:172, 177). Other ABM projects of the period included a spaced-based ABM (BAMBI) as well as a satellite interceptor (SAINT).

ICBMs made their appearance in 1957, and in 1962 the Minuteman I ICBM became operational. The Minuteman and its future upgrades (II and III) became the centerpiece of the American ICBM arsenal for most of the remainder of the Cold War. The older Titan missiles remained operational, although in relatively smaller numbers, and were not taken out of service until 1987. The period also saw the appearance of the hardened missile silo. Because of the inaccuracy of Soviet missiles, most of the ICBM force was thought likely to survive an attack, at least at that time.

In response to the rapid build-up of the Soviet ICBM force, the United States constructed the Ballistic Missile Early Warning System (BMEWS) and included the DEW Line across northern Canada. The system became operational in 1961. Although never fielded, the Nike Zeus missile became operational during this period and became part of the development of a satellite interceptor under Project Mudflap.

As noted, early early-warning systems came on line in 1958 (and included Continental Air Defense radar system). Designed to detect incoming missiles and bombers over the Arctic Circle, the air defense system comprised three chains of early warning radars augmented by Navy



surveillance ships, and radar platforms off the Atlantic Coast. The three radar chains were the DEW Line (the most northern line), the Mid-Canada Line; and the Pinetree Line (the southernmost line located near the United States-Canada border (Lewis et al. 1995:33).

As with the arms race, the space race accelerated exponentially from the Sputnik launches in late 1957. The National Aeronautics and Space Administration (NASA) was created the following year and the Mercury Project was established soon after. In 1959, less than two years after the launch of Sputnik, the Soviets crash-landed a spacecraft on the moon. In April 1961, Soviet cosmonaut Yuri Gagarin became the first human in space, followed in May by Alan Shepard, the first American in space. Shortly after NASA's creation, the Advanced Research Projects Agency (ARPA) was established to oversee research primarily in weapons and defense projects as well as the military aspects of space. The agency later became the Defense Advanced Research Projects Agency (DARPA), an organization that controlled much of the significant Cold War military research.

During this period, the U.S. Army was in a state of transition. Early on, the Army's mission was viewed by some as mop-up and occupation following a nuclear encounter. The Air Force was in charge of both the strategic bomber and the ICBM forces, and as Air Force budgets increased, the Army's budgets decreased. Within the American military scheme, the Army was quickly being relegated to a secondary role. This trend was reversed by two events towards the end of this period. The first event was the introduction of tactical (i.e., battlefield) nuclear weapons (e.g., nuclear artillery). The second was that the Army was put in charge of the ABM development program, keeping the Army in the "nuclear game." Another action taken by the Army to adapt to the nuclear battlefield was the formation of the Pentomic Army (below). As events unfolded throughout the Cold War, it became obvious that a nuclear war was unlikely to occur and a strong Army was needed to handle the numerous conventional military actions that were likely to occur during the second half of the twentieth century and into the twenty-first century.

In addition to SAC's role of providing a long-range strategic strike force, it also had responsibility in carrying out the mission of MAD, if necessary. SAC maintained strategic bombers and ICBMs ready for deployment, provided aerial refueling, and maintained high-performance reconnaissance aircraft. Beginning in 1956, SAC installations stored nuclear and thermonuclear weapons as part of the Bombs on Base program. SAC devised the bomber alert concept, which kept one-third of SAC bombers on round-the-clock standby for retaliation against nuclear attack. In addition, SAC "maintained the airborne command post, provided reconnaissance for strategic planning, and kept ICBMs continually ready for launch" (Lewis et al. 1995:52). Georgia had three SAC alert compounds—Hunter Army Air Field (AAF), Turner AAF, and Warner Robins AAF, which had been transformed into Air Force bases in the 1950s.

Permanent readiness crew facilities (also called alert facilities or "moleholes") were planned in three sizes, 70-man, 100-man and 150-man, which may have reflected the crew requirements from the shift from the B-36 bomber to the B-52. Hunter was one of ten 150-man moles built in CONUS. These compounds included a "molehole" with a right angle or Christmas tree arrangement of runways for alert aircraft. A molehole is facility for crew who were on alert. Hunter's facility was one of ten that was 31,000 sq feet, which could accommodate 150 personnel and Turner's and Warner Robins' were two of 45 with 18,000 sq ft and could accommodate 70 personnel. A molehole was typically a two-story building with the lower story below ground and bermed with exit tunnels from the buried story sheathed in corrugated metal. Built of reinforced concrete and concrete block the buildings were window less with flat roofs.

The aircraft were arrayed on parking aprons arrayed in a Christmas-tree pattern. SAC alert compounds declined after the Cuban Missile Crisis of 1963, when the Air Force perceived that the nuclear threat emanated through ICBMs rather than bombers and began to close moleholes. The change in perceived threat was also accompanied by the Air Force's greater emphasis on northern tier installations. This resulted in the closing of many southern bases and alert locations. Once Hunter's SAC mission was over, it was transferred to the Army in 1967 and became the Army Advanced Flight Training Center, which trained pilots for the Cobra attack helicopter for action in Vietnam. During the Cold War TAC maintained fighter forces and tactical reconnaissance aircraft. The Air Reserve component of TAC provided "ready to respond" requirements for tactical airpower (Lewis et al. 1995:58). Moody AFB, a TAC installation, trained and maintained F-89, F-94, F-86, F-4, and F-16 fighter aircraft (Weitze 1999a:144).

***Pentomic Army.*** Two events in the early 1950s, the transformation of the atomic bomb into a battlefield weapon and the Korean War, prompted the Army to reevaluate its mission and organization (Burford 1994:86; Bacevich 1986). While in Korea, General Maxwell Taylor concluded that the traditional triangular Army structure, based on three large infantry regiments, was outdated. In 1954, employing one of the new South Korean Divisions, Taylor experimented with a new structure tailored to prepare troops for both the conventional and atomic battlefields (Taylor 1991:213). Taylor concluded that modern battlefield communications allowed a division commander to oversee up to five subordinate units. The Korean War contributed to significant changes in American national security policy and military strategy. According to Bacevich (1986:8-9), lessons learned from Korea forced the Army to confront questions "about the nature of American security interests, the character of the next war, and the doctrine, weapons and organization needed to face its challenges." The period after Korea created considerable changes in popular views of American foreign and defense policies.

The Air Force had become the preeminent service since it was viewed as the key to implementing a policy of retaliating with nuclear weapons, and funding shifted from the Army and to the Air Force. While all the other services endured funding cuts, the Air Force received increases on an impressive scale. Among the three services, the Army received the smallest share of the defense budget and was thought by some to be obsolete. To counter the accusation of obsolescence, the Army began to emphasize missile development, space programs, and the controversial "dual capacity" theory—that the Army could fight both conventional and nuclear battles (Gaither 1997).

The Army's dual capacity theory led to the creation of the Pentomic Army, which utilized the newly reactivated 101<sup>st</sup> Airborne Division, Fort Campbell, Kentucky. This new division consisted of five (hence the "Pent" in Pentomic) battle groups that were relatively self-contained and semi-independent units. The basic component of the division was the infantry battle group and each battle group contained five rifle companies, combat support (including mortar battery), and a headquarters and service company. A division included an armor battalion of five tank companies, a cavalry squadron of three troops, five direct support artillery battalions, and one general support artillery battalion. One unit was equipped with Little John rockets, a nuclear weapon.

The Pentomic concept called for unprecedented strategic mobility. With the exception of tanks, each division's equipment was supposed to be transportable by long-range aircraft. Such mobility was essential to the emerging concept of rapid deployment of ground forces in "limited engagements" throughout the world. According to the Army's new concept, the combat zone in an atomic war would be vast in size and depth requiring more ground troops than a

conventional battle. These large, massed troop concentrations could not remain long on the field without becoming a lucrative target of opportunity for the enemy. This meant combat units needed to organize in “checkerboard” fashion with large gaps between units creating a “cellular” battlefield. These units would have to be quickly and efficiently shifted around to achieve maximum effect, therefore, necessitating a high degree of tactical mobility. The units were designed to converge rapidly from dispersed formations in order to make an attack, exploit the effects of atomic weapons, or destroy enemy forces. Then they were to disperse rapidly to minimize their vulnerability to enemy counteraction. The ability to concentrate and disperse quickly was the key to success and survival on the atomic battlefield (Keener 2001).

As Chief of Staff, Taylor pursued the Pentomic concept, which consisted of five reinforced battalions called battle groups (Taylor 1991:213). The new Pentomic Division was organized based on the theory that no conventional division could fight as a single entity on the nuclear battlefield of the future, which would require five separate combat groups each formed by an enhanced infantry battalion, capable of independent operations (Burford 1994:86). All infantry divisions adopted the Pentomic structure with the battle group as the basic fighting unit of the division. Support units also conformed to a similar cellular multiple of five to facilitate function. The artillery group was divided into five batteries of howitzers and a battery of Little John rockets.

Taylor initially proposed a five-year test period for the Pentomic concept. Despite the incorporation of the Honest John rocket, criticism over the capability of the Pentomic Division was heard. Opponents of the new division contended that the versatility of the Honest John was limited in comparison to conventional artillery (Taylor 1991:214). Other complaints were directed to the lack of promotion the new structure offered. The chief criticisms about the Pentomic concept included manpower and firepower, service support, command and control. As early as 1959, the Army began planning for another reorganization.

Because the Army stated repeatedly that helicopter units had to be organic to allow quick response on the nuclear battlefield, the Air Force entered the fray arguing that the use of armed helicopters would be a redundancy in missions and roles. It was this argument with its nuclear war components that provided the Army with the opportunity to actually test its ideas free of Air Force oversight.

***Air Mobility.*** The Korean War effectively tested the Army’s defensive-and-firepower doctrine. In Korea, no real “front line” was established since the fighting shifted up and down the peninsula with frightening irregularity, thereby preventing the massing of firepower at any one hot spot. In addition, the Korean geography posed a number of monumental obstacles that restricted movements within the theater. Marine Corps experimentation with troop transport by helicopter prior to the Korean War proved that helicopters could be used successfully to greatly improve mobility on the battlefield. The Army carefully watched the Marine Corps’ use of helicopters and began its own experimentation.

In the early 1950s the helicopter was a largely untried technology and its capabilities not fully utilized by the then existing Army doctrine (Keener 2001). Nevertheless, the Army used helicopters successfully in a number of ways in Korea. Helicopters added flexibility by providing for a quick response to unforeseen battlefield circumstances. They could carry out many light tasks such as observation, resupply, and laying ground wire for communications with a minimum amount of preparation. Helicopters also could operate from almost any Army depot and troop area without special facilities, which allowed for quick access to the front lines. But

most importantly, the helicopter was under the direct command of the Army officers, thus eliminating the need to go through elaborate chains of command (Keener 2001). The helicopter was fast becoming an essential arrow in the infantry's quiver.

The Air Force had been investing money and time in developing long-range bombers and more advanced nuclear weapons. The Army on the other hand wanted the Air Force to begin investing in attack aircraft or lift capabilities essential to the Army's view of the nuclear battlefield (Keener 12001). The Army-Air Force argument lasted almost ten years and was finally settled by Secretary of Defense Robert S. McNamara with the convening of a committee to study problems in tactical mobility. The head of this board was General Hamilton H. Howze, a firm believer in the versatility of the helicopter in war. For three months the board collected, tested and evaluated a number of different formations for the uses of helicopters in a variety of combat situations, ultimately convincing McNamara and other military leaders of their utility. In February, the DoD authorized the development of the 11<sup>th</sup> Air Assault Division (Test) and the 10<sup>th</sup> Air Transport Brigade to further refine these ideas (Keener 2001).

In 1961, a new divisional concept known as ROAD (Reorganization Objective Army Division) was announced. The new structure increased firepower, improved air mobility and enhanced command and control by the addition of brigade and battalion headquarters (Hart 1978:76). Basic components of the new ROAD organization were nine infantry battalions, a cavalry squadron and three artillery battalions (Hart 1978:76).

On February 15, 1963, the 11<sup>th</sup> Air Assault Division (Test) and the 10<sup>th</sup> Air Transport Brigade were activated at Fort Benning, the home of the infantry, to begin a bold new Army experiment: Air Assault. The initial wave of troops arrived from Fort Bragg (North Carolina), Fort Rucker (Alabama), Fort Sill (Oklahoma), Fort Huachuca (Arizona), and Fort Riley (Kansas). They were placed at Kelley Hill Cantonment, a newly opened area of Fort Benning. When Fort Benning's weekly newspaper, *The Bayonet*, announced the location of the 11th Air Assault division, it stated that the primary role of an air assault division was to contribute to combat superiority on the ground by providing improved battlefield mobility for ground forces, but still require Air Force air support (*The Bayonet*, February 8, 1963:1).

Although the Army had a helicopter-training installation (Fort Rucker), a continual cross-feed of people, information, equipment and ideas flowed between events and circumstances in Vietnam and ideas and concepts emerging from Fort Benning. Members of the 11<sup>th</sup> visited units in Vietnam and recruited returnees when ever possible (Tolson 1989). The 11<sup>th</sup> Air Assault Division created airmobile operations as we know them today. Instant helipads, helicopter command centers, ultra-heavy lift capabilities, lightweight but fully equipped trucks and other support vehicles, small, lightweight, all terrain vehicles, all evolved from the needs of air assault.

During the Kennedy administration, Secretary of Defense McNamara, former president of Ford Motor Company, "brought new ideas such as rationalizing defense management by using modern, sophisticated planning and accounting techniques based on statistical analysis. During McNamara's tenure, historic changes in military organization took place, including changes in procurement organization, which came to be organized based on a systems approach" (Shiman 1997:69; Kuranda et al. 1995:23). He applied the criteria of quantifiable cost-effectiveness when considering new weapons systems.

On August 1, 1962 the U.S. Army reorganized its supply acquisition and research commands. As a result, the technical services were abolished and replaced by a series of commands, their

specialty schools were assigned to the Continental Army Command (CONARC), and the Army Materiel Command (AMC) was created to coordinate all of the Army's logistics and research and development.

Four years later, the Navy followed suit, reorganizing and replacing its historic bureau system—Yards and Docks, Aeronautics, Ships, Ordnance—with a system of commands—Naval Materiel Command, Naval Sea Systems (NAVSEA), Naval Air Systems (NAVAIR), Naval Ordnance Systems (NAVORD), Naval Facilities Engineering (NAVFAC) (Kuranda et al. 1995:21, 23; Shiman 1997:69).

The Kennedy administration considered the Soviet-supported “wars of liberation” piecemeal aggression. To counter, the United States developed “Flexible Response,” through which different crisis situations would be matched with a number of potential options for reaction. This strategy required gauging the significance of the action, amount of force required and tailoring a response to the particular political and geographic situation of that crisis. Flexible Response recommended the selective use of nuclear weapons in the case of the failure of deterrence with missile or bomber sites as the initial targets. Use of massive nuclear force would occur only in retaliation for a first-strike (Lewis et al. 1995:38). To enforce Flexible Response, the administration allocated funding for increased conventional forces as well as bombers, submarines, and Polaris and Minuteman missiles.

#### **4.4 VIETNAM PERIOD (1963-1973)**

This period began with changes in leadership in both the Soviet Union and the United States. In the USSR, Khrushchev had been a reformer. The reforms began with his de-Stalinization programs in the mid-1950s, after which he targeted party corruption including the privileges enjoyed by party elites. As a result, his political support within the Communist party began to wither as his reforms proceeded. The debacle in Cuba provided the excuse that the anti-reformists sought and Khrushchev was ousted in October 1964, replaced by Leonid Brezhnev and Alexei Kosygin. Khrushchev's reform programs were immediately halted. The new leadership was fully aware that the Cuban setback was due in part to disparities in the nuclear arsenals of the two superpowers with the Americans holding a clear advantage at the time of the 1962 crisis. As a result, the Soviets embarked on an accelerated nuclear build-up resulting in parity with the United States.

In the United States, Lyndon Johnson became president after Kennedy's assassination. The new president's domestic programs, including civil rights and the “War on Poverty,” were overshadowed by the deepening American involvement in Vietnam. In August 1964, the North Vietnamese allegedly attacked two American destroyers in the Gulf of Tonkin. Several days later, Congress passed the Gulf of Tonkin resolution giving the president wide discretionary powers to retaliate using military forces. Fifteen years of indirect (proxy) involvement ended in 1965 when U.S. Marines landed at Da Nang. In November, the first direct action against the North Vietnamese forces occurred in the Ia Drang valley and by the year's end, nearly 200,000 American troops were in-country. A year later, the number of American forces doubled to just less than 400,000, supported by amphibious forces, carrier-based aircraft and Navy's Seventh Fleet's Task Force 77 (Marolda 2003).

Anti-Vietnam War demonstrations began in the United States in 1966, with anti-war sentiment growing in each successive year. The anti-war movement polarized the country and played an

important role in the eventual American withdrawal. The news media also played a significant role in the war, since this war was the first conflict covered by television. The war dominated the evening news and the American public was subjected to graphic images of the war on a daily basis for years, which included the nightly casualty reports and enemy body counts. The combination of the growing anti-war movement and this new kind of media coverage eventually eroded public support for the war. In spite of the home sentiments, President Johnson was fully committed to the war and at the beginning of 1968 was seriously considering a major troop commitment that would have meant the calling up of the Reserves. Between 1967 and 1969, the number of American forces in Vietnam hovered around the half million. Navy mission in North Atlantic and Mediterranean remained in effect, but the capture of the *Pueblo*, an American intelligence ship, by North Korea in 1968 demonstrated the potential instability of North Korea (Kuranda et al. 1995:24; Arms 1994).

Important milestones in the conflict included the Tet offensive and initiation of the Paris peace talks in 1968. In January and February of that year the huge Tet offensive brought North Vietnamese and Viet Cong forces deep into the cities and towns of South Vietnam, including Saigon, where they broke into the U.S. Embassy compound. Although a military victory for the United States, Tet was a psychological defeat since perceptions of American vulnerability emerged in the United States as a result. This was Johnson's wake-up call, and in March 1968 he announced that the bombing would stop and that American involvement would deescalate (Arms 1994; Parrish 1996).

President Richard Nixon's Vietnamization program in 1969 marked the initial step toward the withdrawal of American troops. However, while the United States was deescalating in Vietnam, it increased troop involvement in Cambodia and Laos, which led to the emergence of the ruthless Khmer Rouge government under the leadership of Pol Pot. The invasion of Cambodia and Laos in 1970 sparked a series of anti-war demonstrations at home that led to the death of four Kent State University (Ohio) students at the hands of the National Guard and two at Jackson State College (Mississippi). These two incidents, along with the publication of the Pentagon Papers in early 1971, are generally believed to be the catalysts that moved the majority of the American public into the anti-war camp. Over the next two years, the virtual stalemate in Vietnam continued. Nixon's stepped-up bombing of North Vietnam in 1972 appeared to put added pressure on negotiators and led to the Paris Accords in January 1973. Active American military presence in Vietnam ended by the end of March, although the bombing of Cambodia continued until August. In November, Congress passed the War Powers Act, which limited the president's power to wage an undeclared war.

The continued involvement of the United States in the Vietnam War created a gradual increase in the country's budget for CBW development (Smart 1997:56). At that time, the United States explored the possibility of creating more "humane" chemicals that would remove or greatly decrease the necessity to kill (Gaither 1997:26). Much of this research was conducted at Edgewood Arsenal, Maryland, where the incapacitants EA [Edgewood Arsenal] 1298 and BZ were developed. United States forces extensively used anti-crop weapons and defoliants, most notably Agent Orange, developed at Fort Detrick, Maryland (Harris and Paxman 1982:191). During the 1960s, outdoor chemical and biological test ranges as well as indoor laboratories were used at Dugway Proving Ground (Harris and Paxman 1982:190). In 1967, the Army began requesting money to produce binary agents (Gaither 1997:31). Binary chemical weapons, containing less lethal precursors, created lethal nerve agents only after the weapon delivering the agent had been fired and two separate components were mixed in flight to produce the lethal agent (Harris and Paxman 1982:232). The 1960s also marked the beginning of public

hostility toward chemical and biological weapons. In 1969, President Nixon initiated action against CBW by reaffirming the no-first-use policy for chemical weapons, by resubmitting the Geneva Protocol to the U.S. Senate for ratification, by renouncing the use of biological weapons and by limiting research to defensive measures only (Smart 1997:64).

In 1968, Soviet and Warsaw-Pact forces occupied Czechoslovakia to put an end to the reforms enacted by the Czech government under Prime Minister Alexander Dubcek. This invasion served as an example of the Brezhnev Doctrine in action. A throwback to hardline Stalinist policies, the Brezhnev doctrine sanctioned military force to keep the satellite states in the expected orbit.

Meanwhile, efforts to control the nuclear arms race continued. In an effort to limit the spread of nuclear weapons, the Nuclear Nonproliferation Treaty was enacted in 1968. The following year, the Strategic Arms Limitation Talks (SALT) began and resulted in what was to become known as the SALT I Treaty, signed in 1972. Contained within SALT I was the Anti-Ballistic Missile Treaty that put strict limits on the deployment of ballistic missile defenses but allowed research in the area to continue. This caveat was to become a thorny issue in the 1980s with President Ronald Reagan's Strategic Defense Initiative (SDI).

Research into ABMs began shortly after the Second World War and by the mid-1960s both the Soviet Union (the Galosh ABM system) and the United States (Sentinel) had developed deployable systems. A Ballistic Missile Defense (BMD) program was well established by the mid-1960s. In fact, over four billion dollars were spent on BMD research and development between 1955 and 1967 (Reiss 1992). The Sentinel system was designed to protect the United States from a relatively unsophisticated ICBM attack (China had exploded an atom bomb in 1964 and a hydrogen bomb in 1967). In 1969, President Nixon decided to deploy the system, renamed Safeguard, to protect ICBM fields. The decision was a reaction to the Soviet SS-9 and the development of MRVs (multiple re-entry vehicles). President Johnson had actually decided to deploy the system in 1967, but deployment was put on hold pending a review by the incoming Nixon administration. Three years later, however, the ABM Treaty would limit each side to two sites, each containing 100 interceptors. One site would be used to protect an ICBM field and the other, the respective capital cities. A provision in the treaty would limit each side to one site by 1974.

Other advances in military technology occurred which were coupled with advances in the space program and the experiences of the Vietnam War. Laser-guided munitions that were first used during that war were one such advance. In the United States, the Minuteman II ICBM entered service in 1966 and MRV technology had been developed allowing a single ICBM to carry multiple warheads. This development was followed in 1970 by deployment of the Minuteman III, which was capable of carrying multiple independently targeted re-entry vehicles (MIRVs). MIRVs had an important effect on the arms race and on arms reduction negotiations. It lowered the cost of nuclear delivery since nuclear warheads are inexpensive relative to an ICBM. This resulted in an increase in the nuclear arsenals at very little cost. Nuclear arms reduction negotiations now had to consider both numbers of warheads and numbers of launchers. These technologies also sent the ABM researchers back to the drawing boards and prompted SALT I.

In space, the U.S. Ranger VI spacecraft landed on the moon in 1964, followed in 1966 by the soft landing of Surveyor I. At about the same time, the Soviet Venus IV landed on Venus. In July 1969, astronauts Neil Armstrong and Buzz Aldrin landed on the moon, fulfilling President Kennedy's pledge that the United States would put a man on the moon before the end of the decade. The final lunar landing, Apollo 17, took place in December 1972.

#### **4.5 THE FINAL YEARS: POST-VIETNAM WAR YEARS (1974-1980)**

Following its Vietnam War experience, the United States became somewhat withdrawn from the international political arena and unilaterally reduced defense expenditures, including suspending Selective Service in 1973. The Vietnam War consumed a large chunk of the defense budget, resulting in the decline of the physical plant of CONUS installation, the postponement of new purchases, and the extension of the life of aging systems. Research and development programs also went under funded. For example, the Navy fleet declined from 769 ships in 1970 to 512 in 1974 (Kuranda et al. 1995:26).

In 1974, the Watergate affair led to Nixon's resignation and contributed to this inertia and introspection. This condition was further compounded by the Arab oil embargo (1973-1974) and the fall of Saigon in April 1975 to the communists. The Soviet Union (as well as Cuba) used this period to expand their influence in Africa, the Caribbean and Central America. Examples include the Cuban involvement in Angola and Grenada, the civil war in El Salvador, and the Marxist regime in Nicaragua. During this period, the Soviet Union reached parity with the United States in strategic nuclear weapons and deployed the SS-20 MRBM targeted at Western Europe. These actions by the Soviet Union during this time did not go completely unanswered by the United States despite its apparent malaise. In 1979, NATO announced dual track Intermediate Nuclear Force (INF) deployment to counter the Soviet SS-20.

Soviet deployment of modern Yankee-class submarines with SLBMs in 1969, and Delta-class submarines with long range (4,300 miles) SLBMs in 1973 resulted in a shift in resources to develop an early warning/tracking system for SLBMs. Focus shifted from the polar route of nuclear invasion (monitored by the DEW and Pinetree lines early warning systems) to ocean-based attacks requiring east and west coast posts (Whorton 2001:2-4). The Position Acquisition Vehicle Entry Phased Array Warning System (PAVE PAWS) "was added to the NORAD early warning communications network in 1980. This system is continually in operation, tracks and logs items orbiting the earth, and provides low-level surveillance. Its primary mission during the Cold War was to identify and warn of incoming ICBMs and SLBMs" (Lewis et al 1995:88-89; see Whorton 2001). The system comprises four units located at Beale AFB, California; El Dorado AFB, Texas; Cape Cod (OTIS) AFB, Massachusetts; Robins AFB, Georgia). The first PAVE PAWS site (Cape Cod) was operational in 1979; Robins AFB site was operational in 1986 (Whorton 2001:6). In 1980, the Air Force disbanded ADC with its resources divided among TAC, SAC and the NORAD. TAC received ADC's fighter interceptor mission (Lewis et al. 1995:58).

The most important example of Soviet expansion was its invasion of Afghanistan in 1979. Afghanistan became a proxy war similar to Vietnam with the United States turning the tables by supplying Afghani rebels through the CIA. The Red Army, mired in Afghanistan for ten years, lost 30,000 men (the United States lost 57,000 in Vietnam). The war became as unpopular in the Soviet Union as Vietnam was in the United States. The United States put additional pressure on the Soviet Union by re-establishing diplomatic relations with China in 1979 and giving what support it could to Solidarity and worker unrest in Poland (1980).

Beginning ca. 1975, reports circulated that chemical and biological agents had been used in various small wars in Southeast Asia and Afghanistan, which gained the attention of the U.S. government. Vietnamese and Russian forces were suspected of using chemical weapons in Laos (Smart 1997:67). The United States perceived the use of CBW by the Soviets as an indication that the Soviets were continuing an active chemical and biological program (Smart



1997:67-68). In 1980, the United States publicly stated that Soviet chemical warfare agents had been used in Southeast Asia and Afghanistan.

Following the election of Jimmy Carter as president in 1976, efforts by the United States as peacemaker, particularly in the Middle East, met with some success (the Camp David Accords in 1978, for example). President Carter recommended bolstering NATO forces and ending *détente*, but his administration also negotiated the SALT II Treaty, which was signed in 1979, but never ratified. The United States, however, was unable to prevent the expulsion of the Shah of Iran and the subsequent takeover of the country by an Islamic government hostile to the United States. The prolonged Iranian hostage crisis, in which Iranians held American embassy personnel, and the subsequent failed rescue attempt contributed to Carter's defeat by Ronald Reagan in 1980.

This period is marked by continued attempts to minimize global tensions through negotiations between the super powers. Successes included SALT I and II, the Vladivostok Accords, and the ABM Protocol, which were all implemented during this period, in which international crises added to global tensions. These crises included the Arab-Israeli war (1973), the Soviet invasion of Afghanistan (1979), and the Iranian hostage situation (1979-1980).

Following the Apollo moon landing, the American space program contracted and NASA concentrated on development of the space shuttle. The Soviets focused on space station development and research into prolonged space flight. There was some cooperation between the two programs, punctuated by the Apollo-Soyuz link-up in 1975. The U.S. Viking I spacecraft landed on Mars the following year.

The success of the Egyptians in the 1967 war in sinking an Israeli ship with a Soviet cruise missile spurred the Navy into developing its own. A cruise missile is basically a small pilotless airplane: it has a guidance system, flies using its wings, and a propulsion system that breathes air. The Harpoon missile became operational in 1977. The Navy then developed a larger, longer-range cruise missile called Tomahawk. Both Harpoons and Tomahawks can be launched by surface ships and submarines (Kuranda et al. 1995:27).

The Navy also developed a new class of ballistic missile: the Trident. An SLBM, the Trident was the successor to the Poseidon SLBM. The first Fleet Ballistic Missile (FBM) was the Polaris, which has evolved in three version to the Poseidon, and today's Trident I and Trident II. As expected, a new ballistic missile required a new class of submarine. Larger, stronger and more sophisticated, these Ohio-class submarines were constructed by General Dynamics. Strategic Weapons Facility Atlantic (SWFLANT) is located at Kings Bay, Georgia. Commissioned in 1978, Naval Submarine Support Base Kings Bay began as a Poseidon base, but became the East Coast Trident when the FBM Squadron was relocated from Spain. The first Trident submarine, USS *Tennessee* (SSBN 734) arrived in January 1989. Naval Submarine Base Kings Bay serves three related yet distinct purposes: missile assembly and repair; submarine refitting and maintenance; and Trident training. These three activities are carried out by three separate commands: the Strategic Weapons Facility Atlantic (SWFLANT), the Trident Refit Facility (TRF), and the Trident Training Facility (TTF)" (Kuranda et al. 1995:A-6; Marolda 2003).

#### **4.6 THE FINAL YEARS: THE REAGAN ERA (1981-1989)**

The Reagan era is discussed separately because the period is distinct, especially when compared to the Ford/Carter era. Within the first year of his administration, President Reagan

began to fulfill his campaign promises regarding the rebuilding of the U.S. military. He directed the construction of 100 B-1 bombers and pressured Congress for the deployment of the MX ICBM, which was eventually authorized (1983). Symbolic of American military resurgence was the engagement of Naval aircraft with Libyan jets over the Gulf of Sidra in 1983 and the deployment of U.S. Marines to Lebanon to restore order during that country's civil war. To counter the Soviet SS-20 threatening Western Europe, Reagan encouraged the European governments to accept deployment of ground-launched cruise missiles and the Pershing II. Reagan presided over the largest peacetime military expansion in American History. Ironically, at the end of the first year, he proposed the "zero option," the complete elimination of nuclear weapons. This proposal set the stage for the Strategic Arms Reduction Treaty (START) negotiations that began the following year.

By the end of his second term, Reagan had presided over the deployment of numerous new weapons systems, including strategic systems like the B-1 bomber, air-launched cruise missiles, and the MX ICBM (renamed "Peacekeeper"); tactical systems such as ground-launched cruise missiles and Pershing II; and upgrades of the F-15, F-16 and B-52. New armored vehicles, such as the Abrams main battle tank and the Bradley armored fighting vehicle, were deployed, as was the Patriot, an air-to-air missile with ABM capabilities. In March 1983, two weeks after his "Evil Empire" speech, President Reagan proposed the Strategic Defense Initiative (SDI), which called for development of a ballistic missile shield using the most advanced technology.

The decade of the 1980s was a period of political and economic turmoil in the Soviet Union. It had four different leaders in less than three years: Leonid Brezhnev died in November 1982; his successor, Yuri Andropov, the former KGB head, died in February 1984; Andropov's successor, Konstantin Chernenko, a hardliner, died in March 1985, and Mikhail Gorbachev, who came to power in the spring of 1985. Gorbachev was the first Soviet leader who did not rise to power under Stalin. After a year in office, he introduced *Perestroika*, a restructuring of the government, bureaucracy, and economy. Three years later, he introduced the idea of *Glasnost* (openness). The cost of the arms race had been a significant strain on the Soviet economy that had often been referred to as a Third World economy. Up to this point, the arms race focused primarily on nuclear weapons, which are relatively inexpensive. Faced with the prospect of having to match the American lead in military technology, and especially a significant upgrade of its conventional force, the fiscal pressures on the Soviet economy were too much to bear. This strain became particularly apparent when Reagan proposed SDI.

In addition, the Soviets were unable to consolidate what little gains they had achieved during the Ford/Carter era. The Cubans were ejected from Grenada in 1983 and disengaged from their involvements in Africa, primarily Angola. Unrest reverberated throughout the Warsaw Pact, amplified by events in Poland. Political and economic instabilities were exacerbated by a major meltdown at the Chernobyl nuclear power plant in April 1986. In all, it was not a good decade for the Soviet Union, and the precariousness of their situation placed extreme pressure on the Soviets to come to the bargaining table. In addition to START, the Nuclear and Space Talks began in Geneva in 1985. In 1986, Gorbachev proposed the complete elimination of nuclear weapons in 15 years, provided that the United States abandon SDI. The summit in Reykjavik, Iceland, later in the year also focused on SDI. While little was accomplished at the summit, Reagan and Gorbachev did sign the Intermediate-range Nuclear Forces (INF) Treaty in 1987 and early in the following year the Soviets agreed to withdraw from Afghanistan. In December 1988, Gorbachev announced that the Soviets would unilaterally cut its conventional armed forces by 500,000 men.

Continued use of chemical agents in the Middle East and elsewhere prompted the Army to implement a three-pronged chemical program for the 1980s with the intent of reviving talks with the Soviets as well as restoring the United States chemical defense and retaliatory capability (Smart 1997:69; Harris and Paxman 1982). The program involved improving the Army's defensive and protective equipment, resuming chemical weapons production and improving its chemical warfare training (Smart 1997:69). The Soviet Union reputedly halted chemical weapons production in 1987 as a result of the increase in the United States' retaliatory and defensive capabilities for chemical and biological warfare. Negotiations between the United States and the Soviet Union began two years later with the *Memorandum of Understanding between the Government of the United States and the Government of the USSR Regarding a Bilateral Verification Experiment and Data Exchange Related to Prohibition of Chemical Weapons*, also known as the Wyoming MOU (Smart 1997:72). This period also signified the beginning of the destruction (also called demilitarization) of existing chemical weapons stockpile.

Technology advanced on a number of fronts during the period. In space, newer and more advanced reconnaissance satellites were launched by both sides and were a factor in the verification aspects of some of the treaty negotiations. The maiden voyage of the space shuttle *Columbia* took place in April 1981 and launches continued throughout the decade into the present, although the program paused following the *Challenger* explosion in 1986.

Great strides also were taken in military technology on two fronts. The first was in conventional and nuclear forces, some of which were enumerated above. To these can be added stealth technology embodied in the F-117, the use of the Global Positioning System (GPS) for battlefield management, general advances in computerization, night warfare, smart and laser guided weapons, and helicopters, among others. The ICBM force was upgraded by deployment of the Peacekeeper MX, which became operational in 1986. The last remaining Titan wing was decommissioned the following year.

The other military-technology front entailed research associated with SDI. Between 1983 and 1985, SDI became the Pentagon's largest single research and development program as well as the most capital-intensive program of the Cold War (Gaither 1997). Prior to SDI, the 1985-1989 budget projection for ballistic missile defense was \$13 billion. The actual spending for that period included \$16.2 billion for the Strategic Defense Initiative Organization (SDIO) and the Department of Energy (DoE) alone. These, however, were not the only agencies spending money on SDI research. For example, the Army SDI budget in 1988 was \$2.5 billion. SDI contracts in 1987 from all sources totaled \$10.7 billion. Cost estimates for deployment of Phase 1 (initial deployment) of the Strategic Defense System (SDS) were placed between \$69 and \$150 billion and full build-out of SDS at \$1 trillion (Reiss 1992). Later, following the introduction of Brilliant Pebbles, the Phase 1 cost estimate was lowered to \$55 billion (SDIO 1990).

One of the first and most promising areas of research, after the ABM, was the directed energy weapon (DEW). This class includes lasers, of which there are a number of varieties, and particle beams. Since placing these weapons in space violated a number of agreements including SALT, initial research focused on ground-based platforms. In 1985, the ground-based Mid-Infrared Advanced Chemical Laser (MIRACL) destroyed a Titan booster. Although MIRACL is one of the largest and most powerful continuous beam lasers ever built, Edward Teller, a vocal SDI advocate, and others favored Excalibur; a nuclear pumped X-ray laser touted as a super weapon. Excalibur and X-ray lasers were researched for a number of years but were eventually abandoned as impractical. In 1986, both kinetic energy (KEW) as well as particle-beam

weapons were successfully tested. Much of this research was already taking place and not included in SDI funding. The ground-based DEWs were always problematical since the beams are significantly affected by particles in the atmosphere. Also, since ground-based DEWs could not intercept ICBMs in the booster phase, MIRVs and decoys would likely overwhelm them.

In 1990, the Brilliant Pebbles concept was introduced. This system would consist of satellites, each armed with ten interceptor rockets. The advantage, and the reason for widespread support, was that ICBMs could be intercepted before they deployed their MIRVs. DEWs would require a complex system of orbital mirrors for boost phase intercepts. As noted above, the use of Brilliant Pebbles in Phase 1 SDS deployment would result in a cost savings of at least \$13 billion (SDIO 1990). This would put it well within the cost range of other DoD programs such as the B-2 bomber. However, SDI was overtaken by political events.

By the fall of 1988, the Soviet policies of *glasnost* and *perestroika* had begun to undermine the single-party, Communist governments of the Warsaw-Pact nations. Beginning the following year, Communist dominated countries in Eastern Europe began leaving the Soviet bloc one by one. By spring, elections in Hungary had purged the Politburo of Communists. In June, elections in Poland ushered in a majority of Solidarity-affiliated candidates into parliament. Continuing demonstrations in Czechoslovakia lead to the collapse of the Communist government and the election of Vaclav Havel as president. By November, East Germany's long-serving, hardline premier Erich Honecker and Bulgarian President Todor Zhivkov had resigned, and the Berlin wall had been breached. In the following month, Rumanian President Nicolae Ceausescu was overthrown, and later executed along with his wife. This same dynamic would undermine local governments in the USSR, inspiring independence movements among the numerous ethnic groups in the various Soviet states, such as the Baltic states and the Islamic republics along the Soviet southern tier. The Cold War was over.

#### **4.7 POST-COLD WAR EVENTS**

With the end of the Cold War, the administration of President George H.W. Bush shifted away from the original SDI concept to Global Protection Against Limited Strikes (GPALS). The research continued, though, and was worth \$15 billion under Bush. It continues to the present. Events in 1990 reflected or were a reaction to the apparent end of the Cold War. The U.S. airborne command plane "Looking Glass" was taken off continuous alert, the two Germanys reunified and the treaty on European conventional forces was signed. The START was signed in July 1991. In the fall of that year two events occurred that many considered to mark the unequivocal end of the Cold War. The first occurred in September when the bulk of the U.S. nuclear force was taken off alert. The second was the dissolution of the Soviet Union in December, and the subsequent formation of six independent states—Armenia, Byelorussia (what is now Belarus), Kazakhstan, Kirghizia, Russia, and Ukraine. On December 25, Gorbachev resigned as leader of the defunct nation.

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## 5.0 INSTALLATION HISTORIES

As indicated, the installation-specific histories concentrate on the thirteen selected sites. However, the state of Georgia contains more than thirteen DoD facilities. It is important to note here that archaeological resources are not discussed or included in these histories.

In 2003 the DoD released a *Base Structure Report* (BSR) summarizing the DoD's specific property inventory of sites larger than 10 acres and worth more than \$10,000,000 in Plant Replacement Value (PRV) (Office of the Deputy Under Secretary of Defense). This summary listed all installations within the CONUS as well as those holdings abroad. The following tables are excerpted from that report. Table 7 lists all the DoD installations in the state by the above criteria, and Tables 8, 9, 10, and 11 present DoD installations that satisfy the above criteria for each of the service branches. Brief installation-specific histories for the thirteen selected sites follow the tables. The installation histories are not meant to be comprehensive, but to provide information showing activities occurring at the facility, while illustrating potential commonalities with other the installations in the state. In addition, data listed for each installation regarding its geographic size, buildings owned and square footage were derived from the official BSR (Office of the Deputy Under Secretary of Defense 2003) and may not dovetail with installation Real Estate Office records of a later date.

***Explanation of Terms Used in the Tables.*** The facilities data included in this report were extracted directly from the native services' real property inventories (i.e., Army—HQ Army Integrated Facilities System [IFS]; Navy—Navy Facilities Assets Database [NFADB]; and the Air Force's Real Property Assets [RPA] database). This report does not attempt to replicate all the details included the services' databases. Instead, this report provides a summary view of the DoD's installations using common elements that should answer most questions. An explanation of criteria used for each column in the BSR is shown below:

**Site**—Indicates the installation or site name as used in the services' databases. This is based on the services' Installation Number (Army and Air Force) or Unit Identification Code (Navy and Marine Corps). The notation "multi-sites" shown after a site name indicates the parent unit is located in another state, so the data shown only reflects those facilities in the listed state.

**Component**—Designates the primary component owner/reporter of a site or installation, either Active, Guard, or Reserve. For the Navy, this column is also used to designate those sites in caretaker status pending some type of further action. This action may be a pending closure or realignment, or the site could remain in caretaker status.

**Name nearest city**—Identifies the name of the nearest city of reasonable size.

**ZIP code**—Identifies primary ZIP code (postal delivery area code) associated with the site or installation. Many large installations may have several ZIP codes; however, only one ZIP code is shown in this report.

**Phone number**—Identifies a local phone number when available. In some cases, a central locator number was used or, for others, the Public Affairs office number was listed.

**Bldgs owned**—Represents the number of facilities owned by the service at that particular site or installation. This column includes only those facilities designated as "buildings" and does not include "structures" (which could be anything from tent pad sites to carports) or "utilities" (which also generate records in the facilities table). It does not include licensed or permitted facilities, state-owned National Guard facilities, or facilities provided by other nations at foreign locations.

- Bldgs owned sqft**—Reflects the building square footage for the facilities identified as owned in the services' databases.
- Bldgs leased**—Identifies the number of facilities leased by the services. This number includes only facilities designated as “buildings” and does not include “structures,” which could be anything from tent pad sites to carports.
- Bldgs leased sqft**—Reflects the building square footage for the facilities identified as leased in the services' databases.
- Total acres**—Identifies the total number of acres owned, used by, or leased to the DoD. It includes public land, state land, land owned by other federal agencies, and acreage of foreign soil used by DoD sites.
- PRV (\$M)**—Total Plant Replacement Value for all facilities records (buildings, structures and utilities) used by the DoD, to include those facilities that are not owned by DoD, such as state, NATO or foreign-owned, which show a PRV in the database. This reported value is the cost to replace the current physical plant (facilities and supporting infrastructure) using today's construction costs (labor and materials) and standards (methodologies and codes).
- MIL**—Identifies all known military personnel authorized for the site or installation. Includes Active Duty, Guard, and Reserve personnel, regardless of Service affiliation.
- CIV**—Identifies all known DoD civilian personnel authorized for the site or installation, regardless of service affiliation. Note: civilian numbers for the Navy represent assigned personnel not authorized.
- Other**—Identifies all known other civilian personnel authorized for the site or installation, including personnel paid from Nonappropriated Funds (NAF), Foreign Nationals (direct hire) at foreign locations, and, if available, any full-time contractor personnel, regardless of service affiliation.
- Total**—Sum of MIL, CIV, and OTHER personnel columns.

**Table 8. Total DoD Installations in the State of Georgia**  
(BSR- 30 Sept 02)

SITE	COMPONENT	NAME NEAREST CITY	PHONE	ZIP CODE	BLDGS OWNED	BLDGS OWNED SQFT	BLDGS LEASED	BLDGS LEASED SQFT	TOTAL ACRES	ACRES OWNED	PRV (\$M)	MIL	CIV	OTHER	TOTAL
Army Recr Area LkAllatoona	Army Active	Marietta		30121	28	36,399			85	85	10.8				
Dahlonega	Army Active	Dahlonega GA	706-864-3327	30533	48	133,506			289		25.5	204	3	0	207
Fort Benning	Army Active	Columbus	706-545-2011	31905	2,585	19,337,751			171,873	169,321	3,243.0	10,972	2,830	0	13,802
Fort Gillem	Army Active	Forest Park	404-469-5000	30297	144	5,229,674			1,531	1,474	714.1	1,613	427	0	2,040
Fort Gordon	Army Active	Augusta	706-791-0110	30905	1,038	9,066,883			55,597	55,596	1,707.1	6,726	1,744	12	8,482
Fort Gordon Recr Area	Army Active	Augusta		30905	55	54,400			909		17.1				
Fort McPherson	Army Active	Atlanta	404-464-3113	30330	225	2,209,763			487	487	374.2	2,017	1,954	0	3,971
Fort Stewart	Army Active	Hinesville	912-767-1411	31314	1,562	10,016,337	7	8,739	279,271	279,270	1,995.6	14,476	1,823	0	16,299



SITE	COMPONENT	NAME NEAREST CITY	PHONE	ZIP CODE	BLDGS OWNED	BLDGS OWNED SQFT	BLDGS LEASED	BLDGS LEASED SQFT	TOTAL ACRES	ACRES OWNED	PRV (\$M)	MIL	CIV	OTHER	TOTAL
Hunter Army Airfield	Army Active	Savannah	912-352-6521	31409	626	3,277,109			5,653	5,372	1,231.8	4,085	83	0	4,168
Atlanta-OMS01	Army Guard	Atlanta	404-624-6001	30316	19	248,797			93	93	30.3	121	0	0	121
Catoosa Tng Site	Army Guard	Tunnel Hill, GA	706-935-4897	30755	37	74,659			1,627		21.2				
Dobbins ARB	Army Guard	Marietta		30060	4	96,905	1	4,000	22		18.1	237	2	0	239
Fort Gillem	Army Guard	Forest Park		30050	1	71,537			64	32	12.1				
MTA Gmi	Army Guard	Macon	478-751-6346	31201	25	54,740			1,705	38	16.9	99	0	0	99
MTA NGTC Fort Stewart	Army Guard	Hinesville		31313	563	1,339,014	6	43,794	742		258.4	137	4	0	141
Decatur USARC	Army Reserve	Decatur	404-286-3240	30032	1	85,680			11		12.2	1,107	0	0	1,107
Air Force Plant No 6	AF Active	Marietta	770-494-3922	30060	116	6,480,323			755	755	1,186.5				

SITE	COMPONENT	NAME NEAREST CITY	PHONE	ZIP CODE	BLDGS OWNED	BLDGS OWNED SQFT	BLDGS LEASED	BLDGS LEASED SQFT	TOTAL ACRES	ACRES OWNED	PRV (\$M)	MIL	CIV	OTHER	TOTAL
Moody AFB	AF Active	Valdosta	229-257-3395	31699	460	2,683,754			5,497	5,094	723.5	3,722	374	0	4,096
Robins AFB	AF Active	Warner Robins	478-926-1110	31098	1,090	13,938,528			8,722	7,066	2,790.0	7,780	11,651	0	19,431
Glynco ANG Station	Air Natl Guard	Brunswick	912-265-2070	31525	5	67,410			15		11.1				
Savannah Intl Airport	Air Natl Guard	Savannah	912-966-8210	31408	86	304,304	56	382,205	239		152.6	976	0	0	976
Dobbins ARB	AF Reserve	Marietta	770-919-5000	30069	92	961,937			1,913	1,666	341.2	1,790	327	0	2,117
MCLB Albany (Multi-Sites)	USMC Active	Albany	229-639-5000	31704	603	6,861,307			3,656	3,642	707.3	701	1,399	0	2,100
NAV SCS COL Athens	Navy Active	Athens		30606	78	450,270			58	58	44.6	102	61	0	163
SUBASE Kings Bay	Navy Active	Kings Bay	912-673-2001	31547	456	4,537,272			16,539	12,815	2,370.9	5,424	1,614	0	7,038

SITE	COMPONENT	NAME NEAREST CITY	PHONE	ZIP CODE	BLDGS OWNED	BLDGS OWNED SQFT	BLDGS LEASED	BLDGS LEASED SQFT	TOTAL ACRES	ACRES OWNED	PRV (\$M)	MIL	CIV	OTHER	TOTAL
NAS Atlanta	Navy Reserve	Marietta	770-919-6392	30060	111	694,759			208	135	108.6	592	126	0	718
NAVMARC ORESCEN Atlanta	Navy Reserve	Atlanta		30069	2	97,010			20		11.7	262	11	0	273
<b>OTHER SITE(S)<sup>1</sup>: 108</b>					367	2,732,274	7	68,509	12,900	12,524	549.2	11,805	151	0	11,956
				<b>GA Total</b>	<b>10,427</b>	<b>91,142,302</b>	<b>77</b>	<b>507,247</b>	<b>570,483</b>	<b>555,522</b>	<b>18,685.7</b>	<b>74,948</b>	<b>24,584</b>	<b>12</b>	<b>99,544</b>

<sup>1</sup>US Locations that do not meet criteria of at least ten (10) Acres AND at least \$10M PRV. US Territories and Non-US Locations that do not meet criteria of at least ten (10) Acres OR at least \$10M PRV.

**Table 9. Army Installations in Georgia**

(BSR- 30 Sept 02)

SITE	COMPONENT	NAME NEAREST CITY	PHONE	ZIP CODE	BLDGS OWNED	BLDGS OWNED SQFT	BLDGS LEASED	BLDGS LEASED SQFT	TOTAL ACRES	ACRES OWNED	PRV (\$M)	MIL	CIV	OTHER	TOTAL
Army Recr Area Lake Allatoona	Army Active	Marietta		30121	28	36,399			85	85	10.8				
Atlanta-OMSO1	Army Guard	Atlanta	404-624-6001	30316	19	248,797			93	93	30.3	121	0	0	121
Catoosa Tng Site	Army Guard	Tunnel Hill	706-935-4897	30755	37	74,659			1,627		21.2				
Dahlonega	Army Active	Dahlonega	706-864-3327	30533	48	133,506			289		25.5	204	3	0	207
Decatur USARC	Army Reserve	Decatur	404-286-3240	30032	1	85,680			11		12.2	1,107	0	0	1,107
Dobbins ARB	Army Guard	Marietta		30060	4	96,905	1	4,000	22		18.1	237	2	0	239
Fort Benning	Army Active	Columbus	706-545-2011	31905	2,585	19,337,751			171,873	169,321	3,243.0	10,972	2,830		13,802
Fort Gillem	Army Active	Forest Park	404-469-5000	30297	144	5,229,674			1,531	1,474	714.1	1,613	427	0	2,040
Fort Gillem	Army Guard	Forest Park		30050	1	71,537			64	32	12.1				
Fort Gordon	Army Active	Augusta	706-791-0110	30905	1,038	9,066,883			55,597	55,596	1707.1	6,726	1,744	12	8,482

SITE	COMPONENT	NAME NEAREST CITY	PHONE	ZIP CODE	BLDGS OWNED	BLDGS OWNED SQFT	BLDGS LEASED	BLDGS LEASED SQFT	TOTAL ACRES	ACRES OWNED	PRV (\$M)	MIL	CIV	OTHER	TOTAL
Fort Gordon Recr Area	Army Active	Augusta		30905	55	54,400			909		17.1				
Fort McPherson	Army Active	Atlanta	404-464-3113	30330	225	2,209,763			487	487	374.2	2,017	1,954	0	3,971
Fort Stewart	Army Active	Hinesville	912-767-1411	31314	1,562	10,016,337	7	8,739	279,271	279,270	1,995.6	14,476	1,823	0	16,299
Hunter Army Air Field	Army Active	Savannah	912-352-6521	31409	626	3,277,109			5,653	5,372	1,231.8	4,085	83	0	4,168
MTA Gmi	Army Guard	Macon	478-751-6346	31201	25	54,740			1,705	38	16.9	99	0	0	99
MTA NGTC Fort Stewart	Army Guard	Hinesville		31313	563	1,339,014	6	43,794	742		258.4	137	4	0	141
<b>OTHER SITE(S)<sup>1</sup>: 92</b>					216	1,746,129	7	68,509	1,035	760	270.4	11,268	0	0	11,268
				<b>GA Total:</b>	<b>7,177</b>	<b>53,079,283</b>	<b>21</b>	<b>125,042</b>	<b>520,995</b>	<b>512,529</b>	<b>9,959.0</b>	<b>53,062</b>	<b>8,870</b>	<b>12</b>	<b>61,944</b>

<sup>1</sup>US Locations that do not meet criteria of at least ten (10) Acres AND at least \$10M PRV. US Territories and Non-US Locations that do not meet criteria of at least ten (10) Acres OR at least \$10M PRV.

**Table 10. Navy Installations in Georgia**  
(BSR-30 Sept 02)

SITE	C O M P O N E N T	NAME NEAREST CITY	P H O N E	ZIP CODE	BLDGS OWNED	BLDGS OWNED SQFT	BLDGS LEASED	BLDGS LEASED SQFT	TOTAL ACRES	ACRES OWNED	PRV (\$M)	MIL	CIV	O T H E R	TOTAL
NAS Atlanta	Navy Reserve	Marietta	770- 919- 6392	30060	111	694,759			208	135	108.6	592	126	0	718
NAVMAR CORES CEN Atlanta	Navy Reserve	Atlanta		30069	2	97,010			20		11.7	262	11	0	273
NAV SCS COL Athens	Navy Active	Athens		30606	78	450,270			58	58	44.6	102	61	0	163
SUBASE Kings Bay	Navy Active	Kings Bay	912- 673- 2001	31547	456	4,537,272			16,539	12,815	2,370.9	5,424	1,614	0	7,038
<b>OTHER SITE(S)<sup>1</sup>: 4</b>					99	885,674			245	215	250.4	142	151	0	293
				<b>GA Total:</b>	<b>746</b>	<b>6,664,985</b>	<b>0</b>	<b>0</b>	<b>17,071</b>	<b>13,222</b>	<b>2,786.2</b>	<b>6,522</b>	<b>1,963</b>	<b>0</b>	<b>8,485</b>

<sup>1</sup>US Locations that do not meet criteria of at least ten (10) Acres AND at least \$10M PRV. US Territories and Non-US Locations that do not meet criteria of at least ten (10) Acres OR at least \$10M PRV.

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**Table 11. Air Force Installations in Georgia**  
(BSR-30 Sept 02)

SITE	C O M P O N E N T	NAME NEAREST CITY	P H O N E	ZIP CODE	BLDGS OWNED	BLDGS OWNED SQFT	BLDGS LEASED	BLDGS LEASED SQFT	TOTAL ACRES	ACRES OWNED	PRV (\$M)	MIL	CIV	O T H E R	TOTAL
Air Force Plant No 6	AF Active	Marietta	770- 494- 3922	30060	116	6,480,323			755	755	1,186.5				
Dobbins ARB	AF Reserve	Marietta	770- 919- 5000	30069	92	961,937			1,913	1,666	341.2	1,790	327	0	2,117
Glynco ANG Station	Air Natl Guard	Brunswick	912- 265- 2070	31525	5	67,410			15		11.1				
Moody AFB	AF Active	Valdosta	229- 257- 3395	31699	460	2,683,754			5,497	5,094	723.5	3,722	374	0	4,096
Robins AFB	AF Active	Warner Robins	478- 926- 1110	31098	1,090	13,938,528			8,722	7,066	2,790.0	7,780	11,651	0	19,431
Savannah Intl Airport	Air Natl Guard	Savannah	912- 966- 8210	31408	86	304,304	56	382,205	239		152.6	976	0	0	976
<b>OTHER SITE(S)<sup>1</sup>: 10</b>					42	70,271			6,433	6,365	24.9	395	0	0	395
				<b>GA Total:</b>	<b>1,891</b>	<b>24,506,527</b>	<b>56</b>	<b>382,205</b>	<b>23,574</b>	<b>20,946</b>	<b>5,229.7</b>	<b>14,663</b>	<b>12,352</b>	<b>0</b>	<b>27,015</b>

<sup>1</sup>US Locations that do not meet criteria of at least ten (10) Acres AND at least \$10M PRV. US Territories and Non-US Locations that do not meet criteria of at least ten (10) Acres OR at least \$10M PRV.



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**Table 12. Marine Corps Installations in Georgia**  
(BSR-30 Sept 02)

SITE	C O M P O N E N T	NAME NEAREST CITY	PHONE	ZIP CODE	BLDGS OWNED	BLDGS OWNED SQFT	BLDGS LEASED	BLDGS LEASED SQFT	TOTAL ACRES	ACRES OWNED	PRV (\$M)	MIL	CIV	O T H E R	TOTAL
MCLB Albany (Multi- Sites)	USMC Active	Albany	229- 639- 5000	31704	603	6,861,307			3,656	3,642	707.3	701	1,399	0	2,100
<b>Other Site(S)<sup>1</sup> :</b> <b>2</b>					10	30,200			5,187	5,183	3.6				
				<b>GA Total:</b>	<b>613</b>	<b>6,891,507</b>	<b>0</b>	<b>0</b>	<b>8,843</b>	<b>8,825</b>	<b>710.9</b>	<b>701</b>	<b>1,399</b>	<b>0</b>	<b>2,100</b>

<sup>1</sup>US Locations that do not meet criteria of at least ten (10) Acres AND at least \$10M PRV. US Territories and Non-US Locations that do not meet criteria of at least ten (10) Acres OR at least \$10M PRV.

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## 5.1 FORT BENNING

- A. Installation name/address:** Fort Benning/Columbus, Muskogee and Chattahoochee counties, Georgia, and Russell County, Alabama

**Installation's historic name/s:** Camp Benning (1918-1922), Fort Benning (1922-present)

**Installation's current and past service branch/es:** Army

**Installation's geographic size:** 182,000 acres (285 sq. miles)

**Number of bldgs owned/sqft:** 2,585 bldgs at 19,337,751 sqft (Office of the Deputy Under Secretary of Defense 2003)

- B. Date/s of establishment:** 1918

**Reasons for establishment/disestablishment:** As a result of the strategies used during World War I (i.e., mechanization, poison gas), the Army recognized the need to change the way it was training the infantry so that they would be better prepared for future military actions.

**Reasons for location:** The Army historically had schools located throughout the country dedicated to the various skills needed for the infantry soldier. By World War I the most important was the Infantry School of Arms at Fort Sill, Oklahoma. As it became evident that greater marksmanship skills were essential to winning a war, the Army opened a school for machine-gun training at Fort Hancock near Augusta, Georgia, and a training school for marksmanship instructors at Camp Perry, Ohio. Toward the end of World War I, several Army committees began looking for a new more spacious location for the Infantry School of Arms. An extensive national search was initiated and Columbus was chosen. The terrain and climate made the location superior for the year-round training required by the Army (Kane and Keeton 2003).

- C. Brief history of installation**

**Pre-World War I:** The installation had not been established prior to the war.

**World War I (1917-1918):** Camp Benning, named for the Confederate Major General Henry L. Benning, a Columbus businessman and judge, was established as a temporary wartime encampment in October 1918. It became the home of the Infantry School of Arms that was transferred from Fort Sill.

**Interwar years (1919-1938):** The original location of Camp Benning in the Wynnton section of Columbus was about three miles from downtown, but it became apparent that this area was not big enough. Camp Benning moved in 1919 about nine miles from the city into an area dominated by Arthur Bussey's 1,800-acre plantation, Riverside. Through pluck, politics, and liberal readings of Army orders, Camp Benning was gradually established.

Authorized as a permanent military post in 1922 Camp Benning also became the Army Infantry School and the permanent home of the Infantry Broad in that same

year. At that time, Camp Benning was officially designated Fort Benning. The Board studied and researched any subject referred to it by the Chief of the Infantry that would advance the technology, equipment and tactics of the infantry (Jaeger 1999). Camp Benning Air Strip opened in 1919 as the base of the Infantry School's observation balloons and two permanent hangars were erected. The strip was officially named Lawson Field in 1931 in honor of Captain Walter Rolls Lawson an early Army aviator. For the next 10 years the majority of the installation's buildings were temporary.

By 1929 these temporary buildings were negatively affecting morale and the training mission of the post. The War Department Building Program recognizing the concerns, provided money to Benning and thirteen other installations for the construction large barracks, cuartels, and a hospital. Further, the program sent the prominent city planner George B. Ford to these installations to combine existing and planned elements into a new practical and aesthetic post-wide plan.

Using Ford's plan as a foundation, a great period of permanent construction was begun, aided by the New Deal work programs that employed thousands of workers at the fort (Jaeger 1999). The initial focus of the building program was on housing but expanded to include the Infantry School, Ridgway Hall (#35, by McKim, Mead and White, 1935), the Post Chapel (#101, by Hentz, Adler and Schultze, Atlanta, 1935) and the Officer's Club (George A. and Dorothy Sheddon, New York, with drawings by R.D. Raines, Columbus, Georgia, 1934). The Tank School had recently moved from Fort Meade, Maryland, and a large stable/veterinary complex was added in 1931. Lawson Field underwent many improvements including the creation of an Art Deco double hangar (#2403) (Jaeger 1999).

**Limited National Emergency, Protective Mobilization and WWII (1939-1945):**

Thousands of soldiers poured into Benning in response to the Limited National Emergency declared by President Franklin D. Roosevelt. Fort Benning grew from a peacetime force of 6,000 to almost 45,000 by 1940 straining all of the installation's infrastructure and housing (Jaeger 1999:17). Vast tent cities were erected and huge outlying parcels of land were purchased and used to train, house and feed the new recruits. Most of the construction at this time was in the form of temporary wooden structures from the standardized 700 and 800 series plans.

The Infantry School expanded greatly in order to meet the demand for trained officers to lead the large numbers of new recruits. During this period the Officer Candidate School (OCS) was created at the fort as a training program within the Infantry School, a school that exists today. This program became such a priority during the war that the established training programs for experienced officers were scaled down and the majority of their facilities given over to the training of junior officers. By 1943, about one-third of all Army officers were OCS graduates (Jaeger 1999:24). Ranges, classroom space, lecture halls and the hospital were dramatically enlarged to meet the almost instantaneous installation growth.

While expanding its facilities, Fort Benning increased its land holdings by almost 90,000 acres (Jaeger 1999). There was minimal construction in these areas, however, most of them came with existing road networks and bridges that enfolded into the overall infrastructure of the post.

Lawson Field was removed from Infantry School Command and placed under the Army Air Corps in 1940. Improvements totaling one million dollars were made to the field and it was chosen as the Troop Carrier Command base where thousands of soldiers were trained for aircrews and resupply during the war. It was here that the Army created their Parachute School. The 29<sup>th</sup> Infantry at Fort Benning formed the first American parachute test platoon in May 1940. They were sent to train on steel jump towers owned by the Safe Parachute Company of Highstown, New Jersey. The company had built the parachute amusement ride used at the 1939 New York World's Fair. This training proved so successful that the installation eventually ordered four jump towers to be erected on the post. Three of the four towers are still standing—the fourth was destroyed by a tornado—and have become a symbol of Fort Benning. The first official Army parachute jump from an airplane was made at Lawson Field in August 1940. During World War II approximately 4,000 per month graduated from the basic jump course.

**Cold War (1946-1989):** In 1947, Fort Benning auctioned off its horses, thus marking the beginning of new war machines and the end of an era. In the coming years Fort Benning would change the face of the Infantry forever with the creation of air mobility.

When the U.S. Air Force was created as a separate branch of service, former Army fields for the most part became Air Force property, as did Lawson Field renamed Lawson Air Force Field. Air Force tenure was short lived, and by 1955 the Army was back in control of Lawson. Lawson Field was continually upgraded and new additions made during the Cold War.

The most important Fort Benning Cold War contribution to the Army was the creation of concept, training and doctrine related to air mobility. Air mobility or air assault is now a well-known Army doctrine. As the war for Iraqi Freedom progresses and is seen and heard around the world, the sight of U.S. Army helicopters and their attendant troops used as shock forces and fire cover for the infantry are now common and have become a basic part of the public's understanding of the Army's warfighting strategy. Nevertheless, the use of these Army airmobile forces, both planes and helicopters, is a relatively new concept that pitted new ideas against old, and caused major, public clashes between the Army and Air Force, ultimately producing a revolution in the way the infantry fights a war.

Marine Corps experimentation with troop transport by helicopter prior to the Korean War proved that helicopters could successfully be used to greatly improve mobility on the battlefield. The Army began its own experimentation. Although the helicopter was a largely untried technology at the time of the Korean War and its capabilities not fully utilized by existing Army doctrine, the Army successfully used helicopters in a number of ways in Korea. Helicopters added flexibility by providing a quick response to unforeseen circumstances. They could carry out many light tasks, such as observation, resupply and laying ground wire for communications, with a minimum amount of preparation. Helicopters could operate from almost any Army depot and troop area without special facilities allowing quick access to the front lines. But most importantly, the helicopter was under the direct command of Army officers, thus eliminating the need to go through elaborate chains of command (Keener 2001). The helicopter was fast becoming a key instrument in the infantry's corner.

Aside from the Korean and Vietnamese wars, the Army was primarily concerned with waging war on a nuclear battlefield during the 1950s. As the Air Force became the preeminent service during the early Cold War, funding began to shift way from the Army, as the Air Force began receiving increases on an impressive scale. Among the three services, the Army was receiving the smallest share of the defense budget and was thought by some to be obsolete. To counter the accusation of obsolescence, the Army advanced the controversial “dual capacity” theory, arguing it could fight both conventional and nuclear battles (Gaither 1997).

This new way of thinking required new communications equipment, vehicles, weapons, radar, sensing devices, and an unprecedented mobility on the battlefield (Doughty 1979). In addition, the Army felt the achievement of such mobility required helicopter-borne units, “sky-cavalry,” to find, fix, and fight the enemy until reserves could assemble to destroy them. It was essential to the plan that the sky cavalry units be organic (intrinsic) to the Army and not assembled in Air Force troop-carrier squadrons. The biggest proponent of the sky cavalry was Major General James M. Gavin. In a 1954 *Harpers* magazine article, Gavin argued that the use of helicopters in a traditional cavalry role would make the nuclear divisions more effective and that further development of helicopter aviation would serve the interest of the entire Army. This idea fell on fertile ground and by the mid-1950s the Army was creating training and making operational changes to accommodate the helicopter, which all occurred at Fort Benning (Keener 2001).

On February 15, 1963 the 11<sup>th</sup> Air Assault Division (Test) and the 10<sup>th</sup> Air Transport Brigade were activated at Fort Benning to begin a bold new Army experiment: Air Assault. The initial wave of troops arrived from installations across the country and located at Kelley Hill Cantonment, a newly opened area of Fort Benning, east of the Main Post. The location at Kelley Hill in an isolated section of the installation was fortuitous since it forced the soldiers and officers to work together without distractions thereby creating an unprecedented camaraderie.

This was one of the few times in Army history that a group of officers and enlisted men were pulled together with the job of developing and proving a concept with very little in the way of approved doctrine, systems, equipment, methods of operations, and any of the vast documentation and regulations that normally prescribe the formation of new military organizations. BG Harry W.O. Kinnard, Commanding Officer, hand picked his key personnel and gave them widest latitude possible in accomplishing their particular portion of the task. Commanders at all levels were free to pursue vigorously any advancement of the airmobile concept as they saw fit. To make it perfectly clear that he wanted to hear from the lowliest private, Kinnard set up an “idea center” to ensure that any suggest no matter how bold or radical would receive careful and detailed consideration (Tolson 1989).

Introducing the idea of organic air into the infantry posed a number of challenges. Old ideas and training had to be abandoned, the infantry had to adjust to new methods of entering combat and new tactics and techniques of closing with the enemy. The artilleryman had to provide support with new airmobile artillery and aerial rocket artillery. The aviation elements had to broaden their training to include much work in the nap-of-the-earth, formation flying, night formations, jerry rigging of

weapons on Huey and Mohawk helicopters and forward refueling. Support units had to consider air lifting everything from huge trucks to helicopter parts. It was a time of innovation on all levels (Tolson 1989).

The 11<sup>th</sup> Air Assault Division created airmobile operations as we know them today. Instant helipads, helicopter command centers, ultra-heavy lift capabilities, lightweight but fully equipped trucks and other support vehicles, small, light-weight, all-terrain vehicles evolved from the needs of air assault.

On July 28, 1965, President Lyndon Johnson announced, "I have today ordered the Air Mobile Division to Viet Nam" (*The Bayonet*, July 30, 1965). In 90 days, the 11<sup>th</sup> was in Vietnam (Tolson 1989). The Air Force's private fear had been borne out; the Army now had organic air assault.

As expected the Army helicopter was a key component in the guerilla wars of Vietnam, proving the worth of organic air mobility over and over again. It was, in fact, insurgency wars and not the European nuclear battlefield that established the true worth of the Army's air assault concept. Today, organic air mobility is vital part of the infantry and represents a hard fought but well-established Army doctrine for advancing land troops.

In 1984 the U.S. Army School of the Americas (SOA) was relocated to Fort Benning from Panama. The SOA was founded in 1946 as the U.S. Army Caribbean Training Center in Panama to train Latin American soldiers and military personnel in American military techniques, such as counter-insurgency, military intelligence, and counter-narcotics operations. Renamed as the SOA in 1963, it moved into the old Infantry Building (Building 35), now Ridgway Hall, in 1984. More than 60,000 members of various Latin American militaries have attended the school, including Hugo Banzer Suarez, Manuel Noriega, Efrain Rios Montt, Omar Torrijos, Roberto D'Aubuisson, and Juan Velasco Alvarado, among others. Recently, the school has drawn criticism and protest from a number of social and human rights watchdog groups over some of its graduates supposed human rights violations in Latin America. The SOA was legally closed in 2000, but reopened as the Western Hemisphere Institute for Security Cooperation (WHINSEC) in 2001 (GlobalSecurity.org 2005).

**Korean War (1950-1953):** After the North Koreans invaded South Korea in 1950 Fort Benning broke into a frenzy of activity dealing with arriving soldiers and the various attendant needs of war training. The Infantry School's training program more than doubled as new strategy, doctrine, and weapons specific to the war were introduced. New classes on patrols, night operations, small-unit tactics and terrain analysis were created. Ranger and OCS training were reinstated at the Infantry School. The Associate Company Office program, which instructed allied foreign military officers, was created in 1952.

Airborne training facilities were greatly increased, and once again Fort Benning found itself in a housing crunch. The House Armed Services Committee approved almost \$30 million for housing, a school, hospital, bridges and training facilities at Fort Benning (Jaeger 1999). Improvements also were made to Lawson Field,



including the expansion and strengthening of runways and taxiways to accommodate the heavier planes used during the Korean action.

**Vietnam War (1954-1975):** During this period the Airmobile units that had been created at Fort Benning were sent to Vietnam. Training continued apace and several new courses were created in response to the war. The Noncommissioned Officer (NCO) Candidate Course was initiated at the installation, as was the Army Training Center, which taught basic combat techniques for new recruits bound for Vietnam.

The press of Korea and Vietnam convinced the Army that it needed a new Infantry School building many times larger than the previous McKim, Meade and White-designed school building. The new Infantry Hall centralized most of the teaching and administrative duties of the Infantry School. The enormous size of the building illustrated the accelerated growth that the infantry in general and Fort Benning in particular were experiencing.

The controversy of the Vietnam War was felt at the fort, especially when LT William Calley, an Army officer who ordered the slaughter of 102 unarmed villagers in the South Vietnamese village of My Lai, was court-martialed for premeditated murder. Calley was convicted but President Richard Nixon reduced his life sentence and he was dishonorably discharged from the Army.

Toward the end of the war the Army Training Center was closed and the NCO Education System, which emphasized professional development of the career of NCOs, replaced the NCO Candidate Course.

**D. Current and past missions (1939-1989):** Fort Benning was established as, and has been the home of the Infantry. While the installation had/s played host to a number of other tenant organizations, its current mission falls under the Army Training and Doctrine Command (TRADOC).

**E. Infrastructure/building/structure/landscape types**

**NRHP Eligible Districts:** Main Post Historic district (Draft nomination 1992 and 1998, Criteria A & C); Lawson Army Airfield Historic District (Criteria A & C); Parachute Jump Tower Historic District (Draft nomination 1998, Criteria A & C); Army Ground Forces Board #3 Historic District (Criteria A & C); and Ammunition Storage Area Historic District (Criteria A & C)

**NRHP Individually Eligible Buildings/Structures:** Riverside Plantation (NRHP 1971)

**NRHP Eligible Landscape/s:** Fort Benning and the GA HPO have agreed that Benning Boulevard, part of the George Ford 1920s landscape, is eligible. It can be inferred, by extension, that the Main Post area (of which Benning Boulevard is part) landscape plan is eligible. The golf course, a part of the original Ford plan, is considered a contributing element to the Main Post Historic District.

**Installation infrastructure types:** Aside from the Main Post, which is based on a “Cities Beautiful” model, the installation is typical of a training facility with grouped use areas. Most of the reservation is undeveloped and used for military training, weapons

ranges, drop zones, and landing zones. There are 63 action firing and non-firing ranges (GlobalSecurity.org 2004d). Dirt tank trails cover the installation and are used in the more populous areas by cars wishing to avoid area congestion.

Fort Benning has several outlying cantonments and special camps; all of which are accessible by paved and dirt roads. Most of the training areas are accessible only by dirt road. The installation is physically divided to the north and east by a series of federal and state highways. The post has a number of county-built bridges and roads it acquired with various land purchases.

Until recently, the fort maintained its own sewerage, garbage and fresh water plants.

**Installation buildings/structure types:** Fort Benning has the following Army Cold War property types: storage facilities (igloos, warehouses, maintenance facilities, shipping facilities); communications facilities (single antennas-radio); and training facilities. BASEOPS buildings are by far the largest portion of Benning's Cold War building types.

There are several interesting areas on the installation, some of which are still extant, including: Military Police area including original detention barracks; WAC (Women's Army Corps) areas; African-American soldier areas including barracks, theater, PX, and NCO quarters; veterinary complex including equine hospital; a large grouping of historical recreational facilities including stadium, baseball field, horse-show ring, gym, handball courts; and large original hospital complex.

The Army's National Infantry Museum is located on Fort Benning in a portion of the original hospital complex. However, the museum is scheduled to move to a new facility within the next few years.

**Installation landscape:** After World War I, Congress, matching the mood of its constituents, was reluctant to adequately fund the military and most installations suffered through the post-war years. By the late 1920s Congress was finally persuaded that it had to at least adequately house the military since morale was being severely strained by rigors of tent living and lack of adequate health care. To remedy this, Congress authorized a huge building program at thirteen installations to be executed by the Quartermaster General.

The Quartermaster General enlisted the aid of the American Institute of Architects (AIA) and retained a prominent city planner, George B. Ford as its advisor. Ford was asked to gather all the various installation needs and make recommendations to the Corps area Commander and then the Quartermaster General's office concerning the planning of each of the installations. When all military practicalities were worked out modifications were made to the plans based on best practices of the day.

In 1929 Ford developed a new plan for the fort that combined existing and proposed facilities using planning principals based on the "Cities Beautiful" and "Garden City" movements. The older housing areas still reflect these ideals that included rambling neighborhoods with houses that were oriented to a shared park instead to the street. Ford's plan revolved around the seat of power, the Infantry School, using it as the point on an axis for the placement of housing, community buildings and barracks.

Most of Ford's plan was on the ground in 1935 and can still be clearly seen within the Main Post area. For more than 50 years, Ford's plan has guided the Main Post's planning and development.

**Significant installation architects:** McKim, Mead and White (Infantry School Building, Ridgway Hall, #35, 1935); Hentz, Adler and Schultze, Atlanta (Post Chapel, #101, 1935); Quartermaster Corps; Army Motion Picture Service (24<sup>th</sup> Infantry Theater, #72, 1932); George A. and Dorothy Sheddon, New York, with drawings by R.D. Raines, Columbus, Georgia (Officers Club, #128, 1934); Spector and Montgomery Architects, Falls Church, Virginia (hammerhead barracks 1950s); George B. Ford, landscape.

**Significant structure/building style/s:** Spanish Colonial Revival, Renaissance Revival, Classical Revival, Georgian, Colonial Revival, Mission, Craftsman Bungalow, Dutch Colonial Revival, Chateausque, Art Deco, Art Modern, and International. The installation possesses one highly decorative Classical Revival Style bridge (Betjeman Bridge, Benning Boulevard)

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## 5.2 FORT GILLEM

### A. Installation name/address: Fort Gillem/Forest Park, Clayton County

**Installation's historic name/s:** Atlanta General Depot (1941-1948), Atlanta Army Depot (1948-74), Fort Gillem (1974-present)

**Installation's current and past service branch/es:** Army, Fort Gillem is a satellite installation of Fort McPherson

**Installation's geographic size:** 1,500 acres

**Number of bldgs owned/sqft:** 144 buildings, 5,229,674 sqft (Office of the Deputy Under Secretary of Defense 2003), or 126 buildings (Grashof 2001)

### B. Date/s of establishment: 1941

**Reasons for establishment/disestablishment:** Unknown

**Reasons for location:** Unknown, but certainly linked to geographic location (i.e., presence of numerous railroad lines) for distribution

### C. Brief history of installation

**Pre-World War I:** The installation had not been established.

**World War I (1917-1918):** The installation had not been established.

**Interwar years (1919-1938):** The installation had not been established.

#### **Limited National Emergency, Protective Mobilization and World War II (1939-1945):**

The Army relocated its depot capacity from Candler Warehouse in Atlanta to the Atlanta General Depot, Fort Gillem's present location, in 1941. The warehouse was organized into two separate units: the Atlanta Quartermaster's General Depot and the Atlanta Ordnance Depot. Construction on the two facilities was completed in December 1942. They were joined under the name of the Atlanta Army Depot, effective April 1, 1948.

**Cold War (1946-1989):** The fort's website describes its past roles "as trainer and supplier throughout World War II, the Korean Conflict, the Berlin Airlift, the Cuban Crisis and the Vietnam War. Thousands of soldiers trained at the installation's facilities, and tons of equipment destined for the war zones processed through the warehouse system."

In 1973 the responsibility for the installation was transferred from the Army Materiel Command to U.S. Army Forces Command (FORSCOM) and it was renamed Fort Gillem, in memory of Lt. Gen. Alvan C. Gillem, Jr., who began his career as a private at Fort McPherson in 1910 and retired 40 years later as the commanding general of the 3<sup>rd</sup> U.S. Army, now headquartered at Fort McPherson. At this time Fort Gillem becomes a satellite to Fort McPherson.



**Korean War (1950-1953):** The Korean Conflict period saw a continuation of the installation's established training and distribution missions.

**Vietnam War (1954-1975):** The year 1967 saw the initiation of the Logistical Training Battalion at the fort, whose purpose was to train soldiers for assignments to depots in Vietnam. During the 1966-1970 period, Fort Gillem experienced its peak employment, boasting an average of 4,500 personnel. "During wartime, it shared the responsibility for providing the Army's needs, including weapons and equipment, research and development, procurement, production, storage, distribution, inventory management, maintenance and disposal" (Lofffield 1979).

- D. Current and past missions (1939-1989):** Originally a part of AMC's depot system. On October 1, 1983, Headquarters, 2<sup>nd</sup> U.S. Army was reactivated and established at the fort. They were charged with command of the Army Reserve and training assistance and direction to the National Guard in the southeastern territory, including Mississippi, Alabama, Tennessee, North Carolina, South Carolina, Georgia, Florida, Puerto Rico, and the U.S. Virgin Islands. In addition to being the home of the 1<sup>st</sup> U.S. Army, GlobalSecurity.org describes Fort Gillem's current and upcoming missions:

Fort Gillem, a 1,500-acre Military Camp, is a logistical support hub for Fort McPherson and is home to 51 tenants including organizations from the Active Component, Reserve Component, Georgia Army National Guard, and other Department of Defense and federal agencies. The fort houses the Army's Atlanta Distribution Center, the equipment concentration site #43 for the 81st Army Reserve Command, and the Army's CID Criminal Investigation Laboratory. A \$216 million multi-phase capital investment program has been planned for the fort. It includes the expansion of the reserve center, the construction of a new crime investigation and forensics laboratory, and the location of a second recruitment brigade [GlobalSecurity.org 2004f].

Currently, Fort Gillem supports the following major activities: 1<sup>st</sup> U.S. Army, U.S. Army 3<sup>rd</sup> Criminal Investigation Region, U.S. Army 2<sup>nd</sup> Recruiting Brigade, Military Entrance Processing Station, U.S. Army and Air Force Exchange Service Atlanta Distribution Center, and Georgia Army National Guard Headquarters. Fort Gillem's mission is tied with that of Fort McPherson as a FORSCOM installation.

**E. Infrastructure/building/structure/landscape types**

**NRHP Eligible Districts:** One proposed district that appears to primarily administrative and housing with some industrial components (Grashof 2001).

**NRHP Individually Eligible Buildings/structures:** 52 eligible buildings/structures (Grashof 2001).

**NRHP Eligible Landscape/s:** Undetermined (Grashof 2001)

**Installation infrastructure types:** The Cantonment is broken into administrative, recreation, family housing, and industrial areas. The large industrial area consists primarily of warehouses and maintenance facilities. The recreational facilities include

two lakes for fishing, jogging trails, and limited deer hunting in season. Most of the activities of the installation are located to the east with the west side of the installation largely vacant (Grashof 2001).

Road systems connect the various areas of the installation and rail spurs can still be seen throughout the industrial areas. The small housing area is laid out in a typical curving road format to cut down on the monotony of identical or nearly identical quarters' styles.

**Installation buildings/structure types:** Given the functions of Fort Gillem, past and present, it can be assumed that the majority of its buildings fall within the Army Cold War categories of storage and BASEOPS, neither of which is generally considered significant within the larger Army Cold War context. The majority of its buildings date from World War II.

**Installation landscape:** The unused areas of the installation, like most in Georgia, are heavily covered in kudzu. No landscape surveys have been completed, but it can be safely assumed, given the installation's age and original use, that the landscaping elements are typical.

**Significant installation architects:** Robert & Company, Atlanta, served as Architects/Engineers for the initial design and construction of Atlanta General Depot, in conjunction with the Construction Division of the Office of the Chief of Engineers

**Significant structure/building style/s:** Unknown

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### 5.3 FORT GORDON

- A. **Installation name/address:** U.S. Army Signal Center Fort Gordon/Augusta, Richmond County

**Installation's historic name/s:** Camp Gordon (1941-1956); Fort Gordon (1956-present)

**Installation's current and past service branches:** Army, TRADOC; USAREC, HRC (U.S. Army Human Resources Command)

**Installation's geographic size:** 56,000 acres in eastern Georgia immediately adjacent to the city of Augusta

**Number bldgs owned/sqft:** 1,038 bldgs at 9,066,883 sqft (Office of the Deputy Under Secretary of Defense 2003)

- B. **Date/s of establishment:** 1941

**Reasons for location:** The War Department began expanding its camp and training facilities in 1939 in anticipation of the United States entering World War II. The Fourth Corps Area, one of nine Quartermaster zones, was responsible for construction activities in the Southeast, comprising North and South Carolina, Tennessee, Florida, Alabama, Mississippi, Louisiana and Georgia. Building on their past experience of selecting and erecting installations, the Quartermaster Corps had established a firm set of criteria for identifying camp locations. These criteria were climate, topography, geology, soil conditions, labor, transportation, real estate, and utilities (Joseph et al. 1994b:78; Fort Gordon Cultural Resources Office 1999).

According to the War Department, the Augusta area, which had hosted Camp Hancock during World War I, had city sewerage and water adequate for a division, unlimited facilities for known-distance and combat firing. The road network was excellent, and old Camp Hancock could be used for another division. Further, the price of land was right; recreational and housing facilities were adequate for one division; a nickel bus line operated from the cantonment area; and the municipal airport was sufficiently sized for most military aircraft (Joseph et al. 1994b:79).

Leonard Moody, an Augusta statesman and booster, lobbied the federal government for an air base and major Army installation. Toward that end, in 1940, Moody procured a short runway training base for the Army Air Corps at Daniel Field just 10 miles northwest of the future Camp Gordon. The final camp placement was narrowed to Augusta and Spartanburg, NC; in the end both cities won. Augusta was selected for the army cantonment and Spartanburg as a replacement center (Joseph et al. 1994b:79-80).

**Reasons for establishment/disestablishment:** Expansion of the war effort leading to World War II

- C. **Brief history of installation**

**Pre-World War I:** The installation had not been established.

**Interwar years (1919-1938):** The area in and around Augusta, locally known as “Pinetucky,” was devastated by the Great Depression. Luckily, Augusta also had an eager Chamber of Commerce secretary, Lester Moody, who is credited with much of the area’s economic rehabilitation that continues today. Moody fought long and hard to bring federal money into the area, including the offering of incentives to bring the Army cantonment that would become Fort Gordon.

**Limited National Emergency/Protective Mobilization/World War II (1939-1945):** The War Department began building up forces in 1939, and immediately recognized the need for additional training facilities. The Selective Service Bill of 1940 stipulated that men could not be called up until adequate facilities were available to provide housing, sanitation, and medical care for the draftees. Camp Gordon was created to meet the congressional stipulation. Camp Gordon is named for Confederate Lieutenant General John Brown Gordon, who also served as Governor of Georgia and U.S. Senator.

“By the time Camp Gordon was to be established, the Quartermaster Corps had built upon its previous experience by streamlining the process of camp selection, layout, and building” (Joseph et al. 1994b:78). Lessons from the Great War had taught the Constructing Quartermaster’s Office to be prepared for rapid mobilization. The interwar years had allowed time to formulate standardized for camp layout, construction, and building types.

Leon Zach, a landscape architect at one time associated with the Olmsted Brothers, was charged with creating the model site plans. He consulted with Army commanders, those who were most affected by the design, to ascertain the critical components. It was proven that the chief concerns were efficiency of operation and economy of construction; with this information, Zach assembled a list of important factors and, from them, “typicals.”

The typicals were a codification of prior experience in camp layout as well as current improvements in design established by the Quartermaster’s office. Architects and engineers would then work to suit the typical to local conditions. Incomplete and tentative, the typicals nevertheless served as good working guides. From them the engineers quickly ascertained the Army’s principal requirements. Every unit, large and small, would remain intact. Companies would be grouped into battalions and battalions into regiments. Regimental areas would adjoin a central parade ground. Hospitals would be isolated spots, away from noise and dirt. Storage depots and motor parks would be near railway sidings or along major roads. To prevent the spread of fire, one-story buildings would be at least 40 feet apart; two-story buildings 50.... Showing grid-platted streets and straight rows of buildings, the typicals envisaged a quadrangular arrangement. The typicals were widely changed to suit local conditions and also to suit the dictums of the Corps area commanders [Joseph et al. 1994a:82].

Camp Gordon’s groundbreaking ceremony took place October 18, 1941 and was then formally activated on December 9, 1941, two days after the attack on Pearl Harbor. A construction flurry began in May 1942, when word was received that troops would begin arriving that December.

Camp Gordon's design closely echoes the Zach strategy outlined above. In general, its conformation resembled a "T" with an offset branch or leg. The main Building Area was confined to the east, bounded by U.S. Highway 1 to the south and U.S. Highway 74 to the north. The presence of the Georgia Railroad was no doubt a motivating factor for the camp's designers. Paralleling U.S. Highway 74, it allowed easy access for freight and military transport. The Quartermaster Area was situated alongside it for this purpose. In addition, this portion of the camp was closest to Augusta from which the camp was to be connected for its water and utilities. ...

The 1943 [*Map of Camp Gordon, Georgia*] show[ed] both a functional design and segregation at work. The housing and recreation areas butted a central Parade Ground. The housing for the troops was packed in an efficient, albeit sardine-like, fashion in a repetitive pattern designed to maximize the use of space and reduce road length. The Hospital Area was relatively isolated for sanitation reasons; the industrial sector was likewise removed from the residential areas. African-American soldiers were assigned to a separate barracks that stood close to a separate recreational facility [Joseph et al. 1994a: 82-84].

The rush to complete construction was also aided by the standardization of building design: "practiced in World War I but truly refined during the second World War" (Joseph et al. 1994b:84). The Quartermaster's staff completed plans and specifications for every type of building needed on a newly forming military installation. The structures were mostly built with wood and considered temporary. As the war escalated, Camp Gordon expanded and accommodated a greater number of trainees, necessitating an even faster construction strategy:

Five hundred additional buildings were needed in 60 days causing the Constructing Quartermaster, Captain Alvin Moore and his Project Manager, H.V. Appen, to adopt 'a stream flow type of construction ... trained crews pass along a line of buildings ... something like an assembly line in reverse in which the men pass the articles being constructed instead of the article on the assembly line passing the workers' [Joseph et al. 1994b:85].

Of course, building construction was not the only activity at Camp Gordon during World War II. The camp was a primary training center of the Southeast, created mainly to supplement Fort Benning. Prisoners-of-war (POW) from the Axis countries were imprisoned on the grounds from 1943 through 1945. Their barracks were located near the storage depots and the detainees were employed at various jobs in and around the base. Camp Gordon's POW unit had an average population of 2,000 men, with a capacity to house 3,000 or more. The Infantry Advanced Replacement Center was activated at the base in 1944 to train substitutes for the soldiers lost in battle. The Center was deactivated just a year later, in November 1945, at the close of the war.

At that time, a Separation Center was established at Camp Gordon. More than 85,000 men would be processed through it with an average stay of 24 to 48 hours. They would receive medical exams, check their records and receive any awards due, exchange their uniforms for civilian clothing, and receive employment counseling. The center, along with the post hospital, closed its doors in 1946 (Campbell et al. nd).



**Cold War (1946-1989):** Camp Gordon's future was uncertain, and booster Lester Moody lobbied for its maintenance. He had few worries.

With the Truman administration's establishment of a Department of Defense, the recognition of the need for a prepared military, the passing of the National Security Act of 1947 and the Selective Service Act of 1948, the "future plans" for the United States military became increasingly clearer. Camp Gordon was slated for reactivation rather than closure and remodeling began in earnest at the installation [Joseph et al. 1994b:87].

Still primarily on a TRADOC mission, a Military Police School was opened at Camp Gordon in 1948. In the same year, the Signal Corps Training Center was established and remains the chief occupant at the base. The camp was home to the Engineer Aviation Training Unit for only one year, from 1949 to 1950 (Campbell et al. nd:58).

Camp Gordon underwent many changes in this period. First, the installation was renamed Fort Gordon on March 21, 1956, indicating its permanent status. "This designation was a product of the United States Army's permanent readiness posture following the Korean War and other evidences of the Soviet Union's and Communist China's postwar expansionistic intentions" (Joseph et al 1994b:87). Communications activities from New Jersey were consolidated into Fort Gordon's mission as the Signal Corps solidified its presence at the post.

These changes prompted another frenzy of construction. Permanent concrete and steel buildings replaced the temporary wooden structures. Married soldiers' housing and 25 new permanent officers quarters went up and other buildings, including twelve barracks and bachelor officers' quarters, were renovated. The post hospital was replaced with a "modern facility" in 1970 and renamed the Dwight David Eisenhower Army Hospital, with a mission of patient care along with research and teaching. The Military Police School was relocated to Fort McClellan, Alabama, in 1974.

**Korean War (1950-1953):** Camp Gordon adopted an aggressive training mission with the start of the Korean War. The schools mentioned above were once again supplemented by basic training. Fifty-one new barracks were added during this time, as well as fourteen new service and headquarters structures. "The Signal Corps School expanded and moved forward as communications became a major thrust during this war" (Joseph et al. 1994b:87). Women's Army Corpswomen (WACs) also received training at Fort Gordon during the period. The year 1953 saw another Separation Center open and eventually close at the camp.

**Vietnam War (1954-1975):** Additional communications activities were consolidated with the Signal School at Fort Gordon, making it the premiere transmission training facility. By the early 1960s, basic training was stepped up notably for specialized training units, and Signal Corps units from Fort Monmouth were relocated to Fort Gordon and consolidated. In addition to the escalation of tensions in Southeast Asia, "advances in communications technology, brought about partially as a result of the space program, demanded the expansion of facilities at the fort" (Campbell et al. nd:59-60). In 1967, "Headquarters, U.S. Army School/Training Center and Fort Gordon were organized to direct overall post operations and coordinate service school and advanced individual training" (GlobalSecurity.org 2004e). Basic training

for specialized forces, including the Signal Corps and Medical Division, occurred at the fort. In addition, a reproduction Vietnamese village was constructed to prepare these units for the Southeast Asian theater, which included Viet Cong and booby traps. "Training was expanded to include a five-day counter-insurgency program, which included ambush techniques, search-and-destroy maneuvers, and movement security" (Campbell et al. nd:62).

- D. Current and past missions (1939-1989):** Army, home of the Signal Corps, present; World War II divisional training base for the 4<sup>th</sup> Infantry Division, 26<sup>th</sup> Infantry Division and 10<sup>th</sup> Armored Division in the 3<sup>rd</sup> Army; Military Police School (1948-74; Southeastern Signal School (1948-1974); U.S. Army Signal Center and Fort Gordon (1974-present); Army's Computer Science School (1988-present). TRADOC.

In 1988, the Army's Computer Science School was relocated to Fort Gordon from Fort Benjamin Harrison, Indiana, spurring more growth. The following decade found Fort Gordon's Mobilization Command deploying many troops to Southwest Asia during Operation Desert Shield/Desert Storm (1990-1991).

Today, Fort Gordon figures prominently in the post-Cold War national defense. Home of the Signal Regiment, the installation is the largest communications-electronics facility in the free world. Fort Gordon also supports 93d Signal Brigade, 513th Military Intelligence Brigade and the Gordon Regional Security Operations Center (GRSOC).

Original mission was to "train triangular infantry divisions, armored divisions and as an anti-aircraft firing center" (Joseph et al. 1994b).

- E. Infrastructure/building/structure/landscape types:**

**NRHP eligible district/s:** Unknown

**NRHP individually eligible building/s and structure/s:** Unknown

**NRHP eligible landscape/s:** Unknown

**Installation infrastructure types:** The infrastructure is typical of Army installations with road nets, bridges built by the Army and acquired with land, sewerage and water buildings and systems, fences and walls, gas pipelines, drainage ditches, and the buildings and systems associated with total installation maintenance.

**Installation building/structure types:** The installation is divided into six general areas: warehouse maintenance; Signal Center/troop housing; hospital area; administration/community center; training/recreation; and the reserve center. There were several interesting areas on the installation, some of which are still extant, including: Military Police detention barracks; WAC (Women's Army Corps) areas; African-American soldier areas; and Prisoner-of-War camp including a cemetery.

**Installation landscape:** Fort Gordon's layout, based on a "typical," was originally in the shape of a "T" with an offset leg. The installation was divided into activity areas in a clear attempt to cluster like functions within the same geographic space. Outside of

the immediate building area, the landscapes at Fort Gordon have been significantly altered. Changes in watercourses, the building of lakes and dams and the transformation of the historic James Mill tract into Lake Gordon, now a part of the Fort Gordon golf course, mark these changes (Joseph et al. 1994b).

**Significant installation architects/engineers/builders:** Quartermaster Corps; Leon H. Zach, formally associated with Olmsted Brothers, site layout and landscape; J.B. McCrary, engineering and architectural firm, Atlanta; McDougal Construction Company, Atlanta; Smith-Pew Construction Company, Atlanta; Jones Construction Company, Charlotte, North Carolina

**Significant structure/building style/s:** Camp Gordon is an intricately planned installation based on Quartermaster standard building plans and Zach's planned formulaic layout. These formulated plans were called "typicals" and represented the codification of prior experience in camp layout as well as new improvements in design published by the Quartermaster's office. Typical, as guideposts, were widely changed to meet specific concerns, and they were changed at Camp Gordon to meet range-training concerns (Joseph et al. 1994b).

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## 5.4 FORT MCPHERSON

### A. Installation name/address: Fort McPherson/Atlanta, Fulton County

**Installation's historic name/s:** McPherson Barracks (1867-1885), Fort McPherson (1885-present)

**Installation's current and past service branch/es:** Army

**Installation's geographic size:** 487 acres (Grashof 2001)

**Number of bldgs owned/sqft:** 225 buildings, 2,209,763 sq ft (Office of the Deputy Under Secretary of Defense 2003), or approximately 198 buildings (Grashof 2001). Fort McPherson has responsibility for the sub-installation Fort Gillem (see Fort Gillem specific history, Section 5.1.2) and the U.S. Army Recreation Area-Lake Allatoona.

### B. Date/s of establishment: 1885

**Reasons for establishment/disestablishment:** Unclear

**Reasons for location:** Unclear, although it is certainly linked to the site's role in the Civil War as well as its location next to the Central of Georgia rail line.

### C. Brief history of installation

**Pre-World War I:** The original tracts of land that would become Fort McPherson were purchased under the authority of the Sundry Civil Act on August 11, 1885. Through several conveyances within the following year, "the boundaries of the new post contained just over 236 acres of land situated along the Central of Georgia railroad line" (Martinez 1986:7). The site was intended to house ten companies and provide for a general prison. The original construction phase included officers' quarters, barracks, post headquarters, a hospital, a bakery, a guardhouse, and stables. Because of the small site, the installation did not have a target range, and used the U.S. Target Range, some distance away, for practice. The post was officially named Fort McPherson, in memory of Major General James Birdseye McPherson, Commander of the Union Army of Tennessee, the highest-ranking Union officer killed in action during the Civil War, and made a permanent Army installation on May 4, 1889.

Less than ten years later, the country found itself embroiled in the Spanish-American War (1898). The 5th Infantry was stationed at Fort McPherson until they were deployed. In May of that year, the former guardhouse, which had been converted to a school/chapel in 1893, served as a prison for twenty captured Spaniards and six incarcerated spies.

The fort at this time was directed to ready itself to train some 20,000 recruits. The pace of construction could not keep up with their arrival, so a city of tent-barracks was erected, along with new hospital wards. Following the Spanish-American War, Fort McPherson had few long-term residents. This was a period of constant personnel rotation. In 1904, additional officers' and troops' quarters were finally completed.

**World War I (1917-1918):** Though other countries had been involved in the Great War for years, the United States seemed to have been caught off-guard when it was called into the fray in 1917. Leaders were needed quickly, and the War Department answered with the establishment of officer's training camps throughout the country. Fort McPherson held one "camp" session in the summer of 1917. The facilities were constructed on the former polo practice field. Two hundred civilians were organized into Company No. 7, Provisional Training Regiment. Within 90 days, Fort McPherson produced 200 commissioned officers to aid the war effort.

Within ten days of the close of the officer's training camp, Fort McPherson was transformed into a Base Hospital, with a new commander, Col. Thomas S. Bratton, M.D. The moniker of U.S. Army General Hospital No. 6 was bestowed on December 2, 1917. The troops were sent away while the barracks were converted to hospital wards, and the gymnasium became the patients' mess hall. A new receiving ward and administration building was erected. The new building to house nurses was thought to be perhaps the most comfortable in the country. The fort also had a new mission during the war: training medic officers; 48 student nurses were indoctrinated at the Army School of Nursing. The war effort had demanded rapid construction as the staff of Fort McPherson grew.

Recreation at the post was not forgotten, however. Charity organizations moved in to boost the morale of recovering troops. The Knights of Columbus sponsored a social center and the American Library Association established a reading room. Red Cross agents used an old administration building for their work until the Red Cross Convalescent Building opened in the summer of 1918. This type of building appeared on every army post that year. They were built of wood in the shape of a Maltese cross with a red roof. The one at Fort McPherson was large, and had an adjoining canteen that sold refreshments. At the end of the war, the building "was designated as an enlisted men's Service Club and Guest House, with rooms renting for 25 cents a day. It is said that Fort McPherson was the first post in the United States to have such a facility" (Martinez 1986:23).

In June 1919, 2,000 sick and wounded personnel resided at General Hospital No. 6. By December, the number of patients had only declined to 1,500, but the establishment reverted to a post hospital with the return to peace.

Concurrent with the other wartime activities at Fort McPherson, a prisoner-of-war camp was established. Barracks construction to house the inmates began before the formal declaration of war. By March 27, 1917, 411 German POWs were present at the fort, helping to build their own housing and temporarily living in the brick barracks on Troop Row. When the War Prisoner Barracks were completed, decent accommodations were available for about 1,800 people. By the end of June 1919, 1,346 prisoners were interned at Fort McPherson. Most of them were released back to their native countries, and the War Prisoner Barracks officially closed on November 10, 1919. Soon after, most of the buildings were dismantled or sold.

Between April and May of 1918, a quartermaster depot was established to the south of Fort McPherson and called Camp Jesup, whose purpose "was to serve as a base for the general overhaul, reconstruction, and repair of motor vehicles. The camp also

served as the site for the storage and issue of vehicles as well as motor transport supplies for all the camps in the Southeast” (Martinez 1986:36). The camp employed 4,000, including a number of Fort McPherson’s German POWs, with nearly 600 working each day. Camp Jesup was a truly independent installation, with its own network of buildings: dwellings, mess halls, camp headquarters, guardhouse, infirmary, laundry, fire station, service club, canteen, theater, shops and warehouses. Camp Jesup rapidly expanded, and was the base of operations for the Motor Transport School and later the Motor Transport General Depot. On August 23, 1927, because of changes in the chain of command, Camp Jesup was consolidated with Fort McPherson. This move brought the post’s land area to approximately 373 acres.

**Interwar years (1919-1938):** Following the Great War, and with the removal of the General Hospital and War Prisoner Camp, Fort McPherson’s staff was considerably reduced. Many of the buildings that had served wartime capacities were adapted to regular operational buildings. Some barracks were converted to offices or private quarters while others became recreational centers. The old Hospital Receiving Ward was turned into a Post Library. The Post Hospital added several new wings, and a new kitchen and mess hall.

Headquarters, IV Corps Area was moved to the fort from Charleston, South Carolina, on November 15, 1920. The IV Corps Area included the former Southeast Department of the Army: North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, and Tennessee. Headquarters was located at Fort McPherson from 1920 to 1923 and then again from 1927 to 1934.

The National Defense Act of 1920 reorganized domestic forces into three categories: the Regular Army, the National Guard, and the Organized Reserves. Following the somewhat disorganized approach to the entry into World War I, the NDA made peacetime civilian training, and thus readiness, a priority. Between 1927 and 1935 several training camps were held at the fort. This advance planning resulted in more effective mobilization in 1940 and 1941.

In late 1929 the nation plunged into depression. While President Herbert Hoover’s message of hope was to “be patient,” his successor, Franklin Roosevelt took a more proactive approach with his “New Deal.” The relief effort that directly affected Fort McPherson was the Civilian Conservation Corps, which was in effect from 1933 through 1942. The CCC was in charge of work camps, instituted to give work to the unemployed. Personnel in the IV Corps Area, called District B for CCC purposes, reported to Fort McPherson for “conditioning camp” before receiving their orders. Reserve officers trained at the fort were in charge of District B’s 28 work camps, composed of 100 officers, 300 forestry officials, and 6,000 laborers. The supply depot for the district was also located at the post. In the latter part of 1939, the CCC was placed under the control of the Department of the Interior and ceased to be involved at Fort McPherson.

**Limited National Emergency/Protective Mobilization/World War II (1939-1945):** The first peacetime military draft in United States history was enacted in mid-1939. Though the war was confined predominantly to Europe at that time, Roosevelt and Congress legislatively began preparing for the fight. The build-up was in full swing in the summer of 1940, when the Army’s large expansion program endeavored to



protect the western hemisphere from aggression. The Army more than doubled in force in the second half of 1940.

Regarding Fort McPherson, this period meant expansion as well. The Atlanta National Guard Target Range, located to the west of the reservation, was annexed in 1941, bringing the total acreage to just under 505 acres, where it remains at present. The former Camp Jesup area served as a general supply depot and motor repair shop as part of the Quartermaster Motor Transport School.

Even before the United States officially entered the war, money poured into Fort McPherson for capital improvements. Barracks began to be converted to a modern hospital in late 1940, and hospital construction continued into 1943. A Reception Center was built between 1940 and 1941 to induct draftees into the service. The 50 new Center structures were built on top of the former CCC “tent city” and designed to house, clothe, and feed 1,000 men at a time.

After war was officially declared, Fort McPherson was a bustle of activity. The wartime years sparked a construction boom, with over 120 structures built or transferred to the base. Constant personnel rotation was also the norm during this period. An Army Post Office was established to not only handle the mail of the fort, but to train postal clerks for work overseas. One of the main recruiting and induction posts for the Women’s Army Auxiliary Corps in the 4<sup>th</sup> Service Command (formerly IV Corps Area) was located here. The fort’s new school for illiterate soldiers was possibly the first in the country. The wartime money flow also allowed for a new theater, laundry, ten-family guesthouse, an enlargement to the cold storage facilities, and many other improvements.

Fort McPherson served as the main depot for the 4<sup>th</sup> Service Command Motor Distribution Pool. All of the vehicles that were to be shipped to or from all units in the southeast passed through the base. Extra track was laid from the Central of Georgia railroad to accommodate the constant shipping activity, but parking for so many vehicles remained a problem (Martinez 1986:59).

The Station Hospital was most changed during the period. “The new structures added to the medical complex during the war years included five hospital wards, a contagious disease ward, two mess halls, two medical laboratories, and a dental laboratory. Also, two new barracks for the hospital personnel and new nurses quarters were constructed during this period. In addition, a 35-bed expansion of the overcrowded maternity ward was added to the station hospital” (Martinez 1986:62).

Fort McPherson was selected as a location for one of eighteen large new Army Personnel Centers in 1944. The Personnel Center consisted of center headquarters, an induction station, a reception station, a Reception Center, and a Separation Center. The Women’s Army Auxiliary Corps received its first permanent assignment to Fort McPherson in 1945, with orders to staff the Personnel Center. By December, 3,221 military and 322 civilian staff were employed there. The Separation Center required most of the PC’s workforce to process the returning soldiers (as well as corpses). The Separation Center closed on June 30, 1946.

**Cold War (1946-1989):** In the late 1940s, Fort McPherson became Headquarters, Seventh U.S. Army, to be replaced by the Third U.S. Army when it returned from overseas. The old Reception Center was converted to office space and other necessities, as the mission of the Third Army was to serve as administrative headquarters for all of the seven southeastern states: North and South Carolina, Georgia, Florida, Alabama, Mississippi, and Tennessee.

The addition of Headquarters to Fort McPherson resulted in a severe housing shortage. The post itself began conversions to accommodate the influx of permanent personnel, as twenty-two new two-story brick buildings contained family housing for officers. Twenty old Reception Center barracks buildings were renovated into apartments for both noncommissioned and regular officers. In 1949, two more noncommissioned officers' quarters were added.

The land area of the reservation was still not adequate to provide for the housing needs of the expanded military community. The Wherry Bill of 1949 granted money to private firms to build military housing units, and two such housing projects were undertaken just to the west of the installation. A total of 425 family units were assembled there. Recreation and community facilities were added or renovated in this period as well.

On July 1, 1973, the Third Army was replaced at the installation by the U.S. Army Forces Command. FORSCOM's primary mission was to concentrate on combat-readiness: "Forces Command is responsible for the command and control, unit training, and operational readiness of all deployable combat and supporting forces of the Active Army, National Guard, and Reserves.... The activation of Forces Command with its headquarters in Patton Hall brought a new prominence to Fort McPherson as the home of this new command with such vast military responsibilities" (Martinez 1986:86).

Fort McPherson took over command of the Atlanta Army Depot, renamed Fort Gillem, one year later, on July 1, 1974. This acquisition quadrupled the land-area associated with the installation. The U.S. Army Hospital at Fort McPherson was inactivated on October 1, 1977. The U.S. Health Clinic took its place, operating on an outpatient only basis.

In 1983 the Third U.S. Army was reactivated and its headquarters returned to the post. Its mission was now to serve as the Army component of U.S. Central Command with responsibilities of planning, exercising, and deploying units to handle crisis situations in the areas of Asia, Africa, and the Persian Gulf.

A brand new Command and Control Building for FORSCOM headquarters was constructed in the old Reception Center area between 1983 and 1986. The Fort McPherson Information Center was activated in 1986, and provides training, hardware and software installations, technical user and consultant services, and developed and maintains a user self-help training center.

The small land-area of the reservation has made renovation and demolition a fact of life at the fort. The late 1980s were no exception: building uses continued to change

and updates and upgrades were made in many areas, including HVAC, water, and sewer systems.

Throughout the 1980's, the U.S. Army began to place a higher priority on responding to smaller regional threats closer to home, using fewer forces, requiring quick mobilization, and employing elite units. Success in crises such as Grenada and "Operation Just Cause" in Panama is evidence of the key planning and proper execution of forces by FORSCOM. However, without the logistical and technical support provided by Fort McPherson's garrison, FORSCOM would not have been as effective in accomplishing its goals and objectives to provide forces for such operations [Martinez 1986:91].

Fort McPherson increased in strategic importance when FORSCOM became a Specified Command in 1987. The new mission charges FORSCOM with (1) the responsibility for combat-ready conventional Army Forces for strategic reinforcement of other unified and specified commands worldwide, (2) providing joint training of designated forces, (3) providing contingency planning and forces to assist civil authorities in protecting key assets, facilities and functions within the Continental United States (CONUS) that are essential to mobilizing, deploying, and sustaining U.S. Military Forces, (4) planning for military support of civil defense; the land defense of Alaska excluding the Aleutian Islands; combined land defense of U.S. and Canada; and land defense of CONUS [Martinez 1986:96].

**Korean War (1950-1953):** The installation was in the throes of a construction boom during this period, as Fort McPherson had recently been redesignated as Headquarters, Third U.S. Army.

**Vietnam War (1954-1975):** Two of the three major Son My incident (commonly referred to as "My Lai") cases were tried at Fort McPherson. "Beginning in early 1970, attention focused on activities at the post as they related to the investigation of charges arising from the incident against individuals assigned to Fort McPherson" (Martinez 1986:77). In 1971, the general court-martials of Captain Eugene M. Kotouc and Captain Ernest L. Medina created a media frenzy at the installation. The Post Library relinquished its space to the needs of the trials. Fort McPherson provided for the new media as well, in the form of a press center, many additional telephone lines, and a courtroom annex with Military Police guard. In the end, both captains were acquitted.

**D. Current and past missions (1939-1989):** Fort McPherson is currently part of FORSCOM. Its earliest mission was related to the training of troops.

**E. Infrastructure/building/structure/landscape types**

**NRHP Eligible Districts:** One listed district comprising the 40 remaining original buildings

**NRHP Individually Eligible Buildings/Structures:** 28 buildings determined eligible for the NRHP with two currently in dispute (Grashof 2001)

**NRHP Eligible Landscape/s:** Have not yet been evaluated, however, the former parade ground, Hedekin Field, within the district constitutes an important landscape component of that district. The age and importance of the golf course are unknown.

**Installation infrastructure types:** The Cantonment is broken into administrative, recreation, family housing, and a small industrial area. The golf course is a major component of the installation covering a significant percentage of total acres. The original portion of the installation is laid out in rectilinear fashion with the parade ground separating the officer's quarter's area and working areas. This separation is typical of Army nineteenth-century and early twentieth-century installation design.

**Installation building/structure types:** By and large, the majority of installation's buildings were constructed either pre- or post-Cold War. Since the buildings are not named within Grashof's report (2001), it is difficult to know the types of Cold War buildings. Given the installations' training and administrative history it is probable that the majority of the Cold War buildings are BASEOPS, including housing, which are generally not eligible for the NRHP.

**Installation landscape:** As noted previously the installation has not had a landscape survey. However, the former parade ground is in integral part of the old installation. In addition, the golf course is a significant feature of the installation covering a large area.

**Significant installation architects:** Unknown, however, it is probable that the majority of the early buildings were designed and constructed by the Army Corps of Engineers.

**Significant structure/building style/s:** Fort McPherson has a number of historically interesting buildings. Spanish-American War prisoners were housed in the post chapel. During World War I, German POWs also were held here. Many of the homes located west of the post were later built on the cement slab foundations left behind after the prison barracks were torn down in 1919 (Fort McPherson 2004).

The former Red Cross building, constructed in the shape of a Maltese cross, was built in 1918 as a convalescent center of hospital patients. In 1919 the building was taken over by the Army and converted into a service club. Today, it is the oldest service club in the Army still in use and operating from its original structure (Fort McPherson 2004).

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## 5.5 FORT STEWART

- A. **Installation name/address:** Fort Stewart/Hinesville, Liberty, Long, Bryan, Evans and Tattnal counties

**Installation's historic name/s:** Camp Stewart (1941-1956), Fort Stewart (1956-present)

**Installation's current and past service branch/es:** Army

**Installation's geographic size:** 279,271 acres (Office of the Deputy Under Secretary of Defense 2003)

**Number of bldgs owned/sqft:** 1,562 buildings, 10,016,337 sqft (Office of the Deputy Under Secretary of Defense 2003). Although Hunter Army Air Field (AAF) is under the command of Fort Stewart, Panamerican, per the SOW, prepared a separate history for it (see Section 5.6). Evans Basefield is also associated with Fort Stewart. The area was constructed in the late 1960s when Stewart became part of the Advanced Flight Training Center. Buildings are found at the site, but their numbers are not known. Wright AAF is within the boundaries of Fort Stewart. Originally called Liberty Field, Wright AAF was used by the Women's Airforce Service Pilots (WASPs), and later by the 1980s by the Georgia Air National Guard. The field was closed in the 1990s because the small size of the runways and the need to repair them. Liberty County officials and Fort Stewart are in negotiations over Wright AAF as a site of a possible industrial plant and civilian aviation facility (GlobalSecurity.org 2004p). Wright AAF has a control tower, two sets of parallel main runways that intersect in the shape of an X (i.e., "XX"), three hangars, administrative buildings, a fire station, and a cantonment area (Kuranda et al. 2002:B-25).

- B. **Date/s of establishment:** 1940

**Reasons for establishment/disestablishment:** Military build-up to World War II

**Reasons for location:** The location was chosen for its low property value, its proximity to the important port at Savannah (for both defense and transportation reasons), and the relatively low number of people that the new installation would displace.

- C. **Brief history of installation**

**Pre-World War I:** Installation had not been established.

**World War I (1917-1918):** Installation had not been established.

**Interwar years (1919-1938):** Installation had not been established.

**Limited National Emergency/Protective Mobilization/World War II (1939-1945):** The original 5,000-acre tract for Camp Stewart was purchased in 1940. Camp Stewart was named in honor of General Daniel Stewart who fought with Francis Marion, the Swamp Fox, during the American Revolution becoming one of the country's military heroes. Civilian work crews from Savannah were hired to construct the mostly temporary buildings of the camp. Anti-aircraft artillery training began in January 1941



and all housing and troop facilities were completed the next month. Contemporary observers noted a “tent-city” on the site throughout the 1940s, as canvas seems to have been a popular low-cost wall covering.

Installation expansion continued throughout the war, both structurally and through land acquisition. Liberty Field, a small local airport, was annexed during this period. It was renamed Wright Army Airfield in 1968. From this runway, Women’s Airforce Service Pilots (WASP) of the 3<sup>rd</sup> Tow-Target Squadron stationed at the reservation flew planes towing targets for live-fire exercises in conjunction with the artillery training. Basic training was also a primary mission of the installation during the war.

By the end of 1944, the frenzy of war was already dying down at the base. Anti-aircraft artillery training was discontinued, and the post was used as a cooking school and postal unit-training center. A separation center operated briefly at Camp Stewart after the war, and the installation was deactivated in July 1946.

**Cold War (1946-1989):** From July 1946 until the beginning of the Korean War, Camp Stewart was used intermittently as a summer camp for training Georgia National Guard units. A hurricane in 1947 damaged or destroyed many hastily built structures. In 1954, Camp Stewart became the Antiaircraft Artillery and Tank Training Center. Camp Stewart saw little consistent activity after Korea, but was named a permanent installation (i.e., Fort Stewart) in 1956. From 1955 to 1962, National Guard units once again made their summer home at Fort Stewart. In 1959, Fort Stewart was renamed the U.S. Army Armor and Artillery Firing Center (Kuranda et al. 2002:B-26).

The Cuban Missile Crisis created a flurry of activity at Fort Stewart. This clear violation of the Monroe Doctrine left President Kennedy with two choices—blockade further shipments from the Soviets to the island or conduct air strikes against Cuba and the Soviets and invade the island (Fortune and Maggioni 2002). Kennedy opted for the former but prepared for the later. In 1962 all U.S. troops were put on formal alert and the Navy was ordered to blockade the island. A thousand Air Force bombers and fighters were transferred to Homestead AFB and McDill AFB while hundreds of Navy and Marine Corps planes were sent to Boca Chica NAS, Key West, or operated off eight aircraft carriers in the area. The JCS raised the alert status to DefCon 5 and ICBM sites were put on special alert (Fortune and Maggioni 2002).

The only division-sized Army ground unit deployed as a response to the crisis was the 1<sup>st</sup> Armored Division, Fort Hood, Texas, which was ordered to Fort Stewart. For six weeks the 1<sup>st</sup> conducted live-fire and amphibious training exercises off the coast of Georgia and Florida. While at Stewart, the 1<sup>st</sup> lived in tents and used makeshift bathrooms and mess halls (Fortune and Maggioni 2002).

On November 26, 1962, President Kennedy undertook a whirlwind one-day tour to inspect and thank air, sea and land units that participated in the response to the crisis. He visited Homestead AFB, Boca Chica NAS, and Fort Stewart. At Stewart he reviewed the troops and gave a speech of thanks at the Donovan Parade Ground from the reviewing stand. In December 1962, the 1<sup>st</sup> was ordered back to Texas and Fort Stewart shrank, virtually overnight, to pre-crisis levels (Fortune and Maggioni 2002).

In 1979, the Rapid Deployment Joint Task Force came into being and the 24<sup>th</sup> Infantry Division, stationed at the installation, was upgraded to Mechanized and became an integral part of the RDJTF plan. The replacement of World War II temporary structures began in earnest in the late 1970s, and the fort's buildings and facilities were upgraded throughout the 1980s. The 24<sup>th</sup> Infantry Division (Mechanized) trained at the base for over ten years before finally being called to duty in 1990 for Operation Desert Shield.

**Korean War (1950-1953):** Camp Stewart reopened as the 3<sup>rd</sup> Army Antiaircraft Artillery Training Center in August 1950, and continued in that capacity throughout the war. In 1953, work began on firing and maneuvering tank areas. This feature of the post drew many visiting units in the following decade for tank training.

**Vietnam War (1954-1975):** The undemanding schedule at the post during this period encouraged construction and facility updates. The boom hit its peak both during the Berlin Crisis of 1961 and the Cuban Missile Crisis, when the 1<sup>st</sup> Armored Division, from Fort Hood, arrived to train at the installation. By 1963, however, Fort Stewart had another lull in activities.

The Vietnam conflict brought Fort Stewart back to life in 1966. Together with Hunter AAF and Liberty Field, Fort Stewart became the U.S. Army Flight Training Center in 1967; Hunter AAF was made a permanent sub-installation of Fort Stewart in 1969. By the end of 1968, 999 aviators had graduated from the consolidated FTC. In 1970, however, fewer Americans went through the school, in favor of training Vietnamese pilots at the installation. Americans were preparing to pull out of Vietnam, and by 1973, Fort Stewart's future was once again unclear.

**D. Current and past missions (1939-1989):** FORSCOM-Fort Stewart is the U.S. Army's premier heavy force power project platform on the East Coast. It is home to the most highly trained and rapidly deployable mechanized force in the world-the 3<sup>rd</sup> Infantry Division (Mechanized), the "Iron Fist" of the XVII Airborne Corps (Fort Stewart 2003).

**E. Infrastructure/building/structure/landscape types**

**NRHP Eligible Districts:** None

**NRHP Individually Eligible Buildings/Structures:** Building 15098 Remer Glisson Store (determined eligible for NRHP in 1996).

**NRHP Eligible Landscape/s:** The National Guard Training Area-Donovan Field with Building 9900, Review Stand, are eligible for the NRHP under Criteria A and B and Criterion Consideration G (Fortune and Maggioni 2002).

**Installation infrastructure types:** Camp Stewart was designed, like many other camps, with a triangular or "v" layout, and buildings built around central company area, theaters, hospitals and training areas (Fortune and Maggioni 2002).

**Installation buildings/structure types:** World War II temporary wood administration, recreation, motorpool, storage, and mess-hall buildings; Vietnam-era and late Cold

War-era aircraft operations buildings; 1970s and 1980s late Cold War-era motorpool buildings, range buildings, barracks, storage, and family housing.

**Installation landscape:** Zoned into different areas, which can be roughly divided into storage, industrial (motorpool), administration/barracks, and family housing. The industrial areas of the post have imposing concrete block buildings, chain-link fences, and acres of concrete or asphalt pavement. The administration/barracks areas utilize mostly loblolly pine as the predominant tree planting, with open green space interspersed with parking lots. The family housing areas are for the most part densely wooded with winding roads and houses set into large “superblocks” typical of most suburban developments. The best example of a designed landscape is the golf course, built in the 1960s and 1970s.

**Significant installation architects:** U.S. Army Corps of Engineers, Savannah District

**Significant structure/building style/s:** Buildings of interest: POW camp, Cooks and Bakers School and WASP’s facilities

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## 5.6 HUNTER ARMY AIR FIELD

### A. Installation name/address: Hunter Army Air Field, Savannah, Chatham County

**Installation's historic name/s:** Savannah Airport (1929-32); Hunter Field/Savannah Airport (1932-1940); Hunter Field/Savannah Airport/Savannah Army Air Base (1940-1950); Hunter Air Force Base (1950-1967); Hunter Army Air Field (1967-present)

**Installation's current and past service branch/es:** Army; Air Force

**Installation's geographic size:** 5,635 acres (Office of the Deputy Under Secretary of Defense 2003).

**Number of bldgs owned/sqft:** 690 buildings; 3.125 million sqft (Office of Deputy Under Secretary of Defense 2003). Under the command of Fort Stewart, Hunter AAF is the home of the U.S. Coast Guard Station, Savannah, and the largest helicopter unit in the Coast Guard. It provides Savannah and the southeastern United States with round-the-clock search-and-rescue coverage of its coastal areas (GlobalSecurity.org 2004h). Since the Coast Guard Station is not within the DoD, it is not discussed within this report.

### B. Date/s of establishment: 1929 as a civilian airfield, 1940 as an Air Corps base, 1950 as an Air Force Base, and 1967 as an Army installation

**Reasons for establishment/disestablishment:** World War II

**Reasons for location:** Pre-existing airfield, turned over to U.S. Army Air Corps for duration of World War II in defense of country.

### C. Brief history of installation

**Pre-World War I:** Installation had not been established, but possible Confederate earthworks have been found in the northern sector of the post.

**World War I (1917-1918):** Installation had not been established.

**Interwar years (1919-1938):** Savannah Airport opened on this site on September 20, 1929. The site did not originally possess any runways. Instead, a landing field measuring 4,500 feet by 3,500 feet was cleared and graded, in order for planes to be able to always land against the direction of the wind. In 1935, Hunter Airfield/Savannah Airport (renamed so in 1932) became the beneficiary of a Works Progress Administration project. The WPA constructed three runways, one hangar, and an administration building on the property. Hunter Field was named for World War I ace and Savannah native LTC Frank O'Driscoll Hunter (Kuranda et al. 2002:B-27).

**Limited National Emergency/Protective Mobilization/World War II (1939-1945):** By September 1940, the United States' war build-up was in full swing. At that time, the Savannah Airport was leased to the U.S. Army Air Corps, along with 150 additional acres, for national defense. The installation was intended to return to public use after



the war. Fifty-five barracks and 67 administration buildings were constructed at the post in just over 90 days. A concrete apron was added to stabilize parked aircraft.

HAAF undertook four successive missions during World War II: training (1940-1943), staging (1943-1945), redeployment (1945), and demobilization (1945-1946). Beginning with the 3<sup>rd</sup> and 27<sup>th</sup> Bomb Groups in October 1940, HAAF trained light and medium bomber units, ground support personnel, and some fighter units. In early 1943 HAAF's mission changed to a staging base, to mate crews to aircraft and prepare them for overseas combat. Its final missions involved the redeployment of over 13,000 aircrew and 1,800 aircraft from Europe to the Pacific, and the demobilization of thousands of Air Corps personnel after the end of the war.

**Cold War (1946-1989):** The end of World War II also meant a return of nonmilitary activity to Hunter. Officially deactivated in 1946, the built environment at the installation was used for many different purposes before 1950, including as an industrial park, an orphanage, apartments, and a University of Georgia extension campus.

In 1948 the 2<sup>nd</sup> Bomb Wing, Strategic Air Command, U.S. Air Force, began operating from nearby Chatham Field. The facilities at Chatham, however, proved inadequate for the needs of the SAC wing, and in November 1949 the city of Savannah and the Air Force agreed to exchange airfields. The Air Force enlarged Hunter Field into Hunter Air Force Base. In 1952 SAC also stationed the 308<sup>th</sup> Bomb Wing at Hunter AFB. Hunter AFB units initially flew prop-driven B-29 and B-50 bombers, and practiced for individual bomb runs, refueling operations, and nuclear weapon operations, while taking part in SAC-wide exercises such as wing rotation to the United Kingdom or North Africa. In 1954 SAC began operating jet-powered B-47 bombers from the installation (Mr. Joseph Paul Maggioni, personal communication, March 16, 2005).

In 1955, the 702<sup>nd</sup> Aircraft Control and Warning Squadron was transferred to Hunter AFB. With the addition of this Air Defense Command (ADC) unit, Hunter became a link in the Southeast air defense system of the 1950s, 1960s, and 1970s.

In 1956, Hunter AFB became the site of the first SAC one-third ground-alert test, Operation Try Out. The success of this test confirmed the feasibility of the SAC bomber alert concept, which kept one-third of SAC bombers on round-the-clock standby for retaliation against nuclear attack. Between 1957 and 1960, more than 60 crew readiness facilities (also called alert facilities or "moleholes") specifically designed for the ground-alert program were constructed at Hunter AFB.

Hunter was one of ten 150-man moleholes built in CONUS. Between 1960 and 1963, the Saber Hall complex was expanded. However, after 1964, the Air Force perceived the nuclear threat would be instigated by an ICBM and not a bomber and began to close moleholes. The change in perceived threat was also accompanied by the Air Force's greater emphasis on northern tier installations. This resulted in the closing of many southern bases and alert locations including Saber Hall (Unknown nda).

After playing a role in the SAC response to the Cuban Missile Crisis in October 1962, Hunter AFB became a Material Air Transport Service (MATS) base in 1963. C-124 cargo planes became the main aircraft for the short time Hunter served in that

capacity. Also in 1963, Coast Guard Air Station Savannah was activated at Hunter AFB. The base became a primary staging area for US forces intervening in the Dominican Republic in 1965 and became heavily involved in the logistics support to the growing US effort in Vietnam.

In 1967 the Army renamed the post Hunter Army Airfield (HAAF) and made it a subinstallation of Fort Stewart training helicopter pilots for the Vietnam War. After briefly closing in 1973 HAAF reopened in 1974 to serve the newly reactivated 24<sup>th</sup> Infantry Division (based at Fort Stewart), and also as a home for the 1/75 Ranger Battalion. During the latter part of the Cold War, HAAF was an element in the Army's rapid deployment force on the east coast. HAAF Rangers participated in the Grenada invasion in 1983 (Mr. Joseph Paul Maggioni, personal communication, March 2005).

**Korean War (1950-1953):** The Air Force officially moved to Hunter AFB in 1950, when it was designated a permanent installation of SAC. A \$24-million expansion project was soon undertaken:

'Tarpaper shacks and mobilization-type barracks gave way to an entirely new base exchange, a nursery, a dependents' clinic, and a well-stocked commissary,' said the Savannah Morning News in 1956. 'Within three years there was added an Olympic-size swimming pool and the finest B-50 simulator in the Air Force with an 11,000-foot runway designed to accommodate all current aircraft as well as any new type within the foreseeable future' [Unknown ndb:4]

With the new runway completed, the first jets arrived at the end of 1953. These B-47s eventually became the installation's primary aircraft.

**Vietnam War (1954-1975):** As a MATS base, Hunter experienced a steady increase in Vietnam-related missions supporting U.S. supply and logistics from 1963 to 1967. Because of the crucial role the helicopter played in Vietnam and the need for additional training facilities, the Army designated Hunter AFB (now renamed Hunter Army Airfield) and Fort Stewart as the Advanced Flight Training Center (AFTC) for helicopter and fixed-wing aircraft pilots. As part of the training center, an Army Helicopter Training Base opened at Hunter in December 1966. HAAF also became the only installation in the United States that trained pilots on the new AH-1 Cobra attack helicopter.

Scheduled for closure in 1967, the installation was saved by the intensifying Vietnam situation. Command of the installation was officially transferred to the Army in 1967, and Hunter AAF was made a permanent sub-installation of Fort Stewart in 1969. Like at Fort Stewart, American training was all but suspended by mid-1970 in support of the Allied Military Training Program, which until May 1972 focused efforts on schooling South Vietnamese nationals in aviation. More than 1,400 South Vietnamese pilots were trained during that period.

With the winding down of the American presence in Vietnam, Hunter AAF closed briefly in 1973, but reopened the following year as a subinstallation of Fort Stewart, serving as a "'power projection platform' from which the troops and equipment of the 24<sup>th</sup> Infantry Division (Mechanized) can be rapidly deployed via C-5 and C-17 aircraft" (Unknown ndb:5).

- D. Current and past missions (1939-1989):** HAAF had multiple past missions. During World War II, HAAF missions included training, staging, deployment, and demobilization. From 1950 to 1963 HAAF participated in the primary SAC mission of nuclear deterrence through supporting an alert, nuclear-capable bomber force. From 1963 to 1967 HAAF served military logistics and United States humanitarian aid transport needs. From 1967 to 1973 the Army utilized HAAF as a training base (Mr. Joseph Paul Maggioni, personal communication, March 2005).

HAAF's current mission is to provide base operations support structure for 3<sup>rd</sup> Infantry Division (Mechanized), nondivisional, tenant, and reserve component units to accomplish their war and peacetime missions (GlobalSecurity.org 2004h).

**E. Infrastructure/building/structure/landscape types:**

**NRHP Eligible Districts:** Saber Hall Complex (1960); Fort Stewart began upgrades to the Saber Hall Complex in 2003 and began working on an MOA with the GA HPO, however, the outcome of this MOA and subsequent changes are not known.

The 1200 Block (mitigated in 1999 and demolished in 1999-2001), and the SAC Operations District (eligible under Criteria A and C) comprising 61 buildings (fourteen have been mitigated). The 1200 Block consisted primarily of one-story concrete or terra cotta block administration, recreation, mess, and barracks building built during 1942-1943 by the USAAF. The SAC Operations District is a discontinuous historic district directly related to SAC nuclear deterrence, including two ASPs, an alert facility (now mitigated), and concentrations of hangars and administration buildings along the flightline (Mr. Joseph Paul Maggioni, personal communication, March 2005).

**NRHP Individually Eligible Buildings/structures:** Buildings 711 and 721, a water tower and an associated pump house constructed in 1940. In 1996, a permanent World War II aircraft hangar, Building 811 (1940) was designated as potentially eligible (Campbell et al. 1996), but the current status of this building is not known.

**NRHP Eligible Landscape/s:** Landscape associated with the SAC Operations District Saber Hall Complex

**Installation infrastructure types:** The installation has 69 miles of roads and streets (GlobalSecurity.org 2004h). Like most DoD installations, HAAF is divided into use areas that include housing, administration, maintenance and airport facilities.

**Installation buildings/structure types:** Army Cold War buildings types that could be expected to appear at Hunter include: storage facilities (warehouses, maintenance and shipping buildings, possibly igloos); communications facilities (possibly single antennas, antenna ranges, communications terminals); intelligence and surveillance facilities; training facilities and BASEOPS buildings.

Air Force installation types are Group 1: Operational and Support Installations—Base and Command Centers, Housing, Storage, Recreation, Infrastructure, Mess/Social, Communications; Group 2: Combat Weapons and Support Systems—Alert Facilities,

Maintenance Docks/Hangars, Communications, Storage; Group 3: Training Facilities—Flight Training, Intelligence Training; Group 5: Intelligence Facilities—Radar sites, Communications.

**Installation landscape:** This installation's landscape follows its several, separate use areas. The single most important landscape feature is the system of runways, the actual reasons for the installation's being.

**Significant installation architects:** Provided by Mr. Joseph Paul Maggioni (personal communication, March 2005).

***Pre-World War II***

A.S. Goebel, City of Savannah engineer, designed Building 1206, the civilian WPA hangar

***World War II***

The Butler Manufacturing Company designed Building 1290, Hangar (1943)

U.S. Army Corps of Engineers, Savannah District, designed most of the 1942-1945 construction at Hunter Field

James R. Wilkinson of Burge and Stevens, Atlanta, designed the 1940-1941 North Cantonment, the first military development of HAAF

***Cold War: U.S Air Force/SAC (1950-1967)***

Cletus Bergen designed Wherry housing (1954)

William P. Bergen designed Buildings 1275, 1276, and 1277, Barracks (1954)

Black & Veatch, Kansas City, designed the development of the SAC ASP, including its nuclear and thermonuclear weapon storage and maintenance facilities (1957)

Bowers & Barbalat of Pittsburgh designed Building 145, SAC Chapel (1955)

U.S. Army Corps of Engineers, Charleston District, designed Building 1003, public works/maintenance facility (1954)

U.S. Army Corps of Engineers, Savannah District, designed Buildings 1128 and 1129, administration facilities (1958; design of Logan B. Dixon, Jr.); Buildings 1155, 1156, and 1157, administration facilities (1955); Building 8570, operations facility (1955); Building 8581, a well facility (1958); Building 8662, sentry station (1960); Building 8663, sewage lift station (1960); and the development of the SAC ASP (1952)

Leo A. Daly, Omaha, Saber Hall Complex

Holabird & Root & Burgee and the Farm-Rite Implement Company designed Buildings 1130, 1131, and 1132, Hangars (1958)

Walter W. Hook and Associates of Charlotte designed Buildings 1450 and 1451, hospital and its heat plant (1958)

Hunter AFB architects designed Building 150, dental clinic (1959; designed by William Weatherly); Building 862, battery shop (1956; Hodges); Buildings 1406-1410, officers' housing (1958); and Buildings 8020 and 8024, radio receiver and transmitter (1954)

Kuhlke and Wade, Augusta, (with A/E Raymond J. Gauger) designed Building 925, gymnasium (1954); Building 1252, base operations facility (1957); and Building 8059, fire station (1958)

The Luria Engineering Company, New York, designed Buildings 840, 841, and 842, KC-97 nosedocks (1956)

Reynolds, Smith, and Hills designed Building 8586, administration facility (1961)

Spector and Montgomery, Falls Church, Virginia, designed Building 8056, navigation aid facility (1952)

Taylor Ironworks & Supply Company, Macon, designed Facility 8634, water tower

Thomas and Hutton & Associates, Savannah, designed Building 128, NCO Club (1955 restoration); Buildings 6005 and 6010, bachelor officers' quarters (1959); Building 6015, officers' club (1959); and Building 8058, flight control tower (1954; adapted from an original design by Reynolds, Smith and Hills)

Toombs and Company, Atlanta, designed Building 935, communications facility (1953); Building 1032, heat plant (1954); and Building 1036, warehouse (1954)

Tri-State Engineers, Savannah, designed Building 865, training facility (1958); Building 1030, Worldcom receiver facility (1952); Building 1154, administration facility (1853; design of John C. Lebey); Buildings 1212 and 1228, supply facilities (1954); Building 1295, fire station (1952); and Building 8464, standby generator plant (1952)

Wilcox, Erickson, Vogelbach, and Baumann, New York, designed Building 8583, operations center (1961)

**Cold War: U.S. Army (1967-1989)**

Diedrich Architects & Associates, Atlanta, designed Building 1327, vehicle maintenance shop (1986); and Building 6020, post exchange (1986)

Gunn & Meyerhoff, Savannah, designed Building 1282, movie theater (1977); Building 1336, vehicle maintenance shop (1986)

Helfrich, Grantham, and Helfrich designed Building 1287, community service center (1971); and Building 1288, automotive center (1971)

Merrill A. Levy, Savannah, designed Building 8593, National Guard Reserve Center (1985)

Liles and Clarke, Greenville, SC, designed Building 1279, administration facility (1976)

Lopatka-McQuaig, Winter Park, Florida, and Morales-Shumer, Jacksonville, Florida, designed Building 1292, training facility (1989)

J. Paul Hansen, principal, SDG/Hansen Architects-Land Planners Firm, Savannah, designed Building 8212, sports equipment facility

Whalley and Associates, Savannah, designed Building 1310, vehicle maintenance shop (1983)

**Significant structure/building style/s:** Saber Hall Molehole complex, early Cold War bomber hangars, and nuclear and thermonuclear weapons-storage and maintenance facilities

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## 5.7 NAVAL SUBMARINE BASE KINGS BAY

- A. **Installation name/address:** Naval Submarine Base Kings Bay/Kings Bay, Camden County, Georgia, and Nassau County, Florida

**Installation's historic name/s:** Military Ocean Terminal Kings Bay (1954-1978); Naval Submarine Support Base Kings Bay (1978-1982); Naval Submarine Base Kings Bay (1982-present)

**Installation's current and past service branch/es:** Army/Navy

**Installation's geographic size:** about 16,000 acres

**Number of bldgs owned/sqft:** 456 buildings, 6,664,985 sqft (Office of the Deputy Under Secretary of Defense 2003)

- B. **Date/s of establishment:** 1954/1978

**Reasons for establishment/disestablishment:** The Army wanted an ocean terminal/supply hub for national emergencies. The Navy commissioned the installation in 1978 as a forward refit site for Submarine Squadron 16, then operating in Rota, Spain, using the nuclear powered Atlantic Fleet Ballistic Missile, Poseidon Class submarines.

**Reasons for location:** Unknown, although it is certain that the location along the Atlantic seaboard had something to do with the site selection.

- C. **Brief history of installation**

**Pre-World War I:** The installation had not been established.

**World War I (1917-1918):** The installation had not been established.

**Interwar years (1919-1938):** The installation had not been established.

**Limited National Emergency/Protective Mobilization/World War II (1939-1945):** The installation had not been established.

**Cold War (1946-1989):** The installation's website (Naval Submarine Base Kings Bay 2004) provides a thorough and concise history of the base. The information below is presented verbatim from the site.

The Army began to acquire land at Kings Bay in 1954 to build a military ocean terminal to ship ammunition in case of a national emergency. Construction actively began in 1956 and was completed in 1958. Since there was no immediate operational need for the installation, however, it was placed on inactive ready status.

The most prominent feature of the terminal was its 2,000-foot-long, 87-foot-wide concrete and steel wharf. It had three parallel railroad tracks, enabling the simultaneous loading of several ammunition ships from rail cars and trucks.

Elsewhere aboard the base, the Army built 47 miles of railroad tracks. Spurs off the main line ran into temporary storage areas protected by earthen barricades. These mounds of dirt, still prominent features in many areas of the base, were designed to localize damage in case of explosive accidents.

Although the Army base was never activated to serve its primary purpose, it was used twice for other missions. In 1964, as Hurricane Dora hammered the area, nearly 100 area residents were sheltered aboard base. Also, during the Cuban Missile Crisis, an Army Transportation Battalion of 1,100 personnel and 70 small boats took up position at Kings Bay. The Blue Star Shipping Company leased the base from 1958 through 1978.

The chain of events that led to today's combination of high-tempo submarine operations at Kings Bay and the complex construction project that reshaped the face of thousands of acres of land began in 1975. At that time, treaty negotiations between Spain and the United States were in progress. A proposed change to the U.S. base agreement with Spain was the withdrawal of the fleet ballistic-missile submarine squadron, Submarine Squadron 16, from its operational base at Rota, Spain. Anticipating that this would take place, the Chief of Naval Operations ordered studies to select a new refit site on the East Coast.

In January 1976, the negotiators initialed a draft treaty between Spain and the U.S.; it called for withdrawal of the squadron from Rota by July 1979. The U.S. Congress ratified the treaty in June 1976.

A site-selection steering group evaluated more than 60 sites along the Atlantic and Gulf coasts. By summer of 1976, the number of sites was narrowed to five: Narragansett Bay, R.I.; Cheatham Annex, Va.; Charleston, S.C.; Kings Bay, Ga.; and Mosquito Lagoon, Fla.

A comprehensive study evaluated each site against a number of criteria, including: costs, ability to meet required schedule, land availability to meet explosive safety requirements, operational capabilities and logistics consideration, environmental impact and growth potential for future requirements.

After careful review, Kings Bay was selected in January 1978. That same month, the first Navy personnel arrived in the Kings Bay area and started preparations for the orderly transfer of property from the Army to the Navy. Naval Submarine Support Base Kings Bay was established in a developmental status July 1, 1978. The base—now Naval Submarine Base Kings Bay, [sic] not only occupies the former Army terminal land, but several thousand additional acres.

Preparations for the arrival of the submarine squadron went forward with haste throughout the remainder of 1978 and into 1979. Commander Submarine Squadron 16 greeted the submarine tender USS *Simon Lake* (AS-33), when it arrived at Kings Bay on July 2, 1979. Four days later, USS *James Monroe* (SSBN 622) entered Kings Bay and moored alongside *Simon Lake's* starboard side to begin a routine refit in preparation for another deterrent patrol. Kings Bay has been an operating submarine base since that day.

In May 1979, the Navy selected Kings Bay as the preferred East Coast site for the *Ohio*-class submarine. On October 23, 1980, after a one-year environmental impact study was completed and with Congressional approval, the Secretary of

the Navy announced Kings Bay as the future home of the new Trident submarine.

The Trident-basing decision touched off a large building project that lasted throughout the decade. The building project included the construction of three major commands: Trident Training Facility (TTF), Trident Refit Facility (TRF), and Strategic Weapons Facility, Atlantic (SWFLANT).

On January 15, 1989, the first Trident submarine, USS *Tennessee* (SSBN 734), arrived at Kings Bay. It was followed by USS *Pennsylvania* (SSBN 735) later that same year. USS *West Virginia* (SSBN 736) was commissioned at Kings Bay in October 1990 and was followed by USS *Kentucky's* (SSBN 737) arrival in July 1991; USS *Maryland* (SSBN 738), June 1992; USS *Nebraska* (SSBN 739), July 1993; USS *Rhode Island* (SSBN 740), July 1994; USS *Maine* (SSBN 741), August 1995, and USS *Wyoming* in July 1996. The commissioning of USS *Louisiana* (SSBN 742) in September 1997 gave Kings Bay its full complement of 10 Trident submarines.

The enormous effort put forth by all the commands at Kings Bay reached fruition in late March 1990, when the Trident II (D-5) missile made its first deterrent patrol on board *Tennessee*.

The end of the Cold War and the reorganization of military forces in the 1990s affected Kings Bay. A nuclear policy review recommended the Navy reduce the *Ohio*-class fleet ballistic-missile submarines from 18 to 14 by 2005.

**D. Current and past missions (1939-1989):** Training: Trident Training; Maintenance: Trident Refit Facility; and “Delivering support to the Strategic Warfighter”: Strategic Weapons Facility, Atlantic

**E. Infrastructure/building/structure/landscape types**

**NRHP Eligible Districts:** None

**NRHP Individually Eligible Buildings/Structures:** None

**NRHP Eligible Landscape/s:** None

**Installation infrastructure types:** The Army originally created the oldest portions of the infrastructure including roads, railroads, utilities and the support mechanisms required for such a large transportation complex. As can be expected the Navy was upgraded and changed some parts of the infrastructure, however, the bones of the original can be seen.

**Installation buildings/structure types:** Cold War building types include: training—classroom buildings; logistics and operation support—inspection and test buildings, assembly buildings, and missile magazines (Kuranda et al. 1995).

The installation proper is divided into use areas with housing to the north, administrative functions to the south and west, and industrial functions and berthing areas for the submarines on the Atlantic Ocean side.

There are no buildings that pre-date the Army occupation of the land. The Army demolished or relocated all extant buildings and structures on their lands including cemeteries. Some buildings and burials were moved off-site to private land. When the Navy acquired the land no buildings, structures, or cemeteries on the base were eligible for the NRHP (Eubanks and Adams 1986).

**Installation landscape:** When the Army created the Ocean Terminal, it made significant alterations to the land. The most prominent feature of the terminal was its 2,000-foot-long, 87-foot-wide concrete and steel wharf. It had three parallel railroad tracks, enabling the simultaneous loading of several ammunition ships from rail cars and trucks.

Elsewhere aboard the base, the Army built 47 miles of railroad tracks. Spurs off the main line ran into temporary storage areas protected by earthen barricades. These mounds of dirt, still prominent features in many areas of the base, were designed to localize damage in case of explosive accidents. While the huge wharf is now gone, railroad spurs and blast mounds from the period can still be found on the installation.

**Significant installation architects:** Unknown. It is probable that the various Trident-missile-associated buildings were designed by any one of a number of significant Cold War military/industrial architects that worked with DoD facilities associated with nuclear capabilities.

**Significant structure/building style/s:** It is possible that the Trident nuclear buildings are significant, not for their style, but for their role in the Cold War.

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## 5.8 NAVAL SUPPLY CORPS SCHOOL ATHENS

**A. Installation name/address:** Navy Supply Corps School Athens/Athens, Clarke County

**Installation's historic name/s:** University High School, Rock College, State Normal School

**Installation's current and past service branches:** Navy, personal and training division, Navy Supply Corps; Chief of Naval Education and Training (CNET)

**Installation's geographic size:** 58 acres

**Number of bldgs/sqft:** 78 buildings at 450,270 sqft (Office of the Deputy Under Secretary of Defense 2003)

**B. Date/s of Establishment:** 1954

**Reasons for location:** George State Representative Hammond Johnson, Hull County, a Commander in the U.S. Navy Reserves, upon hearing that the Supply School was searching for home, invited the Navy to acquire the then dilapidated and abandoned old State Normal School site. Following months of discussions with the University of Georgia (owner of the site), the State Normal School buildings and grounds were purchased for creation of a permanent Navy Supply Corps School (Thomason and Associates 1996).

**Reasons for establishment/disestablishment:** Until the establishment of the Supply School at Athens, the Navy Supply Corps had no permanent school for the training of supply officers. The school had been located at various institutions and in 1946 moved to the Navy Supply Depot in Bayonne, New Jersey, as a tenant activity. With the press of the Korean War the school had outgrown the Bayonne site and had begun seeking a new location.

**C. Brief history of installation**

**Pre-World War I:** The site was a series of non-military schools and colleges.

**Interwar years (1919-1938):** The site was a series of non-military schools and colleges.

**Limited National Emergency/Protective Mobilization/World War II (1939-1945):** The site was a series of non-military schools and colleges.

**Cold War (1946-1989):** The Supply Corps School was established at the end of the Korean War as the only school specifically designed for the training of Supply Corps officers. After the Navy took over the site, it began an ambitious plan that included new officers quarters, single-family housing, a swimming pool and other amenities (Thomason and Associates 1996).

Throughout the 1960s the installation continued to expand and began acquiring land and demolishing old Normal School buildings. By 1972 the installation was well-established and training about 600 junior officers a year. In 1974 the Navy Supply



Corps Museum was opened in the Carnegie Library. Building continued apace and the facilities of the school are still used to train officers and enlisted men (Thomason and Associates 1996).

**Korean War (1950-1953):** The facility had not been established.

**Vietnam War (1954-1975):** Continued training officers.

- D. Current and past missions (1939-1989):** Original mission: "To provide students with such instructions in supply duties ashore and afloat so as to qualify them to perform with credit to themselves and the naval service." The training was to prepare officers to be "ready for sea," the Naval Supply Corps' motto (Thomason and Associates 1996). Current mission: "NSCS provides professional development through logistics, administrative and media training for Department of Defense and international personnel" (NSCS 2004).

**E. Infrastructure/building/structure/landscape types**

**NRHP eligible district/s:** Oglethorpe Avenue Historic District, 1987 (primarily Victorian residences and the remaining State Normal School buildings)

**NRHP individually eligible building/s and structure/s:** Navy Supply Corps Museum (restored Carnegie Library)

**NRHP eligible landscape/s:** The landscape associated with the Oglethorpe district includes: "parklike" spaces, the parade grounds on the former campus, and the tree-lined Oglethorpe Avenue." The grounds are described as "largely informal and consisting of large mature plantings of oak and dogwood as well as numerous plants used around the foundations of the buildings as hedges. The parade grounds... adjacent to Oglethorpe are shaded by large oaks planted at regular intervals. Oglethorpe Avenue on the north side is edged by a planting of mature oaks as well as large privet hedges in several areas" (Thomason and Associates 1996).

**Installation infrastructure types:** Typical street networks, many of which pre-date the installation.

**Installation building/structure types:** An architectural survey conducted in 1996 (Thomason and Associates) divided the buildings and structures of NSCS into three types: housing, administrative/operations buildings, and service/industrial buildings. The school has a number of Wherry-Capehart era quarters as well as historic quarters related to the State Normal School and Oglethorpe Avenue area. The school contains many operations buildings related to training and administration. These are primarily modern brick buildings that replaced the Normal School buildings. Service and industrial buildings tend to be Cold War era structures replacing the old Normal School buildings. The installation has a commissary, clinics, museum, child development center, and a number of recreational facilities including a pool, ball fields, picnic shelters, and gym.

NSCS is the home of the Navy Supply Corps Museum, which is housed in a former Carnegie Library.

**Installation landscape:** As is typical of most installations, an attempt has been made to segregate activities to areas of the base. Newer housing, in this case, is now clustered around the outer edges of the installation separating it from the daily activities of the school. Since this is solely a training facility, the administrative and classroom buildings are intermixed.

**Significant installation architects/engineers/builders:** Heery & Heery, Atlanta

**Significant installation building/structure style/s:** Vernacular Victorian, Queen Anne, Colonial Revival, Craftsman bungalow, and Neoclassical

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## 5.9 DOBBINS AIR RESERVE BASE

### A. Installation name/address: Dobbins Air Reserve Base/Marietta, Cobb County

**Installation's historic name/s:** Rickenbacker Field, Cobb County Army Airfield (1941-1943), Marietta Army Airfield (1943-48), Marietta Air Force Base (1948-1950), Dobbins Air Force Base (1950-1992), Dobbins Air Reserve Base (1992-present). The histories of Dobbins ARB, Naval Air Station Atlanta, and Lockheed Martin Aeronautical Systems (also Air Force Plant 6, now Defense Plant No. 6) are so intertwined that it is virtually impossible to pry them apart. Because of the interconnected nature of these three facilities, information provided here and in the sections of NAS Atlanta and Lockheed Martin, Defense Plant No 6, may be misplaced (see addendum to this section for information on Defense Plant No.6).

**Installation's current and past service branch/es:** Army, Air Force

**Installation's geographic size:** 1,666 acres (Office of the Deputy Under Secretary of Defense 2003)

**Number of bldgs owned/sqft:** 92 buildings, 961,937 sq ft (Office of the Deputy Under Secretary of Defense 2003)

### B. Date/s of establishment: 1942

**Reasons for establishment/disestablishment :** Unknown

**Reasons for location:** Unknown

### C. Brief history of installation

**Pre-World War I:** The installation had not been established.

**World War I (1917-1918):** The installation had not been established.

**Interwar years (1919-1938):** The installation had not been established.

**Limited National Emergency/Protective Mobilization/World War II (1939-1945):** A concise history of the installation can be found in the National Park Service report, *United States Air Force Cultural Resources Service-wide Overview Project: Dobbins Air Reserve Base, Air Force Reserve Command, Cobb County, Georgia* (Van Voorhies and Russo 1996).

The present location of Dobbins ARB was originally the site of Rickenbacker Field, a small county airport in Marietta, Georgia. The federal government acquired the field and on June 10, 1942 it became Cobb County Army Airfield. Almost immediately the name was changed to Marietta Army Airfield and the installation began operating as a B-29 bomber assembly site in 1943. The B-29 Stratofortress was built by Bell Aircraft Corporation on the installation and aviators were trained there throughout the war (Van Voorhies and Russo 1996:3). The construction of the Bell Bomber Plant required one of the largest earth-moving projects attempted to that date. Grading

began in May 1942 and ended two years later. It required the removal of eight million cubic yards of earth (Science Applications International Corporation 1994a).

**Cold War (1946-1989):** From Van Voorhies and Russo (1996):

The Georgia National Guard reorganized its principal flying units at the base in 1946 when federal recognition was granted to the Guard's 54<sup>th</sup> Fighter Wing Headquarters, 116<sup>th</sup> Fighter Group, and 128<sup>th</sup> Fighter Squadron. The Bell plant closed down operations in 1947, and the installation was placed in caretaker status under the Army Air Force. After the separation of the Air Force from the Army, the installation's name was again changed in 1948 to Marietta Air Force Base, and the base's mission was expanded to include training reservists. In the early 1950s, transports were assigned to the base, including C-47s, C-54s, C-123s, and C-124s. In 1950, the base was renamed Dobbins Air Force Base, honoring Capt. Charles M. Dobbins of Marietta, GA who was killed when his C-47 was shot down over the Mediterranean in 1943.

It was also in 1950 that the Air Force Reserve 94<sup>th</sup> Bombardment Wing was activated at the base. In 1951, the former Bell bomber assembly plant [Air Force Plant Number 6] was reopened by Lockheed Aircraft Corporation of California, and was used to modify B-29s for the Korean War and later to produce B-47 bombers. The 482<sup>nd</sup> Fighter Bomber Wing, a reserve unit, was assigned to the base in 1952 with its P-51 and B-26 aircraft. The 94<sup>th</sup> Bomb Wing was deactivated; by 1956 the 482<sup>nd</sup> was also deactivated, and the 445<sup>th</sup> Tactical Fighting Wing moved to Dobbins AFB. The Naval Air Reserve came to Dobbins in 1959. In 1972, the 94<sup>th</sup> returned as host unit to Dobbins and in 1992 became known as the 94<sup>th</sup> Airlift Wing, reflecting the Air Force's restructuring. Also at that time, the installation was renamed Dobbins Air Reserve Base. The base today exemplifies the "Total Force" policy adopted by the DoD in 1973, with civilian personnel and multiple branches of the military present and working side by side to accomplish the mission requirements of Dobbins ARB [Van Voorhies and Russo 1996:3-4].

**Korean War (1950-1953):** During this period, Dobbins hosted training missions primarily for the Air Force Reserves. In addition, the installation was home to one of only eleven Air Defense Control Centers (ADCCs) in the United States in the early 1950s (Weitze 2003:528). Much of the activity at Dobbins during the Korean conflict was centered in the resident installation called Air Force Plant 6, run by the Lockheed Aircraft Corporation. The base shared runways and airspace with this independent, but largely government-owned, manufacturer.

**Vietnam War (1954-1975):** The infrastructure at the base, specifically the runways, was upgraded to accommodate the technological advances that came with the Cold War mission of constant readiness. A single 10,000-foot long runway was constructed in 1955. Naval Air Station Atlanta was relocated from Camp Gordon to the property adjacent to Dobbins AFB in 1959. The NAS also had a training mission and shared Dobbins' runways. The base also continued to provide support for the Air Force Plant 6 and Lockheed activities, which greatly increased during this "hot" period of the Cold War.

**D. Current and past missions (1939-1989):** Dobbins is the largest multi-service reserve-training base in the world. It is owned by the Air Force Reserve and supports more

than 10,000 guardsman and reservists from the Army, Navy, and Marines. The base provides runways, control tower, weather and rescue services to all tenants.

## E. Infrastructure/building/structure/landscape types

**NRHP Eligible Districts:** None

**NRHP Individually Eligible Buildings/structures:** J.C. Bankston Rock House, Bldg. 510 (1938-39, predates military installation). A 1994 report concluded that there were no Cold War-eligible resources on Dobbins (Science Applications International Corp. 1994a).

**NRHP Eligible Landscape/s:** To date, none

**Installation infrastructure types:** Infrastructure is typical of any military installation and includes: road systems, utilities support, sewage and water support, sidewalks and open areas. The installation was built around an orientation to the runways.

**Installation buildings/structure types:** Although the types are not mentioned in any report, it can be assumed that Cold War buildings types include: storage, magazines, offices, classrooms, housing, shops and maintenance facilities.

**Installation landscape:** No study has been completed on landscape, however, given the breadth of NRHP Cold War buildings it can be assumed that none exist.

**Significant installation architects:** Robert & Company designed many buildings for Naval Reserve Air Base (NRAB) Atlanta/NAS Atlanta, Dobbins ARB (as Rickenbacker Field) and Air Force Plant 6.

**Significant structure/building style/s:** Pyramidal cottage, English Cottage

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## **G. Addendum—Lockheed Martin Aeronautical Systems, Air Force Plant 6/Defense Plant No. 6**

**G1. Installation name/address:** Lockheed Martin Aeronautical Systems, Air Force Plant 6 or Defense Plant No. 6

**Installation's historic name/s:** Government Aircraft Plant (GAP) No. 6

**G2. Date/s of establishment:** 1941, operations began 1943

**Reasons for establishment/disestablishment:** This was one of the last government-owned, contractor-operated (GOCO) facilities built to manufacture heavy bombers during World War II. It was operated by Bell Aircraft Operations and made the Bell B-29 "Superfortress" (Scott 2003).

**G3. Brief history of installation:** Robert & Company, a major architectural/engineering firm in the Atlanta area, designed the original buildings for Air Force Plant 6 in 1942. Unlike most World War II structures, which were considered temporary mobilization-type

buildings, these were to be constructed of brick and steel. These materials were consistent with the proposed functions of manufacturing and maintenance, but also lent a permanent feel to the buildings.

The facility was one of many GOCO resources in the country. Bell Aircraft Corporation moved in as a subcontractor for Boeing to manufacture the B-29 heavy bomber at the site in 1943. Marietta Army Airfield (Dobbins ARB) was in the process of construction adjacent to the plant, and had to re-evaluate its runways, even before they were used, to accommodate the B-29s. The company continued manufacturing B-29s until the end of the war. The largest aircraft factory under one roof, the plant assembled 668 B-29 bombers between 1943 and 1946. After the war the facility was used primarily for storage and by Dobbins AFB, until the Korean conflict.

**Cold War (1946-1989):** The manufacturing facilities at Air Force Plant 6, closed at the end of World War II, once again sprang into action in 1951. "The Korean War was the stimulus for reactivating the plant at the installation, the kind of rapid mobilization envisioned in the middle 1940s" (Weitze 2003: 528). Lockheed Aircraft Corporation took over for Bell Aircraft at that time. Since that time, Lockheed has used the plant for the assembly of B-47, P-3, C-141, C-5, and C-130 aircraft, among others (Earth Tech 1997).

Still riding the Korean War surge in production, Air Force Plant 6 boasted 20,000 employees in 1955. By this time, "the Georgia division of Lockheed had physically augmented the plant through an addition of 140 acres to support future design and research efforts by the company. The land and facilities were Lockheed-owned, over time housing laboratories and test structures for internal corporate R&D" (Weitze 2003: 531, 533).

By 1960 that number had dropped to about 10,000. The Cuban Missile Crisis and the build-up to Vietnam once again inflamed the pace of aircraft manufacturing and the plant's workforce rose to over 33,000 employees. Production at AFP 6 was mostly focused on large transport aircraft in this period. "Throughout the later Cold War, Lockheed-Georgia continued sophisticated R&D analysis at its Marietta facilities (Weitze 2003:533).

**Korean War (1950-1953):** The Lockheed Aircraft Corporation reactivated the plant for the Air Force in 1951 as a result of exigencies caused by the Korean War. The plant reconditioned B-29s as well as built and maintained B-47s and other aircraft. The increasing production line necessitated facility upgrades:

Partially to support the B-47 program, AFP 6 and Dobbins AFB acquired additional buildings and structures. An initial step was the extension of the 6,000-foot runways to 7,500 feet during 1952-1953 (with widening to 200 feet). The Air Force added a fully new 10,000-foot runway for joint Dobbins and AFP 6 use in 1955... For the reopening of AFP 6, Lockheed added a flight operations hangar and a radar electronics building, both designed in 1953 by Robert & Company. Robert & Company patterned the flight operations hangar after a Boeing facility in Wichita, Kansas (at today's McConnell Air Force Base) [Weitze 2003: 528].

**Vietnam War (1954-1975):** The build-up to Vietnam energized the plant and accelerated the pace of aircraft manufacturing, focusing largely on large transport aircraft and prompting more new construction:

Buildings included a paint hangar of 1963 for very large aircraft, an aircraft modification hangar of 1964, and an empennage mate-and-trim building of 1967... In 1965, Lockheed added radar transmitting and receiving structures at AFP 6 [Weitze 2003: 533].

#### **G4. Infrastructure/building/structure/landscape types**

**NRHP Eligible Districts:** None

**NRHP Individually Eligible Buildings/structures:** Air Force Plant 6 has ten eligible buildings and structures in the Bell Bomber Plant district: Building #B-1 Main Assembly Building; B-2 Administrative Office Building; B-3 Paint Shop and Storage Building; B-4 Engineering Building; B-6 Fabrications Special Project Building/Plant Protection; B-7 Steam Plant; B-21 Gas Station; U-124 Water Pumping Station; U-145 Dehydrated Air Compressor Building; and a Concrete Water Tower (Mr. Martyn D. Tagg, personal communication, March 23, 2005).

**NRHP Eligible Landscape/s:** To date, none

**G5. Significant installation architects:** Robert & Company, Stevens & Wilkinson (probably modeled after Willigoos, Strobel, Panero & Knoerle)

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#### **General References**

See Subsection 5.9 F above for appropriate general references.

## 5.10 MOODY AIR FORCE BASE

**A. Installation name/address:** Moody Air Force Base/Valdosta, Lowndes and Lanier counties

**Installation's historic name/s:** Moody Field (1941-1946), Moody AFB (1951-present)

**Installation's current and past service branch/es:** Army (U.S. Army Air Corps)/Air Force

**Installation's geographic size:** 8,722 (Office of the Deputy Under Secretary of Defense 2003)

**Number of bldgs owned/sqft:** 460 buildings, 2,683,754 sqft (Office of the Deputy Under Secretary of Defense 2003). Moody has an associated facility, Avon Park Force Range in Polk and Highlands counties, Florida. Avon Park is a 106,000-acre bombing and gunnery range with a number of historical names including: Avon Park Army Air Field, Avon Park General Bombing Range, and Avon Park Air Force Base.

**B. Date/s of establishment:** 1941

**Reasons for establishment/disestablishment:** Training field for Army Air Corps

**Reasons for location:** Available land, local petitions/support for military installation

**C. Brief history of installation**

**Pre-World War I:** Installation had not been established.

**World War I (1917-1918):** Installation had not been established.

**Interwar years (1919-1938):** Installation had not been established.

**Limited National Emergency/Protective Mobilization/World War II (1939-1945):** During the Great Depression of the 1930s, Lowndes County and the town of Valdosta, like many other communities, looked to the federal government to rejuvenate the local economy through the military buildup. In 1940, county residents officially petitioned the War Department for an Air Corps installation. The unimproved land was transferred from the Department of Agriculture to the War Department in May 1941, and Lowndes County had its base, called Moody Field in honor of Major George Putnam Moody an early aircraft pioneer.

“Air power played a major role in the U.S. military build-up in preparation for possible armed involvement in World War II... By 1941, the air corps needed to train thirty thousand pilots annually, requiring an even greater expansion of training facilities” (Messick 1999:13). Moody and other regional training bases would be under the command of the Southeast Air Corps Training Center at Maxwell Field, Alabama.

The construction frenzy began July 28, 1941. At Moody Field, most buildings erected in the World War II era were considered temporary and built with the most cost-effective and abundant materials. Only base infrastructure and building types requiring

certain substantial materials were excluded from this model; metals were conserved for the war effort if at all possible. Architectural style was largely unconsidered. Often, specific buildings were erected using standardized Constructing Quartermaster's plans and altered to suit local conditions as necessary. "The quintessential two-story barrack of the 700 series was built in great numbers at Moody Field" (Messick 1999:17). Further, "Moody was designed with interrelated component parts that functioned together to fulfill the purpose of the installation" (Messick 1999:41). The base opened with only four runways and 16 supplemental landing strips.

The first military personnel arrived November 25, 1941. Thirty-one Quartermaster personnel joined the 58<sup>th</sup> Air Base Group to inaugurate the installment. The major mission of Moody Field was to train two-engine pilots for combat. By spring of 1942, Moody Field was "home" to 350 officers, 450 flying cadets, 3,000 enlisted soldiers, and 20 nurses. Nine school squadrons resided at the field, as did three base squadrons. Between 1942 and 1945, 7,212 pilots graduated from Moody Field, after completing a seven-month training program.

German POWs were interned at the post beginning in November 1943. Vacant temporary barracks were surrounded with wire fencing and guard towers to house them. Between 400 and 500 POWs lived in the 22-building secured camp. The men worked at the base and were employed in the surrounding community when there was a labor shortage.

Women also had a place at Moody Field. The WAC detachment stationed there had 108 members in February 1944. That year also saw the arrival of eleven Women Airforce Service Pilots. Though they were paid by the civil service rather than the military, "their services were of great value to Moody Field because they were readily available for missions for whom it would [have been] difficult to secure a qualified military pilot" (Messick 1999:28).

Though on-base housing by the end of the war could accommodate 365 bachelor officers, 607 cadet officers, and 4,130 airmen, the Valdosta/Lowndes surrounding community could not keep up with the expanding air base. There was a severe shortage of off-base housing, and the area had few recreational resources.

Housing wasn't the only early problem with the base during the war. The cadets often had to practice on substandard equipment due to wartime shortages and combat missions taking priority. African-American soldiers from the North had to adjust to the segregated southeastern installation, with separate barracks and mess halls.

Moody Field was placed on inactive status in August 1946, as a satellite station of the 2421<sup>st</sup> Base Unit, Barksdale Field, Louisiana.

**Cold War (1946-1989):** The Air Force became a separate military branch in September 1947. Moody was reactivated at the outbreak of the Korean conflict as Moody Air Force Base in 1951. The Air Training Command (ATC) took control of Moody AFB in September 1951. In the mid-1950s, Moody AFB received F-94C and F-89D aircraft and had a complete interceptor aircraft-training program. F-86 training replaced the old courses in 1957. The installation was designated the 3550<sup>th</sup> Flying Training Wing in 1958 (Messick 1998).

Throughout the 1950s, the critical housing shortage around the base continued. The post's population grew from 3,500 people in 1951 to more than 5,000 in 1955. The available units could only accommodate two-thirds of the military personnel and their families. Moreover, half of the county's non-agricultural civilian workers were employed at the base. "Federal and local officials worked together through various housing programs to create additional housing units in Lowndes County" (Messick 1999:31).

By 1961, training in T-28, T-37, and C-47 aircraft was conducted at Moody. From 1965-1973, T-41, T-37 and T-38 aircraft were used in training. In 1975 the ATC turned the base over to the Tactical Air Command (TAC) and the 347<sup>th</sup> Tactical Fighter Wing. In 1987, Moody received F-16 fighters (Messick 1998).

**Korean War (1950-1953):** Between 1950 and 1951, the newly created U.S. Air Force planned to almost double in size. New and improved bases were needed to meet the pilot-training goal of 3,000, which would rise to 7,200 annually by 1953. A National Guard unit was sent ahead to rebuild the unoccupied base, including the temporary barracks from World War II. The ATC, overseer of all entering pilot-training units, took control of 40 bases in 1951, including Moody. This installation was primarily concerned with training "all weather interceptor pilots" during the Korean War period and beyond (Messick 1999:35). The U.S. Air Force Instrument Pilot Instruction School and Phase I of the Air Force's Advanced Flying School were relocated to Moody in December 1951. Moody was also home to a short-lived Jet Transition School in 1952-1953.

**Vietnam War (1954-1975):** Moody AFB was officially declared a permanent installation on September 24, 1954. In the early years of the Vietnam period, several training schools were transferred away from Moody, dropping the base population to the pre-Korea level of 3,500. Conversely, in 1961, "the Air Force's Consolidated Pilot Training Program combined all pilot training (pre-flight, primary, and basic) into one element. This meant that students remained at Moody for 55 weeks instead of 6 months as under the former training program" (Messick 1999:35). Longer stays obviously meant another increase in installment population. Between 1961 and 1975, 4,432 pilots trained and received their wings the base's school.

Moody continued upgrading residential facilities throughout the 1960s, while most of the remaining temporary World War II structures were demolished. A new gymnasium, pool, base theater, hospital, and 40 new bachelor officers' quarters were constructed. Mission-related facilities, including shops, warehouses, an aircraft corrosion control facility, two flight-training buildings, and a fire station were also updated or built.

Following the end of the conflict in Vietnam, command of Moody AFB was transferred from the ATC to the TAC. Training was no longer the installation's primary mission. Instead, the 347<sup>th</sup> Tactical Fighting Wing was reassigned from Thailand, charged with the Cold War objective: "preparation to deploy and employ adequate forces to deter war if and if deterrence fails, provide the margin of excellence to win" (Messick 1999:36).

This fundamental change in use prompted another construction and renovation boom in the late 1970s. The four remaining World War II buildings were redesigned and classified as permanent structures. Dormitories, clubhouses, recreation centers, a new chapel, and 101 units of family housing went up on the base. New weapons storage facilities were erected, as were buildings to accommodate the new F-4 jets. The runways, last modernized in 1956, were once again redesigned to handle the heavier aircraft.

The F-4 jets were replaced in the 1980s by smaller and faster F-16s, and the 347<sup>th</sup> was finally at full operational strength. New aircraft once again necessitated new construction, for training and maintenance. The 347<sup>th</sup> was an important component in the 1980s Rapid Deployment Joint Task Force, which was later, renamed United States Central Command (Messick 1999:37).

The Grand Bay Weapons Range opened adjacent to the base as a target-practice facility in 1987. The range was equipped with “bombing pits and targets, four strafing zones, two 50-foot high observation towers to triangulate bomb positions in relation to targets, support buildings, and two parking lots...The complex was designed to allow each pilot to gain maximum training from each mission” (Messick 1999:38).

- D. Current and past missions (1939-1989):** Moody’s original mission (1941-1975) was to train pilots for the Army and then the Air Force. In 1975 the base changed from training to flying fighters when the 347<sup>th</sup> Tactical Fighter Wing relocated from Thailand. In May 2001, Moody became the 347<sup>th</sup> Rescue Wing (GlobalSecurity.org 2004k).

The 347<sup>th</sup> Rescue Wing’s mission is to organize, train, and employ combat-ready, HC-130, HH-60 rescue wing. The wing supports the 479<sup>th</sup> AETC Flying Training and 820<sup>th</sup> Security Forces. The 347<sup>th</sup> Rescue wing executes worldwide peacetime and combat search and rescue operations in support of humanitarian and U.S. national security interests (GlobalSecurity.org 2004k).

**E. Infrastructure/building/structure/landscape types**

**NRHP Eligible Districts:** In 1999 there were no eligible districts (Messick 1999).

**NRHP Individually Eligible Buildings/structures:** Building 618, steel water tower (1941) was recommended as eligible under Criterion A (Messick 1999). In 1999 no eligible Cold War buildings were identified (Messick 1999). It is not known if the GA HPO determined Building 618 eligible.

**NRHP Eligible Landscape/s:** None (Messick 1999)

**Installation infrastructure types:** The single most important infrastructure type at Moody is the runways and their support buildings and structures.

**Installation buildings/structure types:** Excluding housing, 189 buildings at Moody were constructed between 1946 and 1989. They fall into the following property types: warehouse and storage facilities (26); water/power/fuel/sewer infrastructure (23); hangar/aircraft maintenance facilities (22); weapons/munitions facilities (22); recreation facilities (19); headquarters/administration/operations office (15); motor pool/vehicle/

engineering maintenance (11); retail/banking/dining (10); religious/medical/child care/family support (10); military quarters (9); education/training facilities (9); police/fire/security (7); radar/communications (3); unknown or miscellaneous (2) and laboratories (1) (Messick 1999).

Moody also has an associated bombing range, Grand Bay Bombing Range, at the end of the runway. Moody is currently the home of the Aviation Museum.

**Installation landscape:** Although nothing was found on landscape issues, it can be assumed that landscapes here are typical of those at most Air Force bases with the largest landscape elements being the extensive patterns of runways. Messick (1999) notes that open spaces are abundant compared to standard TAC bases.

**Significant installation architects:** Air Corps Plans and Design Branch–designed aircraft hangars based on the criteria that they be easily expandable to accommodate larger aircraft, use the least expensive type of door, have interior shops, and have access from both ends (Messick 1999:16). Reynolds, Stockman, and Hill, Atlanta, were involved in the initial construction contract at Moody Field (1941). Coffee Construction Co., Eastman, Georgia, held a contract for grading; R.D. Cole Manufacturing Co, Newnan, Georgia, was contracted to build a large water tank; and E. Jack Smith was contracted for the paving of runways, taxi strips, and aprons (Messick 1999).

**Significant structure/building style/s:** POW camp (it is not clear if any portions of it remain); WASP facilities (it is not clear if any of them remain). It is not clear if the runways were reconfigured during the TAC years, although Messick (1999) indicates that Moody's current plan is not a standard TAC plan. Certainly the runways and their plans are significant structures.

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## 5.11 NAVAL AIR STATION ATLANTA

- A. Installation name/address:** Naval Air Station Atlanta is located in the southwest corner of the larger Dobbins Air Reserve Base next to Lockheed Martin, Plant No. 6 (Air Force Plant 6), also on Dobbins/Marietta, Cobb County

**Installation's historic name/s:** Naval Air Station Atlanta

**Installation's current and past service branch/es:** Navy/Marine Reserves

**Installation's geographic size:** 181 acres

**Number of bldgs owned/sqft:** 111 buildings with 694,759 sq ft (Office of the Deputy Under Secretary of Defense 2003) or 139 facilities (Moore et al. 2000). NAS Atlanta also owns facilities at two remote sites, Windy Hill, a radar site, and Lake Allatoona recreation site. The histories of Dobbins ARB, NAS Atlanta, and Lockheed Martin Aeronautical Systems (also known as—Air Force Plant 6, now Defense Plant No. 6) are so intertwined that it is virtually impossible to separate them. Because of the interconnected nature of these three facilities, information provided here and in the sections of Dobbins ARB and Lockheed Martin, Plant No 6, may be misplaced. Complicating matters, Marine Aircraft Group (MAG) 24 is located within NAS Atlanta (see addendum in subsection G, below).

- B. Date/s of establishment:** 1959 at Dobbins AFB although it has roots in the Naval Reserve Air Base (NRAB) Atlanta during World War II

**Reasons for establishment/disestablishment:** The NRAB Atlanta lacked adequate runways for jet-propelled craft in order to adequately train Naval reservists.

**Reasons for location:** Close to location of Dobbins AFB, a reservist-training site.

- C. Brief history of installation**

**Pre-World War I:** Installation had not been established.

**World War I (1917-1918):** Installation had not been established.

**Interwar years (1919-1938):** Installation had not been established.

**Limited National Emergency/Protective Mobilization/World War II (1939-1945):** NRAB Atlanta was first situated at Camp Gordon in Chamblee, Georgia, in 1941. Robert & Company designed the base's first buildings. An old World War I infantry training field was quickly converted to an airfield for the new installation, and the NRAB began fulfilling its mission of training Navy and Marine Corps aviators on March 22, 1941. "Only about 600 aviators and 700 reservists were combat-ready when World War II began" (Moore et al. 2000:V-2).

The training mission expanded dramatically after Pearl Harbor, when the United States was officially drawn into the war. The base's state historical marker reads, "Training some 3,000 pilots and over 4,000 instructors, NAS Atlanta supported the

vast expansion of naval aviation that proved decisive in the Pacific War against Japan.” When the installation’s name was changed in 1943 to Naval Air Station Atlanta, new schools were established at the base as well. These included an Instrument Flight Instructor School, a Link Instrument Trainer Instructional School, and a Control Tower Operator School.

**Cold War (1946-1989):** With the end of the war, NAS Atlanta once again focused on training non-professional forces through the Naval Air Reserve Training Program. The location, just outside of Atlanta, was deemed ideal for a Southeastern training site.

With mobilization no longer a priority, military spending was cut dramatically, except in the reserve arena, which remained a significant aspect of the program.

Deteriorating Cold War relationships with the Communist Bloc countries, led to the reorganization of the reserve program. During the post-war years, the Reserve program also gained a more defined role in the national defense policy and a higher spending priority, even as demobilization reduced the overall military budget. The Naval Reserve Program took advantage of this funding to build facilities and organize its aviation activities under the newly formed Naval Air Training Command [Moore et al. 2000:V-4].

NAS Atlanta at Chamblee boasted six buildings and 34,362 square feet of classrooms and other training space. What they did not have, however, was adequate runways to serve into the emerging jet age. While the policy of sending the newest planes only to the professional forces compromised the reserves’ training mission, it also gave NAS Atlanta plenty of time to prepare for the transition. The most cost-effective solution in the long run was determined to be an all-out move, bringing NAS Atlanta to Dobbins Air Force Base, in nearby Marietta, to share its upgraded runways. The land was transferred in 1954 and construction on the new installation began in 1957.

Robert & Company was once again contracted to design the NAS Atlanta buildings, and Stevens & Wilkinson, also of Atlanta, designed the support and personnel structures. The construction was scheduled in two phases, the first of which concluded in 1959, when the new installation officially opened. This first phase, however, somewhat undermined the base’s mission by including only 6,000 square feet of classroom space. Phase II brought the instructional facilities back up to a respectable 23,687 square feet, consolidated into one building, called the Technical Training Building (Moore et al. 2000:V-10).

**Korean War (1950-1953):** NAS Atlanta continued to train reservists throughout the Korean Conflict, but their equipment was usually out of date, negatively impacting their combat readiness. By this time, the move to Dobbins AFB was already under consideration, since the runways at the Chamblee site couldn’t safely accommodate jet aircraft, had they been available to the Reserves.

**Vietnam War (1954-1975):** The Naval Air Reserves were used for transport, not combat, during the Vietnam War. This under utilization of reserve forces was a deliberate act: “According to Rear Admiral Frederick Palmer, ‘...to mobilize the reserves, they

thought, might send the wrong signal. It was not a declared war...” (Moore et al. 2000:V-12). The deficiencies in the training of Cold War reservists could have been linked to their use of out-dated equipment, which was apparent in relation to the U.S.S. *Pueblo* incident.

The USS *Pueblo* incident in 1968 demonstrated the reserve’s lack of readiness and provided impetus for a large-scale reorganization of the Naval Air Reserves in the subsequent two years. On January 23, the North Korean military captured the USS *Pueblo*, an American intelligence-gathering ship, off the coast of North Korea. This setback to the U.S. campaign in Southeast Asia prompted President Johnson to order six Tactical Air Reserve squadrons to report for active duty... The reserve squadrons showed deficiencies in readiness that included lack of carrier qualifications and out-dated aircraft experience. These limitations delayed training operations, and the squadrons transferred back to reserve status, in most cases, without completing the syllabus [Moore et al. 2000:V-12].

Though reservists from NAS Atlanta were not called up for that mission, the station benefited from the funds allocated to update the reserve facilities and training equipment.

Much of the funding, however, went towards upgrades to benefit base personnel rather than the training mission itself. Being a relatively new installation, technology was not as advanced beyond the existing infrastructure as it may have been on some older posts. In the 1960s, a Navy exchange, a swimming pool, and new barracks were constructed. The early 1970s saw modernized housing facilities, a new bowling alley, and a dental clinic built.

Technological advances were not ignored either. A separate site, called Windy Hill, was transferred to NAS Atlanta property in 1970 for radar and air traffic control purposes. Also at that time:

The continued upgrade in equipment helped the reserves to fulfill their part in the ‘Total Force’ policy. Laid out by Secretary of Defense Melvin Laird, the total force policy replaced the draft in 1973 with a volunteer military backed by reliable reserves. The emphasis on manning, equipping, and employing effective Guard and Reserve forces made the reserves an active part of the military structure [Moore et al. 2000: V-15].

President Reagan, in the 1980s, advocated a strong, prepared military. His Cold War policy considered not only national defense, but help for other countries fighting communism. Reagan’s Secretary of the Navy—John Lehman—was a former Reserve officer and knew firsthand the training limitations of the branch. He “promoted the idea of ‘horizontal integration,’ or ensuring that reservists aircraft and training programs be identical to their fleet counterparts. This policy would enable the reserve to mesh interchangeably with the fleet, an essential component of the total force policy” (Moore et al. 2000:V-15). The “horizontal integration” plan directed more money and equipment to NAS Atlanta. Newer planes required new hangar, maintenance and training facilities. An Administration Building, encompassing over 15,000 square feet, was completed at the base in 1982. Service buildings, including a new recreation center and converted childcare center, were also built in the 1980s.

Under the Reagan and Bush administrations, increased military spending

had a direct effect on the Navy reserve program, which grew to provide 16% of the Navy's total strength by mid-decade. The department of the Navy began to realize a long-term goal of retaining valuable skills largely on a reserve basis. Modern training equipment and new facilities characterized the improvements at the naval air stations and NAS Atlanta was no exception. Station administrators appreciated the increased budgets and declared that 'overall station facilities are in excellent condition and are expected to remain this way unless funding levels are drastically reduced.' [Moore et al. 2000: V-17]

- D. Current and past missions (1939-1989):** The station's current mission is to train Naval Reservists in fleet support operations and aviation in support of the Naval Reserves larger goal of providing a viable reserve force of manpower in the event of a national emergency. Its original mission at Chamblee was the training of naval reservists, but that changed during World War II when the training was focused primarily on Navy pilots for service. When the runways became too short for jet-propelled aircraft, the activity moved to new facilities at Dobbins AFB where it continued training Naval Reserve pilots and operations staff (Moore et al. 2000).

**E. Infrastructure/building/structure/landscape types**

**NRHP Eligible Districts:** None have been identified (Moore et al. 2000).

**NRHP Individually Eligible Buildings/Structures:** None have been determined eligible (Moore et al. 2000).

**NRHP Eligible Landscape/s:** It is not clear that landscapes have been surveyed. However, given the lack of eligibility of the installation's buildings, it is doubtful that any eligible landscapes exist.

**Installation infrastructure types:** As can be expected given the installation's history, it is oriented toward the runways it shares with Dobbins and the AFP No. 6. The buildings are grouped by use as is typical. The facility's road net was at one time augmented by a railroad system. NAS Atlanta has a heating plant, and sewage lift stations.

**Installation buildings/structure types:** Administrative (offices); aircraft hangars; aircraft operations (fuel storage tanks, engine maintenance shops, wash racks, power check facility, optical landing aids, avionics buildings, arresting gear); operational support (storage buildings, flag poles, bus stops, magazines, carports, open-air storage); training (classroom spaces, admin offices, laboratories); industrial/Infrastructure (fuel distribution facilities, sewage treatment, utilities, and manufacturing); housing, recreation and commemorative (static displays)

**Installation landscape:** Unknown

**Significant installation architects:** Robert & Company, Atlanta, and Stevens & Wilkinson, Atlanta. Robert & Company designed many buildings for NRAB Atlanta/NAS Atlanta, NRAB Dallas, NAS Corpus Christi, NAS Jacksonville, Dobbins ARB (as Rickenbacker Field) and Air Force Plant 6. Stevens & Wilkinson created the B-47 hangars at AFP 6,

a next-door neighbor. Other architects/engineers include: Wise Simpson Aiken and Associates; Kun-Young & Associates; Jordan, Jones & Golding; A&E Design Group; Southern Division, NAVFAC; Day and Zimmerman; Architectural Corporation of Atlanta; John J. Harte & Associates; J. Lerner; Bradley Trebilok, Bateson-Cook Co.; Sixth Naval District; Southeastern Construction; Southern Engineering; Wurz, Wisecarver. Pruetz; Atlanta Buildings Systems; S.J. Huffstetter; Charles M. Graves Co.; Trippet Clepper Associates; R.L. Sistrunk; Fleming Corp.; Architectural Engineers and Contractors; William Bennefield; Harrison and Spenser; P.D. Stuart; Seabees; Pennebaker Co., Inc.; Advanced Builders; McNair, Johnson; The Hauseman Group; Milton Pate and Associates; Stanley L. Peters and Associates; Gann Pruitt Womack; Army Corps of Engineers Savannah; Sanders & Thomas (Moore et al. 2000).

**Significant structure/building style/s: None**

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## **G. Addendum**

The following is information on MAG 24 located within NAS Atlanta.

**G1. Installation name/address:** Marine Aircraft Group 42 (MAG-42)

**Installation's historic name/s:** None

**Installation's current and past service branches:** Marine Corps, Marine Reserve Forces

**G2. Date/s of Establishment:** MAG-42 was transferred to Atlanta in 1992

**Reasons for location:** Unknown

**Reasons for establishment/disestablishment:** MAG-42 was born during World War II but deactivate in 1945. In 1965 the group was reactivated as a Marine Corps attack squadron for the Vietnam War. During the early 1990s, the Navy developed a “Total Force” concept that redefined the role of the reserve component. As part of the Total Force concept, MAG-24 was reorganized and sent to Georgia as a mirror image of the active Marine Ground Task Force units.

**G3. Current and past missions (1939-1989):** MAG-42 is a Marine Aircraft Group in the fourth Marine Aircraft wing, Marine Reserve Forces. MAG-42 commands operations of five Marine Reserve units at NAS Atlanta. Off-site detachments included Norfolk, Virginia, and New Orleans, Louisiana. MAG-42 is involved in the marijuana eradication and drug transit interdiction related to the nation’s war on drugs.

**G4. Infrastructure/building/structure/landscape types:** Nothing is known about the infrastructure, buildings/structures, or landscape types.

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GlobalSecurity.org

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<http://www.globalsecurity.org>

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## 5.12 ROBINS AIR FORCE BASE

- A. Installation name/address:** Robins Air Force Base, Warner Robins Air Logistics Center/  
Warner Robins, Houston County

**Installation's historic name/s:** Georgia Air Depot, Southeast Air Depot, Wellston Air Depot (WAD), Wellston Army Air Depot, Warner Robins Army Air Depot (WRAAD), Warner Robins Air Depot Control Area Command, Warner Robins Air Service Command (WRASC), Warner Robins Air Technical Services Command (WRATSC), Warner Robins Air Materiel Area (WRAMA), Warner Robins Air Logistics Center (WR-ALC)

**Installation's current and past service branch/es:** Army, Air Force

**Installation's geographic size:** 8,722 acres (Office of the Deputy Under Secretary of Defense 2003)

**Number of bldgs owned/sqft:** 1,090 buildings, 13,938,528 sqft (Office of the Deputy Under Secretary of Defense 2003)

- B. Date/s of establishment:** 1941

**Reasons for establishment/disestablishment:** World War II

**Reasons for location:** Local officials bought the land and “donated” it to the government as an incentive to build an installation there. Middle Georgia was chosen primarily because it had level land for an airfield and an abundance of pure water (EA Engineering 1995).

- C. Brief history of installation**

**Pre-World War I:** The base had not been established.

**World War I (1917-1918):** The base had not been established.

**Interwar years (1919-1938):** The base had not been established.

**Limited National Emergency/Protective Mobilization/World War II (1939-1945):** The city of Macon and Bibb County legislatures collaborated in 1941 to buy 3,000 acres of land to donate to the government, in hopes of solidifying their bid for the establishment of an Army installation there. The site was at a tiny town called Wellston in adjacent Houston County. Construction began on September 1, 1941, and the installation was officially designated Robins Field in January 1942. The field was “conceived as a model layout for a major [Army] Air Service Command (ASC) Depot, and was designed to be one of the nation’s eleven ASC Control Depots” (Thomason 1991: 3). It was named for Brigadier General Augustine Warner Robins.

The U.S. Army Corps of Engineers (USACE), under the leadership of Lt. Colonel Robert Elliot, oversaw the design, construction supervision, and counter-inspection

for the base. A standard ASC plan, modified for the site's unique characteristics, was used for the layout.

The USACE would often employ civilian architects and engineers. Robert & Company, a firm that participated in numerous World War II build-up projects, was contracted to design the cantonment area of Robins Field.

The Japanese Attack at Pearl Harbor influenced the layout of the base, with the Cantonment Area separated from the Industrial Area, in December 1941. The Cantonment Area was constructed as a "dispersed airdrome" with the buildings camouflaged and spread hundreds of feet apart. The buildings in this area were not aligned, but scattered almost haphazardly across the southern half of the base [Thomason 1991:9-10].

The buildings themselves were also affected by the on-going war. Most of the structures "designed" by Robert & Company were based on standardized plans and classified as temporary. They were constructed with wood framing, as were the vast majority of wartime projects at the base. Steel was only used structurally for large industrial buildings, and building plans were sometimes modified from the standard to overcome shortages. Hollow-core tile and brick veneers often replaced real brick. Most of these temporary buildings in the cantonment area were demolished by 1991 or altered beyond recognition (Thomason 1991).

Officers' housing, both on Chief's Circle and Officer's Circle, has remained relatively unchanged since their Colonial Revival-influenced construction during the war. A Civilian Housing Area of 15 dormitories was constructed on government land three-quarters of a mile from the base itself, beginning in August 1942. Regulations set forth after Pearl Harbor required such buildings to be at least 1,000 yards from the military installation (Thomason 1991:129). Up to 2,500 people could be accommodated in these dormitories, which were necessary to house the base's workforce in the newly renamed town of Warner Robins.

The north side of the installation was dedicated to industrial functions, mostly related to the Army Air Corps post's mission of "maintaining various and numerous warplanes as well as training and dispatching over a quarter of a million maintenance, supply, and logistics field teams to every theater of war" (GlobalSecurity.org 2004m). A large Art Deco multi-hangar building, built in 1942, stands on this side of the base, with the exterior retaining many of its original qualities.

Following the war, the workforce at Robins Field dropped dramatically, after many of the B-29 bombers were "cocooned" in sprayed plastic. It would be just a short time, however, before the process of dusting them off and refurbishing them would begin.

**Cold War (1946-1989):** Supply and repair personnel at Robins AFB played a critical role in the Berlin Airlift of 1948-1949, expanding the installation's workforce. This trend continued during the Korean War and the recognition of the importance of its depot operations. As a result, it was recognized that additional housing was needed in the area. The Wherry Housing Act of 1949 provided for the funding of military housing, and projects in the Warner Robins area began in 1950. The Fickling and Walker

Rental Agency of Macon built 500 units in this first round, using plans provided by the Savannah USACE. The five standard house forms were all types of ranches in wire-brick construction, and “the planning and layout of the Wherry Housing Area reflected the typical suburban designs of the 1950s with its curved streets, cul-de-sac and adjacent parks” (Thomason 1991:77). Unfortunately, a tornado struck the area in April 1953, destroying 182 Wherry units, as well as numerous other buildings and supplies on the installation. Thus, a second wave of housing construction was undertaken in 1953.

From the late 1950s to the middle 1960s, a SAC alert mission was in place, although the base was an Air Force Logistics Command (AFLC) installation.

Events following the Korean War, notably Soviet testing of the H-bomb and development of ICBMs, led the United States to emphasize ‘air power and the principle of ‘massive retaliation’ as the means to deter Communist aggression.’ The personnel strength of the Strategic Air Command rose from 70,000 to almost 200,000, and the number of SAC aircraft was tripled to three thousand [Thomason 1991:16].

In 1959, the 15 B-52G aircraft of 4137th Strategic Wing were flown by the 342nd Bomb Squadron. In 1960, Robins AFB was designated as a major command center for the Air Force Reserve.

Robins AFB was a key depot for Air Materiel Command (Weitze 2003). During the later Cold War, installation personnel served in key resupply roles in support of the Israeli military during the 1973 Yom Kippur War and U.S. troops during the 1983 invasion of Grenada (Head ca. 2001).

In November 1986, a Position Acquisition Vehicle Entry Phased Array Warning System (PAVE PAWS) was opened on the base. The system used radar technology to “provide early warning on all submarine launched and intercontinental ballistic missiles that penetrate the radar’s coverage area” (GlobalSecurity.org 2004b; Weitze 2003). Clearly part of President Reagan’s Cold War strategy of strength and deterrence, several similar installations were scattered throughout the United States. Though PAVE PAWS served a secondary function supporting the U.S. Space Command’s space surveillance mission by tracking manmade objects orbiting earth, the Robins AFB site was closed at the end of the Cold War as a cost-saving measure. Other PAVE PAWS locations remain active, however.

**Korean War (1950-1953):** Despite the decline in staff with demobilization after World War II:

the critical role that Robins AFB and its repair and supply personnel played in the Berlin Airlift (Operation Vittles) 1948-1949 caused the work force to grow to 11,000. This trend continued with the advent of the Korean War. Once again the nation took notice of the essential role of the Depot [WRAMA at that time]. In one of their finest efforts, workers at the Center literally unwrapped and refurbished hundreds of “Cocooned” Boeing B-29 Superfortresses. Understaffed and working around the clock, they made sure that United Nations forces in the Far East had the necessary tools to fight the North Koreans. This was particularly true with the key role B-29s played in bombing Communist supply lines and staving off the

enemy's assault on Allied forces pinned down inside the Pusan Perimeter [GlobalSecurity.org 2004m].

At the end of the war, as its function changed and satellite bases were closed, its name changed again and it became the Warner Robins Air Materiel Area (WRAMA). Since that time, Robins AFB personnel have been responsible for the testing, repair, and maintenance of Air Force aircraft.

**Vietnam War (1954-1975):** Robins AFB support was also vital in the Vietnam War effort. Important aircraft and weapons were serviced and maintained through WRAMA, including the B-57, AC-119K, AC-130, and various helicopters and cargo planes. The base was also instrumental in the resupply of troops and materiel through the Southeast Asian Pipeline. "Among the weapons systems managed by WRAMA personnel during the Vietnam War was the B-57 Canberra used for night raids along the Ho Chi Minh Trail. The modification of AC-119G and K Gunships were managed entirely by Center personnel in the late 1960s" (Head ca. 2001).

The base acquired the additional, and current, name of Warner Robins Air Logistics Center (WR-ALC) in 1974.

**D. Current and past missions (1939-1989):** The basic mission of Robins has not changed since its beginnings in 1941. Its primary task is to maintain Air Force aircraft and their components. Robins AFB has the responsibility for logistics functions—procurement, supply, and maintenance—for all Air Force bases in the United States east of the Mississippi except Wisconsin and Illinois (EA Engineering 1995).

**E. Infrastructure/building/structure/landscape types**

**NRHP Eligible Districts:** Two; Officers' Circle Historic District (comprising seven structures—Buildings 400, 405, 410, 411, 412, 415, and 450) and Chiefs' Circle Historic District (comprising five structures—Buildings 500, 501, 502, 504, and 505) (Hammack 2005).

**NRHP Individually Eligible Buildings/Structures:** Building 125, Maintenance Hangar (1942), has a completed NRHP Registration Form, but it is not clear whether the building was determined eligible for the NRHP. Thomason (1991) highlights Building 220, the original Post Headquarters, as eligible. Hammack (2005) reports an additional twelve structures as individually eligible for the NRHP, although correspondence at the GA HPO could not be located. These Buildings 12, 94, 97, 98, 105, 106, 107, 110, 1400, 2067, 2081, and 2108.

**NRHP Eligible Landscape/s:** None (Hammack 2005).

**Installation infrastructure types:** Robins AFB was designed as one of eleven Air Service Command (ASC) depots and laid out according to a standard plan modified to suite local geographic conditions. The aircraft hangars and industrial area were located in the northern section of the base, while housing and service areas were located in the central and eastern sections of the base (Thomason and Associates 1993).

Approximately half of the on-base acreage has been developed in support of base mission. There are one million square feet of airfield pavement, 107 miles of roads, and 13 miles of railroad track. The installation runway is the largest in Georgia over 12,000 feet long by 300 feet wide with two 1,000-foot overruns (Unknown 1998).

**Installation buildings/structure types:** Art Deco, Art Moderne, Colonial Revival, Quonset hut, and stripped classical.

**Installation landscape:** The largest single landscape at Robins is the flight area. Unfortunately, landscape is not addressed in Thomason's cultural resources survey.

**Significant installation architects:** USACE (LTC Robert Elliot); Robert & Company; W.C. Shepard Construction, Atlanta, one of three contracting companies used for original construction. The Cleveland architect J. Gordon Trumbull designed buildings 158, an armament repair shop, and 181, engine test cells. Holabird, Root & Burgee, Chicago, had the supervisory contract of centurion buildings in 1943. L.P. Kookan and Amman & Whitney designed the special Air Mobility Command warehouse, Buildings 380 and 385. Leo A. Daly, Omaha, Nebraska, designed the SAC alert molehole. Giffles and Rosetti, Detroit, designed buildings associated with molehole (buildings 78 and 79) as did Ganteaume & McMullen, Boston (buildings 52, 76, and 86). Black & Veatch, Kansas City, designed the nuclear munitions igloos (buildings 94, 97 and 98) (Weitze 2003). Fred N. Severud, New York, also worked at the base.

**Significant structure/building style/s:** Buildings of interest include: the SAC alert facility; the nuclear munitions storage igloos, Mace launches, and Hyman igloos.

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### 5.13 MARINE CORPS LOGISTICS BASE, ALBANY

**A. Installation name/address:** Marine Corps Logistics Base, Albany, Dougherty County

**Installation's historic name/s:** Marine Corps Depot of Supplies (1952-1959), Marine Corps Supply Center (1959-1976), Marine Corps Logistics Support Base, Atlantic (1976-1978), Marine Corps Logistics Base, Albany (1978-present)

**Installation's current and past service branches:** Currently part of the Marine Corps, Logistics Command, but portions of the installation's holdings have been under both the Air Force and the Navy

**Installation's geographic size:** 3,656 acres

**Number of bldgs/sqft:** 603 buildings at 6,861,307 sqft (Office of the Deputy Under Secretary of Defense 2003)

**B. Date/s of Establishment:** March 1, 1952

**Reasons for location:** Unknown

**Reasons for establishment/disestablishment:** Unknown

**C. Brief history of installation:** Chosen for its convenience to the Gulf of Mexico and the Atlantic Ocean, as well as inland enough to preclude saltwater corrosion of stored equipment, the installation was commissioned as the Marine Corps Depot of Supplies in 1952. Portions of the installation's holdings have been under the Air Force and the Navy. Boyette village, a housing area, was originally part of Turner Air Force Base, a SAC base now closed. The Navy took control of the facility in 1967 and named it Naval Air Station Albany. When the NAS closed in the mid-1970s, the Marine Corps took over portions of the installation (Seckinger 1997; Diamond 2004). In 1976, the Marine Corps Supply Activity relocated to the installation and it was renamed the Marine Corps Logistics Support Base, Atlantic. During the Vietnam War, the base provided exceptional support to the Marine Air Ground Task Forces in Southwest Asia (GlobalSecurity.org 2004j, 2004o). The installation was later renamed Marine Corps Logistics Base (MCLB) Albany (USACE, Mobile 1990).

This is one of only two Marine Corps Logistics Bases in the world, MCLB Barstow, California (GlobalSecurity.org 2004j).

**D. Current and past missions (1939-1989):** Headquarters Battalion and Defense Distribution Depot and the Albany Marine Band are located here. MCLB is the world's finest provider of high quality maintenance/rebuild services of all ground forces weapons and weapons systems (MCLB 2004).

The Defense Distribution Depot Albany, Georgia (DDAG) is the Marine Corp's primary source of storage and distribution of combat vehicles, repair parts and expendable. It provides a full range of services to the U.S. Reinforce, Army and Defense Support Center Philadelphia as well as support to foreign military sales customers (GlobalSecurity.org 2004j).

## E. Infrastructure/building/structure/landscape types

**NRHP eligible district/s:** Unknown

**NRHP individually eligible building/s and structure/s:** Unknown

**NRHP eligible landscape/s:** Unknown

**Installation infrastructure types:** Unknown, but it can be assumed that a typical network of roads is present.

**Installation building/structure types:** There are two million square feet of storage space, in all types of storage buildings, and special storage for radiological material, dehumidified storage for subsistence, and storage for textiles and clothing for all DoD services worldwide (GlobalSecurity.org 2004j). The installation has child care centers, temporary lodging, permanent housing, mobile homes, a health clinic, a commissary and exchange, shoppettes, a blowing alley, library, auto hobby center, a gymnasium, swimming pools, and a golf course (MCLB 2004).

**Installation landscape:** Unknown

**Significant installation architects/engineers/builders:** Unknown

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None

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## 6.0 SUMMARY

The Cold War and its two hot wars, Korean and Vietnam, are still undergoing analysis and evaluation. While some of the secret operations of the time are beginning to come to light, the intense secrecy of the period, the short-lived, quasi-military programs, and entangled military-industrial-academic relationships ensures that the final history of the Cold War has not been written. One important component of the Cold War was the competition to develop militarily superior technology, notably guided missiles, reconnaissance satellites, helicopters, jet aircraft, and, of course, atomic and nuclear weapons. While research and development regarding these systems did not occur on a large scale on the Georgia installations selected for this study (with the exception of Fort Gordon, perhaps) training soldiers, sailors, airmen and reservists to effectively utilize these and other new technologies and equipment as well as supplying the troops were the predominant missions on these installations.

During this period, the services, for the most part, expanded existing facilities by erecting new, more utilitarian structures and lengthening runways, although existing structures were also modified to accomplish their missions, largely by contracting with private architect-engineering firms. Mikesell (2000) observed for installations in California that World War II changed the paradigm through which construction on installations was viewed. Prior to the war, "Military designers and builders had placed a high premium on quality of design and construction" ... with an "emphasis on permanence."

The World War II experience brought that tradition into question. The greatest war in the history of mankind had been won by troops that had been housed, trained, and fed in flimsy, essentially temporary buildings. After the war, the military would never return to its older model for military base construction. This is not to suggest that military buildings from the Cold War are in any manner unsafe or poorly built. The Cold War facilities, however, would never repeat the total base design that characterized the 19<sup>th</sup> and early 20<sup>th</sup> century bases, as well as some of the 1939-1941 bases such as NAS Alameda and McClellan AFB. The Cold War emphasis on flexibility and practicality in design was influenced to a very large degree by the World War II experience [Mikesell 2000:7-25].

In addition to being more utilitarian, the majority of Cold War resources at any given installation are less than 50 years of age. In the immediate post-Cold War world, much of the military infrastructure erected during the period has been dismantled as mission requirements changed and funding shifted to new areas.

The goal of this study is to establish Cold War, above ground cultural resource commonalities between thirteen DoD installations in the state of Georgia to aid cultural resource managers in the timely identification of resources and the accurate assessment of their significance in order to reduce or eliminate delays to training or other mission-related activities. For installation CRMs, this study can serve as a reference for the inventory and assessment of Cold War buildings to aid in that process. This document provides a series of service-specific Cold War terminologies and dating, including each service's specific criteria defining and dealing with its cultural resources, building/property types, military landscape definitions, names of architects, engineers, and builders, and bibliographies. These data can be used as a first step in the evaluation process of determining which buildings do or do not require additional documentation and which buildings require additional investigation.



Table 13 at the end of this section presents a brief summary of a number of shared elements among the thirteen installations selected for this investigation.

This document also presents a general context of events and activities that occurred during the Cold War and relates those activities, or reactions to them, to installations in the state of Georgia through brief installation-specific histories. It is not intended to be the final word on the Cold War in Georgia or a definitive history; it is, instead, meant to provide a common historical backdrop against which to identify and assess shared cultural resources. There is no question that many activities and missions were not discussed here (some of which are, no doubt, still classified); this not an oversight. This report describes various prominent, nationally important missions and activities, and attempts to identify the type of infrastructure (e.g., buildings and structures) associated with them and the installations where they were conducted. However, the reader must look elsewhere for more comprehensive or definitive histories.

While this study provides the CRM with tools to assist in identifying and assessing common cultural resources, this study can neither definitively assess a particular building, structure or landscape as eligible or not eligible for the NRHP nor provide a definitive inventory of each installation's buildings, structures or landscapes (NRHP eligible or not). Actual inventorying and National Register evaluations must be accomplished at the installation level where they will be more accurate and complete. Nevertheless, this document does provide to the CRM the kind of information that will be helpful in comparing cultural resources throughout the state and assisting in their timely identification and accurate assessment of significance in order to reduce or eliminate delays to training or other mission-related activities. Panamerican believes that this report is just the beginning of understanding the Cold War in Georgia.

**Table 13.  
Comparisons Among Thirteen Georgia DoD Installations**

<b>Installation (estabshd)</b>	<b>Service Branches</b>	<b>NRHP Eligible Buildings/ Structures</b>	<b>NRHP Eligible District(s)</b>	<b>NRHP Eligible Landscapes</b>	<b>Owns Buildings Predating Installation</b>	<b>Known Architects/ Engineers/ Builders</b>
Fort Benning (1918)	Army	1 listed on NRHP- Riverside Plantation	5: Main Post District; Lawson Army Airfield Historic District; Parachute Jump Tower Historic District; Army Ground Forces Board #3 Historic District; Ammunition Storage Area Historic District	1, Main Post District	Yes	Army Motion Picture Service; Constructing Quartermaster's Office; George B. Ford; Hentz, Adler and Schultze; McKim, Mead, and White; George & Dorothy Sheddon (drawings by R.D. Raines); Spector and Montgomery Architects
Dobbins Air Reserve Base (1942)	Army, Air Force, Air Force Reserves	1, J.C. Bankston Rock House, Building 510; 10 buildings in AFP 6, Bell Bomber Plant district	None	None	Yes	Robert & Company
Fort Gillem (1941)	Army	52, these may be associated with a district	1	Unknown	Yes	Robert & Company (Atlanta General Depot)
Fort Gordon (1941)	Army	Unknown	Unknown	Unknown	Unknown	Constructing Quartermaster's Office; Jones Construction Company; J.B. McCray; McDougall Construction Company; Leon H. Zach; Smith-Pew Construction Company
Hunter Army Airfield (1940)	Army, Air Force, Army	Saber Hall Complex, unknown number of buildings	2: 1200 Block District (mitigated and demolished); SAC Operations District	Landscape associated with SAC Operations District	Yes	W.F. Brown; Leo A. Daly; Cletus Bergen; William P. Bergen; Black & Veatch; Bowers & Barbalat; the Butler Manufacturing Company; USACE, Savannah and Charleston; Diedrich Architects & Associates; Farm-Rite Implement Company; A.S. Goebel; Gunn & Meyerhoff; J. Paul Hansen; Helfrich, Grantham, and Helfrich; Holabird & Root & Burgee; Walter W. Hook & Associates; Kuhlke and Wade; Merrill A. Levy; Liles and Clarke; Lopatka-McQuaig; the Luria Engineering Company; Morales-Shumer; Reynolds, Smith, and Hills; Spector and Montgomery; Taylor Ironworks & Supply Company; Thomas and Hutton & Associates; Toombs and Company; Tri-State Engineers; Whalley and Associates; Wilcox, Erickson, Vogelbach, and Baumann; and James R. Wilkinson (Burge and Stevens).

Installation (estabshd)	Service Branches	NRHP Eligible Buildings/ Structures	NRHP Eligible District(s)	NRHP Eligible Landscapes	Owns Buildings Predating Installation	Known Architects/ Engineers/ Builders
Fort McPherson (1885)	Army	28 Buildings, 2 in dispute	1 with 40 buildings	Landscape associated with district	Unknown	H.M. Beutell; W.F. Bowe; Harris Company; Henry A. Howard; Nicholas Ittner; BG Joshua West Jacobs; George H. Morrow; Smith-Pew Construction Company
Marine Corps Logistics Base Albany (1952)	Air Force, Navy, Marine Corps	Unknown	Unknown	Unknown	Unknown	Unknown
Moody Air Force Base (1941)	Army, Air Force	1 rec'd eligible, Building 618, Water Tower	None (1999)	None (1999)	Unknown	Air Corps Plans and Design Branch; Artley Company; Coffee Construction Company; R.D. Cole Manufacturing Company; Constructing Quartermaster's Office; Espy Paving & Construction Co.; Reynolds, Stockman & Hill; E. Jack Smith
Naval Air Station Atlanta (1941); relocated to Marietta (1959)	Army, Navy	None (2000)	None (2000)	Unknown	NAS Atlanta is located on Dobbins ARB, and it is not clear if Dobbins has early buildings	A & E Design Group; Advanced Builders; Architectural Corporation of Atlanta; Architectural Engineers and Contractors; USACE, Savannah District; Atlanta Building Systems; Baker and Horres; Bateson-Cook Company; William H. Bennefield; Day and Zimmerman; Fleming Corporation; Gann Pruitt Womack; Charles M. Graves Company; Hardy Heck Moore and Myers; John J. Harte and Associates; S.J. Huffstetter; Jordan, Jones & Golding; Kun-Young and Associates; J. Lerner/SOUTHDIV; Stanley L. Peters and Associates; Robert and Company; Sanders & Thomas; Seabees; R.L. Sistrunk; Sixth Naval Division; Southeastern Construction; Southern District, NAVFAC; Southern Engineering; Stevens & Wilkinson; P.D. Stuart; Bradley Trebilok; Trippet Clepper Associates; Wise Simpson Aiken and Associates; Wurz, Wisecarver, Pruett
Naval Submarine Base Kings Bay (1954, Army; 1978 Navy)	Army, Navy	None	None	None	Some Army buildings; none pre-dating Army	Unknown

<b>Installation (establishd)</b>	<b>Service Branches</b>	<b>NRHP Eligible Buildings/ Structures</b>	<b>NRHP Eligible District(s)</b>	<b>NRHP Eligible Landscapes</b>	<b>Owns Buildings Predating Installation</b>	<b>Known Architects/ Engineers/ Builders</b>
Navy Supply Corps School Athens (1954)	Navy	1, Carnegie Library	1: Oglethorpe Ave. District, unknown number of buildings	Landscape associated with district	Yes	Heery & Heery
Fort Stewart (1940)	Army	2, Remer Glisson Store, Donovan Field and Review Stand	None	Donovan Field	Yes	USACE
Robins Air Force Base (1941)	Army, Air Force	Possibly 14, including Building 125, Air Maintenance Hangar and Building 220, Original Headquarters	2, Officers' Circle Historic District (7 structures) and Chiefs' Circle Historic District (5 structures)	None	Unknown	Aqua Systems Inc. USACE, Savannah District; Black & Veatch; A.R. Briggs Company; Leo A. Daly; LTC Robert Elliot, USACE; Fickling & Walker Rental Agency; Ganteaume & McMullen; Giffles and Rosetti; Griffin, Mion and Shepherd; Holabird & Root; Holabird, Root & Burgee; L.P. Kooken and Amman & Whitney; Main-Way Construction Company; Robert and Company; Fred N. Severud; J. Gordon Trumbull, Cleveland; Col. Francis Zeigler

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## **APPENDIX A.**

**National Register of Historic Places Eligibility Criteria,  
as found in  
*National Register Bulletin #15*  
(National Park Service 1995a)**



## National Register of Historic Places Eligibility Criteria

Potentially significant historic properties include districts, structures, objects, or sites which are at least 50 years of age or older and which meet at least one of the National Register criteria. To be eligible for inclusion in the NRHP, an historic property must possess “the quality of significance in American History, architecture, archaeology, engineering, and culture [that] is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association and:

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. That are associated with the lives of persons significant in our past; or
- C. That embody the distinctive characteristics of type, period, or method of construction, or that represent the work of a master, or possess high artistic value, or that represent a significant and distinguishable entity whose components lack individual distinction; or
- D. That have yielded, or may be likely to yield, information important in prehistory or history [National Park Service 1995a].

The NRHP recognizes five classifications of significant properties: *buildings*, principally a shelter for any form of human activity; *structures*, functional constructions made for purposes other than creating human shelter; *objects*, constructions that are small in scale, relatively simple and primarily artistic; *sites*, location of a significant event where the site itself possesses value regardless of the value of any existing structure; and *districts*, a significant linkage of sites, buildings, structures or objects united historically or aesthetically by a plan or physical development (National Park Service 1995a).

A district derives its importance from being a unified entity, even though it may include a wide variety of resources. “The identity of a district results from the interrelationship of its resources, which can convey a visual sense of the overall historic environment or an arrangement of historically or functionally related properties” (National Park Service 1995a). A district must be important for historical, architectural, engineering or cultural values. The individual components of a district may lack significance provided the group as a whole has significance. Most of the components making up a district must add to the district’s character and must possess integrity, as must the district itself.

“Integrity is the ability of a property to convey its significance” (National Park Service 1995a). To be placed on the NRHP a property must be shown to have significance under the NRHP criteria and it must have integrity. Integrity is determined by looking at the seven elements that create it. They are: location, design, setting, materials, workmanship, feeling and association. To retain integrity, a property must possess several of these aspects. Although determining integrity tends to be a subjective judgment, this is tempered by an understanding of the property’s physical features and how they relate to its significance (National Park Service 1995a).

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## **APPENDIX B.**

**Five Steps to Compliance for Army Cold War Properties,  
as found in  
*Cold War Property Identification, Evaluation and Management Guidelines*  
(USACE, Fort Worth 1997:16-17)**





**Five Steps to Compliance for Army Cold War Properties  
(USACE, Fort Worth 1997:16-17)**

1. Determine if the property fits the definition of a Cold War property.
  - a. **IF YES**, go to step 2.
  - b. **IF NO**, end compliance process. *Note:* Be aware properties can qualify for the NRHP under other many other themes other than the Cold War.
2. Determine if the property is significant under NRHP criteria A, B, C or D.
  - a. **IF YES**, go to step 3.
  - b. **IF NO**, end process.
3. Determine if the property retains integrity.
  - a. **IF YES**, the property is NRHP eligible if it is either:
    1. Over fifty years in age.
    2. Under fifty years of age but a contributing part of a Cold War historic district whose majority of properties are *over* fifty years of age.
    3. Under fifty years of age by five or less years.**THEN** go to step 5.
  - b. **IF YES AND** the property *does not* meet the qualifications of 3(a), it must meet Special Criteria Consideration G, Go to step 4.
  - c. **IF NO**, the property lacks integrity. End process.
4. Determine if the property is eligible under Special Criterion Consideration G:
  - a. **IF YES**, the property is historic if it meets the following tests defined in 4-7.  
**THEN** go to step 5.
  - b. **IF NO**, end process.
5. Treat eligible properties as if on the NRHP:
  - a. **CONSULT** on all undertakings (NHPA Section 106) to mitigate adverse impacts unless covered by a Programmatic Agreement (PA). Mitigation is *anything* that is legally binding in which all parties agree upon in a MOA.
  - b. **NOMINATE** the property (NHPA Section 110) when feasible.
  - c. **DOCUMENT** the property when substantially altered or destroyed (NHPA Section 110). Documentation does not have to be part of the National Park Service HABS/HAER program or even to the standards of a specific HABS/HAER level. It is whatever is agreed upon through consultation.
  - d. **INCLUDE** the historic properties in preparation of relevant NEPA documents.
    1. Findings of No Significant Impact (FONSI) and Records of Decision (ROD) must identify actions taken to address impacts to historic properties (usually via a signed MOA).

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## **APPENDIX C.**

**Air Force Cold War Priority Ranking Matrix,  
as found in  
*A Systemic Study of Air Combat Command Cold War Material Culture*  
(Lewis et al. 1995:126-128)**



## **Air Force Cold War Priority Ranking Matrix (Lewis et al. 1995:126-128)**

The matrix is organized into six main topics that lend themselves to numerical ranking. These topics and specific parameters for ranking are described below.

(1) First is the topic of the relationship of a particular resource to the role the base played in the Cold War. Resources are ranked according to the parameters described below, with rankings descending in order from highest to lowest:

- **Direct Cold War relationship** is assigned to those resources that manifest the ideological differences of the Cold War in a recognizable way, through being part of a technological advance important to the base, or through a significant association with a Cold War event or an important figure in the Cold War. These resources are given the highest ranking.
- **Indirect Cold War relationship** includes those resources that are identified with or are of the Cold War period that may relay information about local history, construction technology, or local persons of importance. This category also will include resources that have attributes reflecting the Cold War but that may not totally embody it to a point recognizable by the general base and/or USAF populace.
- Resources that have **no direct Cold War relationship but are of the period** are ranked next, if they appear significant in their own right. They include those that are identified with or are of the Cold War period but do not convey national meaning or have local importance.
- The lowest ranked group includes resources that may be important in their own right but are **not of the Cold War period** (such as significant World War II resources).

(2) The second topic ranks the relationship of the resource to the context aspects. Scores, from highest to lowest, will be given for the primary relationship of a resource to the following themes identified in the Historic Context:

- **Policy/Strategy**
- **Technology**
- **Architectural/Engineering Design**
- **Social Impact**

(3) Relationship to the four temporal phases outlined previously is third topic for ranking resources. The rationale for this ranking, as explained above, is the concept that when dealing with exceptionally significant resources, the older the property, the more the value, given the increase in historical perspective. Rankings proceed in descending order, from highest to lowest, for the following temporal phases:

- **Phase I** (July 1945 to January 1953)
- **Phase II** (January 1953 to November 1963)
- **Phase III** (November 1963 to January 1981)
- **Phase IV** (January 1981 to November 1989)

(4) A fourth topic figures the level of importance of a particular resource into the ranking equation as follows:

- A “**premier**” resource is one that has major importance in identifying the base’s role within the national Cold War context, or that has major importance with respect to science, theories, or ideals (e.g., the B-1B hangars at Dyess AFB, Texas).
- A resource with a “**high**” rank is one that has importance to the individual base’s role although not necessarily at the national level (e.g., the nuclear resistant building on Cannon AFB, New Mexico, that directly reflects the Cold War ideology even though it does not serve a major base function).
- Resources of “**medium**” rank include those that have limited importance in the individual base Cold War context (e.g., a wood truss hangar that may have been built or used during the Cold War period, but does not add to or define a significant event in that period).
- Resources that have importance to the individual base but do not reflect the Cold War or the period are ranked “**low**” (e.g., a World War II hangar).

(5) Percentage of historic fabric is the fifth topic. This criterion is a qualitative estimation as to how much of the historic architectural or original material or design remains intact. For buildings, this will aid in determining the architectural integrity and whether the building still conveys its meaning using the NRHP integrity categories (design, location, workmanship, setting, association, felling, and materials). A property must retain a minimum of two of these categories to have integrity, with the actual ranking a subjective decision based on those parameters.

Rankings are prioritized as follows, from highest to lowest:

- 76-100%
- 51-75%
- 26-50%
- 00-25%

(6) The sixth topic involves the severity of existing threats to the resource. Resources with severe threats will receive the highest score, since they are higher in priority for preservation than are resources with low threats. This topic is intended to reflect the best description of threats, with rankings as follows from highest to lowest:

- Severe threats are those that pose an immediate problem for the resource (e.g., an archival resource that is under a leaking roof and is infested with silverfish).
- A High degree of threats would pose a problem although not as immediate as a severe one.
- A Moderate threat is still a concern, yet they do not represent much more than a standard degree of threats.

- Low threats essentially represent a lack of identified problems at this time (e.g., an archival resource located in a climate controlled building and that does not receive much use).

The matrices if followed by a memo field where recorders may qualify rankings or add additional information to more closely reflect the resource. Management recommendations are offered for all fully documented resources. They are not necessarily reflections of the results of the ranking matrix but are developed in consideration of the importance of the resource, along with its current physical condition and severity of threats. Recommendations include:

1. **NRHP listing** (if the property is considered by the team as important to the base Cold War context and appears to meet NRHP criteria at that level);
2. **Preservation/conservation/repair** (if a property is considered important and requires attention to maintain or repair to avoid loss or further deterioration);
3. **Stewardship** (if a property is important, but differs from number 2 in that the property may not require active preservation);
4. **Further research** (if a property appears important but there is not enough information to make a determination); and
5. **No further work** (if a property is not considered by the team to be important or eligible for the NRHP, and consequently requires no protection or care).

Ultimately, fully inventoried resources will be compared using a national priority Matrix, as described further in the prioritization application section.

According to the USAF Interim Guidance (USAF [Green] 1993:6), exceptionally significant properties include those buildings, structures, objects, sites, or districts that:

1. Posses exceptional value of quality in illustrating or interpreting the Cold War heritage of the United States;
2. That posses a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association, and
3. That meet at least one of the following criteria:
  - A) That portray a direct association with events that have made a significant contribution to, are directly identified with, or outstandingly represent the broad national pattern of United States Cold War history and aid in understanding that pattern;
  - B) That portray a direct and important association with the lives of persons nationally significant in United States Cold War history;
  - C) That embody the characteristics of an architectural, engineering, technological, or scientific type specimen exceptionally valuable for understanding a component of United States Cold War history or representing some great idea or ideal of United States citizenry embodying the Cold War; or



- D) Have yielded or may be likely to yield information of exceptional importance to United States Cold War history.

The significance criteria presented above emphasize the evaluation of resource importance at the national level of Cold War history. This is due to the fact that most Cold War material culture is not yet 50 years of age and, therefore, must be evaluated as exceptionally significant if it is to be considered immediately eligible for NRHP listing.

Air Force's reading of "exceptional significance" excludes many real property assets which are typically the subject of Section 106 consultations on *older, pre-WWI bases*, e.g., family housing (Capehart, Wherry, etc), BOQ's, base exchanges, administrative buildings, garages & motor pools, maintenance shops, sewage treatment plants, etc. The Air Force will instead focus specifically on operational missions and equipment of unmistakable national importance and a *direct*, not merely temporal, Cold War relationship. The vast support complex that lay behind the "frontline", combat or intelligence units will, in due time, be inventoried for historic significance. Limited funds and the need to act quickly argue for this system of priorities.

The USAF Interim Guidance ([Green] 1993) indicates that the comparative evaluation of property significance is problematic for Cold War resources because studies, although initiated, have not yet progressed to the point of establishing adequate baseline data. Therefore, the Air Force proposes an initial set of property types as having good potential for meeting the criteria of exceptional significance and hence eligibility for immediate NRHP listing (USAF [Green] 1993:6-8). Critical factors to be considered are the degree to which a resource reflects elements of common national memory and identity from the Cold War era.

In fact, Murphey (USACE, Fort Worth [1997]) suggests that until appropriate temporal perspective is achieved in future decades, properties of exceptional Cold War significance should be those that will provide tangible manifestations to today's generation with which to interpret the ideological differences extant in the Cold War era. The focus for assigning exceptional significance, then, is to limit that category to those resources that graphically convey the ideological differences in U.S.-Soviet relations in an obvious manner. Murphey offers four primary themes of the Cold War era to help establish this direct relationship (personal communication, Joseph S. Murphey, December 4, 1995). He suggests that a material artifact must illustrate one or more of these themes, which convey the ideological differences:

1. The bipolar battle of opposing economic and political ideologies, present in the struggle for geo-political power is western Europe and the containment of Soviet expansionism and influence in the Third World;
2. The massive American investment in research and development of technology to battle real and perceived strategic military challenges with the Soviet Union (e.g., the arms race, the bomber gap, the missile gap), for political leverage (i.e., for use in treaties), and for the psychological comfort of the nation's citizenry, forever changing the economic, geographic, and social landscape of the nation (e.g., the military-industrial complex, the interstate highway system, and the computer);
3. The deployment of offensive/defensive systems and development of readiness programs for protection against an attack by the Soviet Union and to ensure the survivability of military installations and the general civilian population; or

4. The omnipresent potential to use nuclear devices, keeping the Cold War through such concepts at mutually assured destruction.

The Berlin Wall, Murphey notes (USACE, Fort Worth [1997]), is a property of exceptional significance as the supreme symbol of the clash of opposing ideology. Certainly the approach to evaluating exceptional significance which emphasizes the importance of national recognition corresponds to NRB [National Register Bulletin] 22, where the concept of exceptional is characterized as reflecting the extraordinary impact of a political or social event, reflected in a range of resources for which a community (in this case, the United States) may have an unusually strong associative attachment. For purposes of the ACC study, resources that may be of the correct era, but fail to convey this relationship, are not a primary focus. Conversely, operational missions and equipment of unmistakable national importance with a direct link to such a relationship are identified as the highest priority, while less emphasis is placed on more covert, or less obvious support complexes that lay behind the "frontline" combat or intelligence units. This selectivity is essentially a management decision based on funding constraints that necessarily limit the scope of this particular study.

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## **APPENDIX D.**

### **Six-Step Methodology for Identifying and Evaluating Navy Cold War Resources,**

as found in

*Navy Cold War Guided Missile Context*  
(Kuranda et al. 1995:297-302)



## Six-Step Methodology for Identifying and Evaluating Navy Cold War Resources (Kuranda et al. 1995:297-302)

- Step #1: **Categorize the Property**
- Is it a building, structure, object, or district?
  - If it is a building or structure, is it part of a district?
- Step #2: **Identify Relevant Theme(s) and Period(s) of Significance**
- How does the resource relate to the time periods and major events and trends developed in the chronological overview?
  - How does the resource relate to the thematic contexts developed in the section on *Theme Studies*?
  - Is the resource significant for a defined period of time (i.e., specific event) or is its significance derived from a span of time?
- Step #3: **Identify Associated Property Types**
- How does it fit into the categorization developed in the section on *Property Types*?
  - Is the resource associated with a larger complex, such as a test range?
- Step #4: **Identify Relevant Criteria for Evaluation**
- Criterion A: Association with Events
  - Criterion B: Association with Important Persons
  - Criterion C: Design/Construction
- Step #5: **Determine if Property is Exceptionally Significant on a National Level**
- Does the resource possess *exceptional* significance as defined by the National Register criteria for evaluation?
  - Is the resource significant on a local, regional, or national level?
- Step #6: **Determine if Resource Possesses Sufficient Integrity to Convey its Historic Significance**
- Have later modifications significantly altered the character-defining features of the resource for its period(s) of significance?
  - Do these changes reflect the evolution of the property over time (i.e., technological development)?

### Navy Methodology for Identifying and Evaluating Cold War Properties

#### Step One: Categorize the Property

The first step in the evaluation process is to categorize the property under evaluation. To be included in the National Register, a property must be classified as a district, site, building, structure, or object. The following definitions are taken from are taken from *National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation*, and are highlighted with examples from the Navy's Cold War guided missile program:

- **Buildings** are designed specifically to shelter any form of human activity. Parts of buildings are not eligible for consideration independent of the rest of the building.

Significant features associated with a particular building must be identified to determine its uniqueness and level integrity.

*Examples: range control centers, research laboratories, radar stations*

- **Structures** are distinguished from buildings because they are designed for purposes other than providing human shelter.

*Examples: missiles, test tracks, launch platforms*

- **Objects** are primarily artistic in nature, or are relatively small in scale and simple in construction. Although an object may be movable, an object generally is associated with a specific setting or environment. Due to their complex construction, missiles are defined not as objects, but as structures.

*Example: scale model of a cutaway ship that serves as a teaching aid*

- **Sites** are the location of a significant event or activity, such as the site of early rocket testing. Physical remains connected with this event may or may not be present in order to be considered significant.

*Example: obsolete missile test location, such as Topsail Island, North Carolina*

- **Districts** are defined as containing a significant concentration of resources united historically or architecturally by plan or physical development. Properties that are an “integral part” of a historic district do not need to be individually eligible for the National Register; however, a justification must be made as to how each property fits into the overall context of the historic district.

*Examples: test range, educational buildings, RDT&E complex*

Defining the boundaries of historic districts is more complex than defining the boundaries of a single site or building. A district is a definable geographic area characterized by shared relationships among the properties within the district. The following points should be noted in the delineation of district boundaries:

- A district can include features that lack individual distinction, if the district as a whole is significant;
- A district may contain properties that do not contribute to the district’s significance;
- District boundaries are based on the historical and physical associations among the properties, which do not necessarily coincide with current installation boundaries or activity jurisdictions; and
- A district usually consists of a contiguous area, but may consist of two or more separate areas if the space between the areas is not related to the significance of the district and visual continuity is not a factor in the significance.

## **Step Two: Identify the Theme(s) and Period(s) of Significance**

The second step in the evaluation methodology is to identify the historic themes and time periods associated with the property. Evaluation within the appropriate Cold War context provides an understanding of a property’s relative importance within the broader picture of historical, architectural, engineering, technological, and cultural trends. By comparing similar

properties within a historic context it becomes possible to identify those properties that best represent the historic or architectural significance.

This step also addresses the issue of time, or the point at which the property achieved significance. A property's period of significance can include the date of construction, a specific event in history, or an extended period of time. Properties important for their association with an important event should be dated from the time of the event, and not the date of construction. Some properties constructed in support of the Navy's guided missile program may have played a major role for a long span of time, while others may be significant for a defined event in history. For example, educational buildings that provided specialized training for various missile systems throughout the Cold War era would be defined by a span of years. The date of a successful test launch or technological breakthrough, on the other hand, would have a closely defined period of significance.

The *Chronological Overview* and *Theme Studies* sections of the report can be referenced in this step. Significant themes associated with the Navy's guided missile program included R&D, T&E, education and training, and logistical and operational support. The time period associated with the Navy's guided missile program is 1946 to 1989. Site-specific archival data may be correlated with the nation-wide context at this stage to highlight areas and periods of significance. Table 1 should be referenced to identify an installation's associated themes and period(s) of significance.

### **Step Three: Identify the Property Type**

The third step in the evaluation process compares the property under evaluation to other properties that fall into the same property type classification. The *Property Types* section of the report should be referenced in this step of the identification process. This section presents types of properties that were constructed specifically to support the Navy's guided missile program. Properties were categorized according to their function within the identified themes of R&D, T&E, education and training, and logistical and operational support. Discussions of property types include a summary of the evolution and function of the property type; a description of character-defining features; and, a discussion of the property type's association to the guided missile program. For example, a range control building at a T&E installation should be examined within the broader category of test ranges. This will assist in determining the building's role during the Cold War and in assessing its level of integrity. This third step of the evaluation methodology ensures that the property under evaluation possesses the character-defining features necessary to convey the property's significance.

### **Step Four: Identify Relevant Evaluation Criteria**

The fourth step is to identify the National Register criteria associated with the property under evaluation. This step is carried out by identifying the links to important events or trends (Criterion A) or persons (Criterion B), design or construction features (Criterion C), or information potential (Criterion D) that make the property important. Criterion A and C are the National Register criteria most relevant to Cold War guided missile resources. Topsail Island, North Carolina, provides an example of a site that is significant for its association with an important event. Topsail Island was associated directly with the initial testing and development of the ramjet engine (Criterion A). An example of Criterion C may include a specially designed test facility, such as Skytop I, which illustrates the application of new technologies.



## **Step Five: Determine Level of Significance**

The fifth step in the evaluation process is to determine if the resource is exceptionally significant on a national level. *For Cold War properties evaluated as exceptionally significant on a national level, preservation of the resource is not necessarily the most appropriate treatment option.* To be of exceptional significance a property must be associated directly with a major event or trend in our nation's history; have played a primary role in the Navy's guided missile program; or represent a unique resource that was designed to accommodate an important mission or technological development. Examples of Cold War resources currently listed in the National Register for possessing exceptional significance include: the launch pad at Cape Canaveral, the site of the earliest space flights; and Launch Complex 33 at White Sands Missile Range, New Mexico, where U.S. involvement in rocket testing first occurred. Both of these sites are directly associated with major historic events that impacted our country on a national scale.

In addition to being determined to be of exceptional significance, the property must be important on a national level. The National Register Criteria for Evaluation (36 CFR 60.4) identifies three levels of significance to define a geographic context: local, state, and national. Properties significant on a local level are important to the history of a town, city, county, and region. Local significance is derived by the importance of the property and not necessarily the physical location of the resource. Properties possessing state significance represent an important aspect of state history. For example, the development of a particular industry that affected the entire state but that is not related to national trends or events. Properties that are significant on a national level provide an understanding of the broad patterns of U.S. history by illustrating the nationwide impact of events or persons; architectural type or style; or information potential. Properties may be related to a national historic context, but possess only state or local significance.

In terms of national-level significance, a distinction must be made between properties that are related to a national context and those that are nationally significant. For example, a test facility that was constructed to support the Navy's guided missile program but did not play a major role in terms of significant events or developments would not be significant on a national level. An example that illustrates exceptional significance on a national level is the Michelson Laboratory at China Lake. This laboratory was the development site for many of the Navy's weapons systems, some of which played a significant role in our Cold War national defense program. Among the most significant guided missile systems designed at the Michelson Lab were Sidewinder, the Navy's first air-launched missile delivered to the fleet, and Shrike, the Navy's first anti-radiation missile.

## **Step Six: Assess Integrity**

The final step in the evaluation process is to assess resource integrity. The issue of integrity is a critical step in the evaluation process. In addition to possessing exceptional significance on a national scale, a property must retain sufficient integrity of location, design, setting, materials, workmanship, feeling, and association. A property must possess several of these aspects to convey its significance. Assessing integrity is based on the retention of character-defining features from its period of significance.

Character-defining features encompass a range of physical aspects, such as special machinery associated with a particular technological process, the overall design and interior layout, or architectural features. For example, the Thompson Aeroballistic Laboratory at China Lake,

originally constructed as a “backwards” wind tunnel, was specially designed to test the aerodynamics of missiles and other related equipment. The main character-defining features included its interior layout and technological machinery. The structure was converted subsequently to offices, which resulted in the partitioning of the interior test space and removal of the photographic and recording equipment. As a result, the structure no longer retains the essential physical characteristics that convey its original function of historic significance.

Due to the highly scientific and technological nature of the resources that are associated with the Navy’s Cold War guided missile program, these properties often are subject to circumstances that destroy their integrity before they reach the 50-year time period. Most of these facilities have been continually upgraded to keep pace with RDT&E requirements and the latest technology. In some cases, these resources were designed specifically with the idea of altering the facility as new technology was introduced or new missile systems required special equipment. In this case, a building’s flexible design is a major character-defining feature. This poses a major challenge in assessing resource integrity for these properties.

In assessing resource integrity in historic districts, buildings are looked at collectively. For example, a building in a district may possess sufficient overall integrity to qualify as a contributing element within a district even in modifications have been made, so long as the building retains its original composition, scale, proportion, massing, and their physical relationship to other contributing buildings and landscape features in the district.

The most important consideration in assessing integrity is the property’s period of significance. As discussed in Step Two, the period of significance can reflect a defined time span, such as a specific event, or it may encompass a broader time period. If a property is significant for its association to a specific period of time or major event, modifications undertaken after-the-fact may have compromised its integrity. For resources whose period of significance extends over a longer period of time and that continue to perform their original mission, later modifications are acceptable in illustrating the property’s evolution over time. For example, an educational facility whose interior (i.e.: computer consoles, simulation laboratories, and associated equipment) has been modified to accommodate a new missile system may still possess sufficient integrity. In this case, replacement of the original equipment with newer, state-of-the-art technology illustrates the property’s evolution and is within the property’s period of significance. Therefore, the significance is derived from the advancement of new technology, as opposed to the retention of old systems.

Due to these complex issues of integrity with regard to Cold War resources, an acceptable level of integrity is not easily defined. Therefore, integrity must be assessed on a case-by-case basis. Assessing integrity of a particular resource can be compared with other similar resources to determine whether it retains the distinctive qualities or physical characteristics of its type. Once a property’s period of significance has been established, the property must be carefully examined to ensure that it retains sufficient physical characteristics to convey its significance.

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## **APPENDIX E.**

### **Vitae**



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## **KELLY NOLTE** **Senior Architectural Historian**

### **EDUCATION**

- M.A. Humanities, Old Dominion University, Norfolk, VA, 1989  
Emphasis: Architectural History  
Thesis: *John Kevan Peebles: Dean of Virginia Architects, 1875-1943*
- B.A. Humanities, Cum Laude, University of West Florida, Pensacola, 1976  
Emphasis: Architectural History

### **EXPERIENCE**

Ms. Kelly Nolte is Senior Architectural Historian with Panamerican Consultants, Inc. (PCI) and Director of Panamerican's Architectural History Group. She has more than twenty (20) years experience researching and writing about American architecture and architects. Her research on historic structures has been national in scope and has included residences, exhibition buildings, industrial and military structures, religious and public service edifices as well as the architects who built them. Ms. Nolte's duties include serving as Principal Investigator, conducting fieldwork and research, and writing reports related to historic architecture as well as aiding in the development of proposals and budgets for projects and managing Panamerican's staff of architectural historians. Her other responsibilities include supervision of field crew, maintenance of field reports and budget management. She works closely with other departments to develop budgets, plan field expeditions and create new business opportunities. In addition, she maintains working relationships with State Historic Preservation Offices (SHPOs); national, state, and local agencies, advisory groups and commercial organizations; cultural and social groups and individuals. She is well versed in the Section 106 process, Historic American Building Survey (HABS)/Historic American Engineering Record (HAER) levels and recordation, National Register of Historic Places (NRHP) nomination criteria, and U.S. Department of Defense cultural resource regulations. She is experienced at conducting investigations on large-scale projects such as military installations and highway projects as well as for smaller, individual buildings.

### **REPRESENTATIVE PANAMERICAN CONSULTANTS, INC. EXPERIENCE**

Currently, Ms. Nolte is PCI's senior architectural historian for the cultural resources investigation for the Federal Energy Regulatory Commission (FERC) recertification of the New York Power Authority's (NYPA) Niagara Power Project. PCI's investigation, under contract to URS Corporation, covers the American side of the Niagara River corridor, including the cities of Niagara Falls and North Tonawanda, the towns of Porter, Lewiston, Wheatfield, and Niagara, Niagara County, and the cities of Buffalo and Tonawanda, the towns of Grand Island, and Tonawanda, Erie County, New York. She is conducting the architectural assessments and evaluations of NRHP eligibility for buildings and structures within the FERC boundary and determined buffer zone.

Ms. Nolte was principal investigator for the architectural component of the Phase I Cultural Resources Investigation of seven sites as part of the Hudson River PCB Superfund Site project along the Upper Hudson River. Conducted for USEPA under contract to Ecology & Environment, Inc., the investigation identified archaeologically sensitive areas, and standing structures that are at least 50 years old, that may be affected by a proposed project and to locate all prehistoric and historic cultural and archaeological resources that may exist within the proposed project areas. This investigation included three components: archaeological, geomorphological, and historic architectural. The archaeological investigation focused on identifying archaeological resources with the identified properties, the geomorphological focused on examining alluvial areas within the project areas that may have the potential for containing buried cultural deposits, and the historic architectural investigation evaluated structures within or adjacent to the project areas for historic significance, as well as assessing any potential impact to surrounding viewsheds.

Ms. Nolte served as PCI's principal investigator and senior architectural historian for the determination of eligibility of selected buildings at Picatinny Arsenal for inclusion on the National Register. Picatinny Arsenal (PICA) is located in Rockaway and Jefferson Townships, Morris County, New Jersey. Conducted for U.S. Army Medical Research and Materiel Command, the investigation evaluated the eligibility of 59 buildings and structures scattered across PICA for the NRHP. PCI conducted background and historic research, which included a thorough review of existing cultural resources studies of PICA, local histories, historic maps, real property records, blueprints, and regional/state histories. In addition, a careful review of NRHP criteria, especially those areas dealing with Criteria Consideration G, exceptional importance, as well as pertinent military contexts and guidance was completed. A total of 59 buildings and structures were surveyed, photographed and evaluated. In order to best discuss the various buildings and structures included within this survey, the architectural discussion was divided into three sections: Industrial/Factory Complexes, Naval Air Rocket Test Station (NARTS) Cold War and Non-NARTS Cold War. All 59 of the assessed buildings/structures fit into one of these three categories: 33 of them were included in the Industrial/Factory Complexes category; 23 were in the NARTS Cold War category, and three were in the Non-NARTS Cold War category.

As PCI's senior architectural historian, she prepared the architectural inventory, assessments and evaluations of Cold War buildings and structures for the architectural inventory and National Register evaluation of historic structures at Fort Monmouth (New Jersey), Pine Bluff Arsenal (Arkansas), Umatilla Chemical Depot (Oregon), and the Soldier System Center (Natick, Massachusetts) under contract to the U.S. Army Medical Research and Materiel Command. For each installation, she conducted a site visit and prepared an installation-specific inventory of all buildings and structures with special attention to Cold War (1946-1989) structures and evaluated these using NRHP criteria and guidance and contexts prepared by the DoD. Also, for U.S. Army Medical Research and Materiel Command, she prepared a HABS/HAER documentation project at Rock Island Arsenal, IL, comprising the documentation of four structures at the installation.

She served as Principal Architectural Historian for the Historic Structures Survey and Cold War Evaluation, Kelley Hill Cantonment for the Environmental Programs Branch, Directorate Facilities Engineering and Logistics, Fort Benning (GA). The project included standing structure identification, evaluation, and NRHP eligibility determination of 167 structures and planned landscapes. She also created updated, user-friendly Cultural Resources Survey and NRHP

Evaluation forms for general use at Fort Benning, and Cold War-specific historic context for Kelley Hill Cantonment (site of Army's Air Assault concept).

For the New York District, U.S. Army Corps of Engineers (USACE; under subcontract to Northern Ecological Associates, Inc.), Ms. Nolte served as PCI's architectural historian and principal investigator for the assessment and development of Maintenance Plans for Redoubts Nos. 1 and 2 and their Associated Batteries at the U.S. Military Academy (USMA) at West Point, Orange County, New York, and for the preparation of the architectural evaluation of the proposed Thomas Jefferson Library on the Plain at the USMA. In addition, she has conducted at least eight investigations at the USMA (under subcontract to Northern Ecological Associates, Inc. or Barry A. Vittor & Associates, Inc.). These investigations include: an assessment and evaluation of 34 bridges within the USMA for eligibility for the NRHP as either individual properties or contributing elements to the existing West Point National Historic Landmark District and to determine treatment plans for them (Bridge inventory forms were completed for each bridge in the survey.); an analysis of 16 proposed exterior lighting upgrade impacts on structures eligible for or listed in the NRHP; and, a HABS recordation of Building 124, Married Junior Officers' Quarters; the NRHP Eligibility Evaluation and Impact Analysis Master Plan, New Brick Housing Area at the USMA; and the Review and Impact Assessment of the Master Plan for the West Point Elementary and Middle Schools. Each project involved intensive archival research, interviews with knowledgeable sources, photodocumentation of structures and site conditions, and report writing.

For the New York District, USACE (under subcontract to Barry A. Vittor & Associates, Inc.), Ms. Nolte served as PCI's architectural historian for the research and review of the 1984 HABS inventory for the U.S. Military Academy, West Point, NY. A total of 1,546 buildings, structures, and monuments were inventoried. A total of 41 monuments were identified. Of the remaining 1,505 structures, 486 are located at Stewart Army Subpost, and 1,019 are located at the USMA, which includes all the outlying areas, Lady Cliff College and Constitution Island. Of the 1,019 structures, 611 are within the National Historic Landmark District.

For the Atlantic Division Naval Facilities Engineering Command, Norfolk, Virginia (under subcontract to AllenHoshall, Memphis, TN), Ms. Nolte served as principal investigator and architectural historian for a HABS, Level III-type Documentation of Selected Buildings at Naval Air Station Norfolk Historic District at the Naval Station Norfolk, Virginia. The buildings included the Air Operations-Control Tower, LP-1; Hangars, LP-2, LP-3, LP-4, LP-12, LP-13, LP-14; Ammunition Magazines, LP-6, LP-7, LP-8, LP-9, LP-10, LP-11, LP-28, LP-30, LP-32; Seaplane Hangars, SP-1, SP-2, SP-31; Squadron Storehouse, SP-9; Torpedo Shop, SP-10; Operations/Radio Building, SP-65; Ammunition Magazines, SP-5, SP-6, SP-7, SP-8; Seaplane Ramps, SP-3; SP-4; SP-32 and SP-33; Transformer Vault, SP-11. The purpose of the study was to implement a mitigation strategy designed to document the historic structures at the decommissioned facility through an in-depth historical and archival background search combined with a detailed photographic and architectural recordation process.

National Register eligibility assessment of selected buildings at the Fort Hamilton Military Reservation, Brooklyn, NY. The purpose of architectural component of this study was to document Building 117, the reputed home of Robert E. Lee during his assignment at Fort Hamilton. The project included an historical and archival background research combined with a detailed photographic and architectural recordation. Several other historic period buildings also were included in the study for the possible creation of a National Historic District at the fort.



She served as PCI's architectural historian for Phase I cultural resources investigations for the Joseph G. Minish Passaic River Waterfront Park and Historic Area in the City of Newark, New Jersey. The projects were conducted for the USACE, New York District, under contract to Northern Ecological Associates, Inc. The purpose of these investigations included the investigation and recordation of several industrial elements and structures that were components of properties eligible for listing in the National Register of Historic Places, the enhancement of previously existing documentation conducted during earlier project phases, and the development of an archaeological sensitivity assessment of an area which may contain buried or submerged cultural resources. The investigation included extensive documentary and background research pertinent to the historic development of this portion of the Passaic River in Newark; on-site inspection of the entire project area, with specific attention paid to the impacted cultural resources; review of earlier reports and soil borings addressing cultural resources affected during the first phase of the proposed project; and an architectural assessment and photographic documentation of numerous structures within the project area also will be conducted.

Ms. Nolte was Co-Principal Investigator and Architectural Historian for the Phase IA Cultural Resources Investigation for the proposed restoration of vehicular traffic on Main Street, Buffalo, NY. Prepared for ERM, the investigation was conducted in support of the preparation of an environment assessment for the proposed restoration of vehicular traffic to 6,600 linear feet of Main Street in the city. The project area was Main Street between Tupper Street at the north end and Scott Street at the south. She conducted a site walkover reconnaissance, reviewed and assessed all structures along the project area, and prepared recommendation.

For the Niagara Mohawk Power Corp., Ms. Nolte served as Architectural Historian for a recently completed HAER-level recordation of a nineteenth century former gasholder structure in Saratoga Springs, New York. The investigation was required by the USEPA as part of the design of an environmental remediation project at the site. The investigation included background historical research, field recordation, and photographic documentation.

Ms. Nolte served as Principal Investigator and Architectural Historian for HAER-level recordations of three historic period bridges (Double Bridges, B.B. Comer Bridge, and Montgomery Swing Bridge) for the Alabama Department of Transportation. Each bridge requires intensive background research, interviews with knowledgeable sources, photodocumentation of structures and site conditions, and report writing.

In 1997 she served as architectural historian and principal investigator for an architectural reevaluation of more than 500 structures at Picatinny Arsenal, Morris County, New Jersey. Three historic districts were recommended for creation. Two reports were prepared for the New York District, USACE.

In 1996, She was architectural historian and Principal Investigator for an Architectural Assessment of the World War II Military and Civilian Works on and Around Lines 1, 2, 3, 4, and 5 of the Former Redstone Ordnance Plant (1941-1945) Now the Redstone Arsenal Rocket Engine (RARE) Facility, U.S. Army Missile Command, Redstone Arsenal, Madison County, Alabama.

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## **MARK A. STEINBACK** Senior Historian

### **EDUCATION**

- M.A. Local and Regional History, State University of New York at Albany, 1987
- B.A. History (with Honors), State University of New York at Albany, 1985

### **EXPERIENCE**

Mr. Steinback is currently Senior Historian for Panamerican Consultants, Inc. (PCI) and serves as director of report and proposal production at the Buffalo (New York) Branch office. He has more than ten (10) years experience conducting archival and historic period research and analysis. His experience includes preparing historic contexts, local historic period summaries, site-specific historic period discussions, and historic site sensitivity assessments for statewide, regional, and local cultural resources and archaeological projects. These investigations include conducting archival, documentary, ethnohistoric, and cartographic research and preparing the historic period background of project sites; analyzing existing prehistoric and historic site and structure files, relevant federal and state census and deed research; and preparing written evaluations for inclusion in archaeological and cultural resources management reports and documents. Mr. Steinback exceeds the minimum professional qualification standards as delineated in 36 CFR Part 61 for History. He has a Masters degree in history and more than ten years of full-time experience in research, writing, teaching, and interpretation of historical data.

He is experienced at conducting historical and archival research for large-scale projects including U.S. military installations (e.g., the Air Force, Army, Marine Corps and Navy), pipeline/corridor projects, and flood-control projects, which often require detailed archival and historic map research, design of research questions as part of field methodologies, and report preparation (including Historic American Building Survey [HABS]/Historic American Engineering Record [HAER]-level documentation). In addition, he has more than ten (10) years editorial experience and has edited more than seventy-five (75) cultural resources, archaeological, structural, and environmental assessment reports for both public and private sector clients. He has been with PCI since 1995.

Between 1991 and 1995 Mr. Steinback taught courses in American History and Western Civilization at Schenectady County Community College, Schenectady, New York, as an adjunct history instructor. He also has conducted research for state regulatory agencies, having worked for two years (1987-1989) at the New York State Department of Environmental Conservation (NYSDEC) in the Cultural Resources Section performing duties related to several major department projects. His early research interests focused on the development and practice of mercantilist theory as it concerned English colonization of North America and the Caribbean. His later research interests involved the industrialization of America from the 1840s through the 1920s with a special focus on socio-cultural history of workers and their responses to industrialization, immigration and urbanization. He is a member of the Organization of American Historians and the New York State Historical Association.

## **REPRESENTATIVE PANAMERICAN CONSULTANTS, INC. EXPERIENCE (1995-present)**

Currently, Mr. Steinback is PCI's Project Historian for the cultural resources investigation for the Federal Energy Regulatory Commission (FERC) recertification of the New York Power Authority's (NYPA) Niagara Power Project. PCI's investigation, under contract to URS Corporation, covers the American side of the Niagara River corridor, including the cities of Niagara Falls and North Tonawanda, the towns of Porter, Lewiston, Wheatfield, and Niagara, Niagara County, and the cities of Buffalo and Tonawanda, the towns of Grand Island, and Tonawanda, Erie County, New York. He conducted archival, documentary and cartographic research, reviewed the NRHP and New York State archaeological and historic site information, and prepared the historic context for the extensive Niagara River project area.

He was PCI's Project Historian for a Phase I Cultural Resources Investigation of seven sites as part of the Hudson River PCB Superfund Site project along the Upper Hudson River. Conducted for U.S. Environmental Protection Agency (USEPA) and the U.S. Army Corps of Engineers (USACE), Kansas City District, under contract to Ecology & Environment, Inc., the investigation identified archaeologically sensitive areas, and standing structures that are at least 50 years old, that may be affected by a proposed project and to locate all prehistoric and historic cultural and archaeological resources that may exist within the proposed project areas. This investigation included three components: archaeological, geomorphological, and historic architectural, as well as assessing any potential impact to surrounding viewsheds. He conducted archival, documentary and cartographic research, interviewed knowledgeable informants, reviewed the NRHP and New York State archaeological and historic site information, and prepared the historic context for the extensive Hudson River project area.

Mr. Steinback served as PCI's Project Historian for the determination of eligibility of selected buildings at Picatinny Arsenal for inclusion on the National Register. Picatinny Arsenal (PICA) is located in Morris County, New Jersey. Conducted for U.S. Army Medical Research and Materiel Command, the investigation evaluated the eligibility of 59 buildings and structures scattered across PICA for the NRHP. He conducted background and historic research, which included a thorough review of existing cultural resources studies of PICA, local histories, historic maps, and regional/state histories. In addition, a careful review of NRHP criteria, especially those areas dealing with Criteria Consideration G, exceptional importance, as well as pertinent military contexts and guidance was completed. A total of 59 buildings and structures were surveyed, photographed and evaluated. In order to discuss the various buildings and structures included within this survey, the architectural discussion was divided into three sections: Industrial/Factory Complexes, Naval Air Rocket Test Station (NARTS) Cold War and Non-NARTS Cold War.

As PCI's Project Historian, he prepared Cold War historic contexts for the architectural inventory and National Register evaluation of historic structures at Fort Monmouth (New Jersey), Pine Bluff Arsenal (Arkansas), Umatilla Chemical Depot (Oregon), and the Soldier System Center (Natick, Massachusetts) under contract to the U.S. Army Medical Research and Materiel Command. For each installation, he conducted a site visit and installation-specific archival and documentary research and prepared a summary of the installation's history and a Cold War (1946-1989) historic context based on the Army Materiel Command (AMC) Cold War context. This context was used as part of the evaluation of historic structures at each installation for eligibility for listing in the NRHP.

He has conducted background, archival, cartographic, and documentary research and prepared the historic period background for at least 18 projects at the U.S. Military Academy at West

Point, New York. Conducted predominantly for the USACE, New York District under subcontract, these projects included fourteen (14) Phase I cultural resources investigations; one Phase II investigation (for the Stony Lonesome PX); one Phase III data recovery project (Revolutionary War Hut Site #6), and two sections for environmental impact statements (the Arvin Gym and Thomas Jefferson Hall). These projects were conducted for construction of a child development center, a new PX, an Olympic swimming center, a road relocation, and proposed timber harvests. Both prehistoric and historic period sites have been identified during the field investigations.

Mr. Steinback was PCI's Project Historian for the Phase III Data Recovery of the Commercial Slip of the Erie Canal in the City of Buffalo, New York. Prepared for the Empire State Development Corp and Parsons Brinckerhoff, the investigation was conducted in support of the preparation of an environment assessment for the project area. The report examined and discussed the archaeological data retrieved during the Phase IB, Phase II, Phase III and the 2000 and 2001 monitoring programs, and was based primarily on excavations conducted by another consultant. Materials upon which the report is based included 100+ boxes of artifacts (mostly cataloged), 3-ring binders containing slides and photo prints, various photo logs, files containing notes and partially completed unit plans and profiles. He conducted extensive background, cartographic, and archival research, and prepared the historic context for the project area.

He was PCI's Project Historian for the Phase IA cultural resources investigation for the proposed Southtowns Connector (PIN 5044.01). Conducted for New York State Department of Transportation and Parsons Brinckerhoff, the project was located predominantly along New York State Route 5 (and Lake Erie) in the cities of Buffalo and Lackawanna, and the Town of Hamburg, Erie County, New York. A proposed new arterial between I-190 and Tiff Street is also within the city of Buffalo. The survey area is comprised of approximately 11 miles of proposed transportation route improvements. He conducted archival and documentary research, including a review of State archaeological and historic site documentation and relevant cultural resources reports, and prepared the historic context for the extensive project area.

He edited, conducted background research and prepared sections of the historic period discussion for the National Register eligibility determination for the Doland House (Building 3119) and Buildings 3617, 3618 and others at the former Naval Air Rocket Test Station (NARTS), Test Area E, Picatinny, New Jersey. Both PCI reports were submitted to the USACE, New York District, under contract to Northern Ecological Associates, Inc. The engine for the X-15 aircraft was developed at the NARTS facility. The NARTS Area E was determined eligible for listing to the NRHP as an historic district.

Mr. Steinback served as PCI's Co-Principal Investigator and Project Historian for the Phase II cultural resources investigation for the proposed Niagara County Water District Canal Crossing in Town of Pendleton, Niagara County, NY. The project area comprised areas adjacent to and including the Erie Barge Canal just south of the Pendleton-Lockport town line. Conducted for Wendel Duchscherer, Amherst, NY, the investigation included archival and documentary research, a walkover reconnaissance of the area of potential effect, photographic documentation of site conditions, and shovel testing. The general project area and vicinity had been severely disturbed as a result of construction activities associated with the expansion of Erie Canal and creation of the Erie Barge Canal between 1908 and 1918. As a result of twentieth-century canal expansion, the original canal towpath, which paralleled the canal on the west side, and prism were obliterated and Bear Ridge Road was relocated west to its current

position on top of spoil derived from canal construction. No intact deposits and no significant cultural resources were identified as a result of the investigation.

Mr. Steinback was PCI's Project Historian for the Phase IA cultural resources investigation for the proposed Buffalo Inner Harbor and Waterfront Development Transportation Infrastructure Facility, Marine Drive Project Area, City of Buffalo, Erie County, New York. He conducted archival and documentary research, including a review of New York State archaeological and historic site documentation, relevant cultural resources reports, and historic maps, and prepared the environmental background section and historic context for the project area along Buffalo's waterfront and the historic, Erie Canal-associated Commercial Slip adjacent to Lake Erie. The Phase IA study was conducted for Foit-Albert Associates, Buffalo.

He was PCI's Project Historian for the Phase I cultural resources investigation of the Green Brook Park area in the Township of North Plainfield, Somerset County, and the Township of Plainfield, Union County, New Jersey as part of the Green Brook Flood Control Project, New Jersey. In addition, he conducted background and site file research and edited and organized the historic period discussion for the Phase I investigation, which was performed for Barry A. Vittor and Associates, Inc. under contract to U.S. Army Corps of Engineers, New York District.

He co-authored the Research Design: Phase I Cultural Resources Survey of Civil War and Postbellum Sites (1862-1892) for U.S. Marine Corps Recruit Depot at Parris Island, South Carolina for USACE, Savannah District. As PCI's Project Historian, he later conducted additional archival and background research and prepared the historic period discussion for Phase II archaeological investigations of archaeological sites at the Marine Corps Recruit Depot at Parris Island. Mr. Steinback also conducted archival and documentary research and prepared the historical period overview for the historical and archaeological resources protection plan for the Beaufort-Marine Corps Air Station, SC.

For the New York District, USACE (under subcontract to Barry A. Vittor & Associates, Inc.), he co-authored the HAER-level recordation study of Greenbrook (aka Lincoln) Bridge, Middlesex and Somerset counties, New Jersey as part of the Green Brook Flood Control Project. The purpose of the study was to implement a mitigation strategy designed to document the bridge through an in-depth historical and archival background search combined with a detailed photographic and architectural recordation process. He also edited the documents to HAER standards.

For the New York District, Corps of Engineers (under subcontract to Northern Ecological Associates, Inc.), Mr. Steinback co-authored the HAER recordation of Doty Road Bridge (HAER No. NJ-93), Bergen County, New Jersey. The purpose of the study was to implement a mitigation strategy designed to document the bridge through an in-depth historical and archival background search combined with a detailed photographic and architectural recordation process. He also edited the documents to HAER standards.

For the New York District, USACE, he prepared historic period overviews and compiled environmental, regulatory, and relevant background information for inclusion in integrated cultural resource management plans (ICRMPs) for Watervliet Arsenal, Albany County, the Rotterdam Housing Areas (of Watervliet Arsenal), Schenectady County, and Fort Hamilton, Brooklyn (all New York) as well as Picatinny Arsenal, New Jersey. Several of these documented were extensively updated to new federal standards under a new contract with the U.S. Army Medical Research and Materiel Command, Fort Detrick, Maryland.