Cultural Resources Survey and Evaluation Report for Kansas Air National Guard Properties at Forbes Field, Topeka, Kansas

Prepared for:

Kansas Air National Guard and
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EXECUTIVE SUMMARY

This document contains the results of a cultural resources survey conducted between November 2006 and May 2007 at the Kansas Air National Guard Base at Forbes Field in Topeka, Kansas. An archaeological reconnaissance and evaluation of built resources were carried out to assist the Kansas Air National Guard in complying with sections 106 and 110 of the National Historic Preservation Act of 1966, as amended, and the requirements of Air Force Instruction 32-7065.

An intensive survey for archaeological sites and built resources (buildings and structures) at Forbes Field Air National Guard Base was conducted between 15–17 November 2006 and 5–7 June 2007. The archaeological survey examined three parcels: the 160-acre parcel occupied by the Kansas Air National Guard (parcel 1), a 30-acre parcel licensed to the Kansas Army National Guard (parcel 3), and a 1.9-acre parcel (parcel 5) used as a transfer switchpoint by the Army Air Force Exchange Service. The archaeological survey consisted of a records search, analysis of land-use records, interviews with knowledgeable individuals, and a pedestrian survey supplemented by limited archaeological testing. The building and structure evaluation consisted of archival research, personal interviews, and the inventory and evaluation of 24 buildings at Forbes Field Air National Guard Base that were constructed prior to 1990. In addition, two static displays were recorded, but not evaluated per instructions from the National Guard Bureau. All buildings and structures 50 years of age or older were evaluated for eligibility for inclusion in the National Register of Historic Places using the criteria for evaluation (36 CFR 60.4), *National Register Bulletin 15*, and other pertinent National Park Service guidance. Those buildings and structures constructed between 1958 and 1989 were evaluated using National Register of Historic Places criteria A–D (36 CFR 60.4) and criteria consideration G for the evaluation of properties less than 50 years of age. Evaluation of these latter resources focused on significance related to contributions to the Cold War.

One building, Building 679, is recommended as eligible for listing in the National Register of Historic Places. It is significant under evaluation criteria A and C and is one a very limited number of 11, 150-man alert mission dormitory buildings constructed in the United States. Of these, it is the only one of its size that is under Air National Guard control and the only one in the state of Kansas. The remaining 23 buildings and structures were evaluated as ineligible for the National Register of Historic Places on both an individual and district basis. The results of the archaeological survey were negative; no evidence of surface or subsurface archaeological resources was encountered within the three surveyed parcels, most likely due to the large degree of prior ground disturbance. The base appears to have low to no probability of containing archaeological sites.

Based on the results of the cultural resources survey conducted at Forbes Field Air National Guard Base, the following recommendations are offered to assist the Kansas Air National Guard in complying with applicable federal cultural resource preservation statutes and the requirements of Air Force Instruction 32-7065.

- No further archaeological work is recommended in conjunction with future construction activities within the three surveyed parcels at Forbes Field Air National Guard Base.

The results of the reconnaissance-level archaeological survey were negative. The base is considered to have low to no archaeological potential due to extensive disturbance from past military and construction activities. However, it is impossible to know if archaeological remains exist beneath paved areas or are deeply buried and inaccessible to archaeological survey. Should archaeological remains or human remains be inadvertently discovered during ground-disturbing activities, the Kansas Air National Guard is legally obligated to cease construction activities and consult with the Kansas State Historic Preservation Office and American Indian tribes, as appropriate.

- Building 679 is recommended as eligible for listing in the NRHP. The building should be maintained as a historic building in accordance with the *Secretary of the Interior's Standards for Rehabilitation*. Changes to the building will be subject to consultation with the Kansas State Historic Preservation Officer in accordance with 36 CFR Part 800.

- The remaining buildings and structures that were evaluated in the course of the current cultural resources survey do not meet any of the National Register of Historic Places criteria for evaluation and, therefore, do not appear to be eligible for nomination. No additional evaluation of these buildings is required at this time. Buildings and structures less than 50 years of age at the time of survey were evaluated against the criteria for evaluation and criteria consideration G, specifically for their association with the Cold War. These buildings and structures should be re-evaluated as they reach 50 years of age for National Register of Historic Places eligibility for other than Cold War significance.

TABLE OF CONTENTS

EXECUTIVE SUMMARY ..... **i**

ACRONYMS AND ABBREVIATIONS ..... **vii**

1.0 INTRODUCTION **1-1**

1.1 Overview 1-1

1.2 Project Location and General Environment 1-1

1.2.1 Climate 1-4

1.2.2 Topography and Surface Water 1-4

1.2.3 Geology and Soils 1-5

1.2.4 Vegetation 1-5

1.2.5 Wildlife 1-6

2.0 METHODOLOGY **2-1**

2.1 Project Kick-off 2-1

2.2 Research Methods 2-1

2.3 Field Methods 2-2

2.3.1 Architecture 2-2

2.3.2 Archaeology 2-2

2.4 Evaluation 2-3

3.0 ARCHAEOLOGICAL AND HISTORIC CONTEXT **3-1**

3.1 Introduction 3-1

3.2 Archaeological Context 3-1

3.2.1 Paleo-Indian Period 3-1

3.2.2 Archaic Period 3-2

3.2.3 Early Ceramic 3-2

3.2.4 Middle Ceramic 3-3

3.2.5 Late Ceramic (Protohistoric) 3-3

3.3 Historic Context 3-3

3.3.1 Pauline, Kansas 3-3

3.3.2 Topeka Army Air Field and the World War II Years 3-5

3.3.3 The Strategic Air Command Years 3-6

3.3.4 SAC Alert Mission 3-11

3.3.5 The Tactical Air Command Years 3-12

3.3.6 Kansas ANG and the Transition to Forbes ANGB 3-15

4.0 CULTURAL RESOURCES SURVEY RESULTS **4-1**

4.1 Records Search Results 4-1

4.2 Archaeological Survey and Testing Results 4-1

4.2.1 Pedestrian Survey Results 4-1
4.2.2 Testing Results 4-3
4.2.3 Archaeological Probability Assessment 4-3
4.3 Architectural Results 4-3
4.3.1 Forbes Field ANG Base Parcel 1 4-5
4.3.2 Parcel 3 (KSARNG) 4-24
4.3.3 Parcel 5 (AAFES) 4-29
4.3.4 Static Displays 4-31

5.0 EVALUATION 5-1
5.1 Building 662 5-1
5.1.1 Significance 5-1
5.1.2 Integrity 5-3
5.2 Building 679 5-5
5.2.1 Significance 5-5
5.2.2 Integrity 5-5
5.3 Other Buildings and Structures 5-6
5.4 Buildings Built Prior to 1958 5-7
5.5 Late Cold War-Era Buildings 5-7

6.0 MANAGEMENT RECOMMENDATIONS 6-1

7.0 REFERENCES CITED 7-1

APPENDICES

APPENDIX A: Kansas Building Forms A-1
APPENDIX B: Web Sites Accessed B-1
APPENDIX C: Correspondence C-1
APPENDIX D: GPS Location of Buildings, Structures, and Objects D-1

LIST OF TABLES

Table 3-1. Large Moleholes (150-man facility, 31,000 square feet) Total Number: 10 3-13
Table 4-1. Buildings Surveyed 4-5
Table 5-1. NRHP Eligibility of Surveyed Buildings 5-2

LIST OF FIGURES

Figure 1-1. Project Location Map 1-2
Figure 1-2. Parcel Location Map (ANG 2003) 1-3
Figure 3-1. Train Depot at Old Prairie Town, Ward Meade Historic Site 3-6
Figure 3-2. 1963 Aerial Photograph of Forbes AFB at the Height of SAC Development 3-10

Figure 3-3. B-57 Canberra Profiles and Overview (Knaack 1988) 3-16
Figure 3-4. Fully Armed B-57B with Wing-tip Tanks (Knaack 1988) 3-17
Figure 4-1. Parcel 1 Forbes Field ANG Base -- Cultural Resources Survey Coverage Map 4-2
Figure 4-2. Parcel 1 ANG Site Disturbance and Archaeological Probability Map 4-4
Figure 4-3. Building 648, Southwest and Northwest Elevations 4-6
Figure 4-4. Northwest Elevation of Building 662 4-7
Figure 4-5. Southeast Elevation of Building 662 4-8
Figure 4-6. Northeast Elevation of Building 662 4-8
Figure 4-7. Building 663, Southeast Side 4-9
Figure 4-8. Building 664, Northwest and Southwest Elevations 4-9
Figure 4-9. Building 665, Maintenance Hangar, Southeast Elevation 4-11
Figure 4-10. Building 666, Southeast Façade 4-11
Figure 4-11. Building 668, Northeast and Southeast Elevations 4-12
Figure 4-12. Building 670, Northwest and Southwest Elevations 4-13
Figure 4-13. Building 673, Headquarters, Southeast and Southwest Elevations 4-14
Figure 4-14. Building 679, Overview, View to the North 4-15
Figure 4-15. Building 679, Southwest Elevation 4-15
Figure 4-16. Building 679, Diagram of Current Conditions 4-16
Figure 4-17. Building 679, Southeast Elevation 4-17
Figure 4-18. Newspaper Photo From A 1960 Article Describing the Molehole 4-17
Figure 4-19. Building 750, Northwest and Northeast Elevations 4-18
Figure 4-20. Building 760, Northwest and Northeast Elevations 4-19
Figure 4-21. Building 770, Northwest and Southwest Elevations 4-20
Figure 4-22. Building 775, Northeast and Southeast Elevations 4-21
Figure 4-23. Building 780, Northwest Façade 4-21
Figure 4-24. Building 783, Northeast and Northwest Elevations 4-22
Figure 4-25. Building 55099 4-23
Figure 4-26. Building 57007, South Elevation 4-23
Figure 4-27. Building 57008, Southwest Elevation 4-24
Figure 4-28. Parcel 3 Cultural Resources Survey Coverage Map 4-25
Figure 4-29. Building 636, Southwest Elevation 4-26
Figure 4-30. Building 680, Southeast Elevation 4-27
Figure 4-31. Building 681, Southwest Elevation 4-28
Figure 4-32. Building 682, Southwest Elevation 4-28
Figure 4-33. Building 2720, AAFES Switchpoint 4-29
Figure 4-34. Parcel 5 Survey Coverage Map 4-30
Figure 4-35. B-57 Canberra Static Display 4-31
Figure 4-36. 190th ARW Tail Section Display 4-32
Figure 5-1. Ground Floor Plan of Building 662 with Later Encroachments Shaded Gray 5-4

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ACRONYMS AND ABBREVIATIONS

190 ARW	190 Air Refueling Wing
A7CVN	Natural Infrastructure Management Branch
AAFES	Army Air Force Exchange Service
AASF	Army Air Support Facility
AFB	Air Force Base
AFI	Air Force Instruction
amsl	Above Mean Sea Level
ANG	Air National Guard
ANGB	Air National Guard Base
ARNG	Army National Guard
ARW	Air Refueling Wing
BP	Before Present
BW	Bombardment Wing
CFR	Code of Federal Regulations
cm	Centimeter
CMU	Concrete Masonry Units
°F	Degrees Fahrenheit
ECM	Electronic Countermeasures
GSA	General Services Administration
ICBM	Intercontinental Ballistic Missile
KS ANG	Kansas Air National Guard
KSARNG	Kansas Army National Guard
NGB	National Guard Bureau
NHPA	National Historic Preservation Act of 1966, as amended
NPS	National Park Service
NRHP	National Register of Historic Places
SAC	Strategic Air Command
SHPO	State Historic Preservation Office(r)
SRW	Strategic Reconnaissance Wing
TAAF	Topeka Army Airfield
TAC	Tactical Air Command
U.S.	United States
U.S. 75	U.S. Highway 75
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey

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1.0 INTRODUCTION

1.1 OVERVIEW

The Natural Guard Bureau (NGB), Air National Guard, Natural Infrastructure Branch (A7CVN) required a cultural resources survey at the Kansas Air National Guard Base (ANGB) at Forbes Field. The survey was conducted through contract number W9133N-04-D-0005, delivery order number 0006. The intent of the survey was to identify cultural resources and evaluate their eligibility for listing in the National Register of Historic Places (NRHP). A second objective of the cultural resources survey was to make recommendations for special protection requirements and management of the cultural resources. The statement of work required survey and evaluation of cultural resources, including built resources (buildings and structures) constructed prior to 1990, and archaeological resources. These resources were examined on three land parcels within Forbes Field, and an assessment of the archaeological potential was made. Work was conducted pursuant to section 110 of the National Historic Preservation Act of 1966, as amended (NHPA), and Air Force Instruction (AFI) 32-7065, *Cultural Resources Management Program.* The cultural resources team consisted of Jayne Aaron, Marjorie Nowick, and Daniel Hart. Marjorie Nowick served as project manager. Work was conducted between November 2006 and July 2007. This report summarizes work conducted, methods employed, results of the work, and recommendations and conclusions.

1.2 PROJECT LOCATION AND GENERAL ENVIRONMENT

The content of this section is adapted from the Forbes Field Environmental Baseline Study conducted in 2003 (ANG 2003) and the environmental assessment for construction at Forbes Field (ANG 2004).

Forbes Field ANGB is on the south side of Topeka, Kansas, in Shawnee County (figures 1-1 and 1-2). The base is about 10 miles south of the Kansas State Capitol, and fronts along U.S. Highway 75 (U.S. 75). Historically, part of the 4,232-acre Forbes Air Force Base (AFB), Forbes Field ANGB, consists of three separate parcels (parcels 1, 3, and 5). These parcels are under the jurisdiction of the 190th Air Refueling Wing (190 ARW) of the Kansas Air National Guard (KS ANG). The 190 ARW is resident at parcel 1. Parcels 3 and 5 are licensed to the Kansas Army National Guard (KSARNG) and Army Air Force Exchange Service (AAFES), respectively. All three parcels and improvements are owned by the United States (U.S.) government. In 1973, Forbes AFB closed and its land was transferred to various parties, mostly through the General Services Administration (GSA). By the end of 1976, 3,200 acres of the former Forbes AFB, excepting KS ANG parcels, were transferred to the City of Topeka. The commercial airfield and airport facilities of the former AFB currently are operated by the Metropolitan Topeka Airport Authority. The area of the former AFB, including the commercial airport, Forbes Field ANGB, and other private (mostly industrial) parcels, continues to be known collectively as Forbes Field.

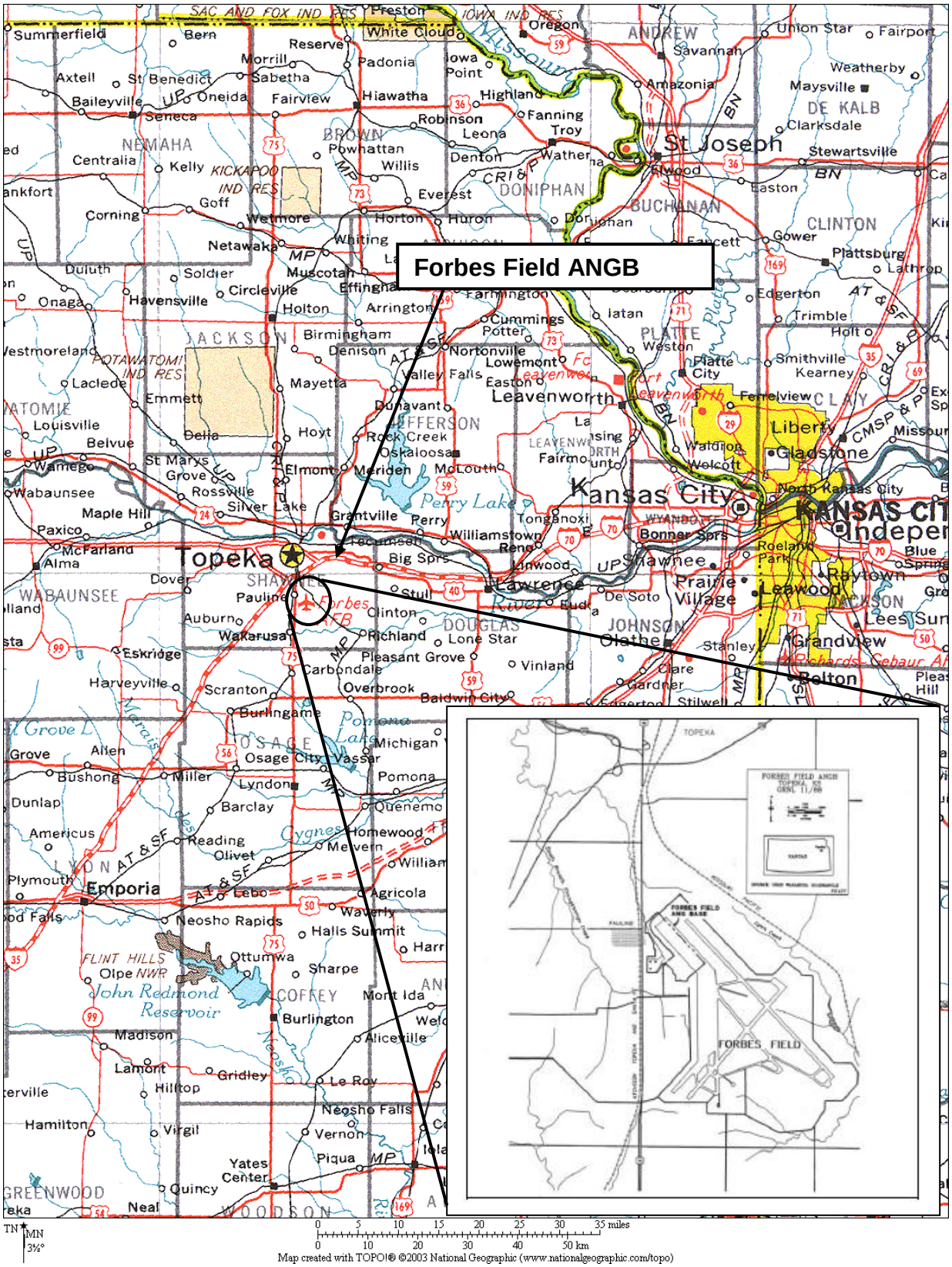

FIGURE 1-1. PROJECT LOCATION MAP

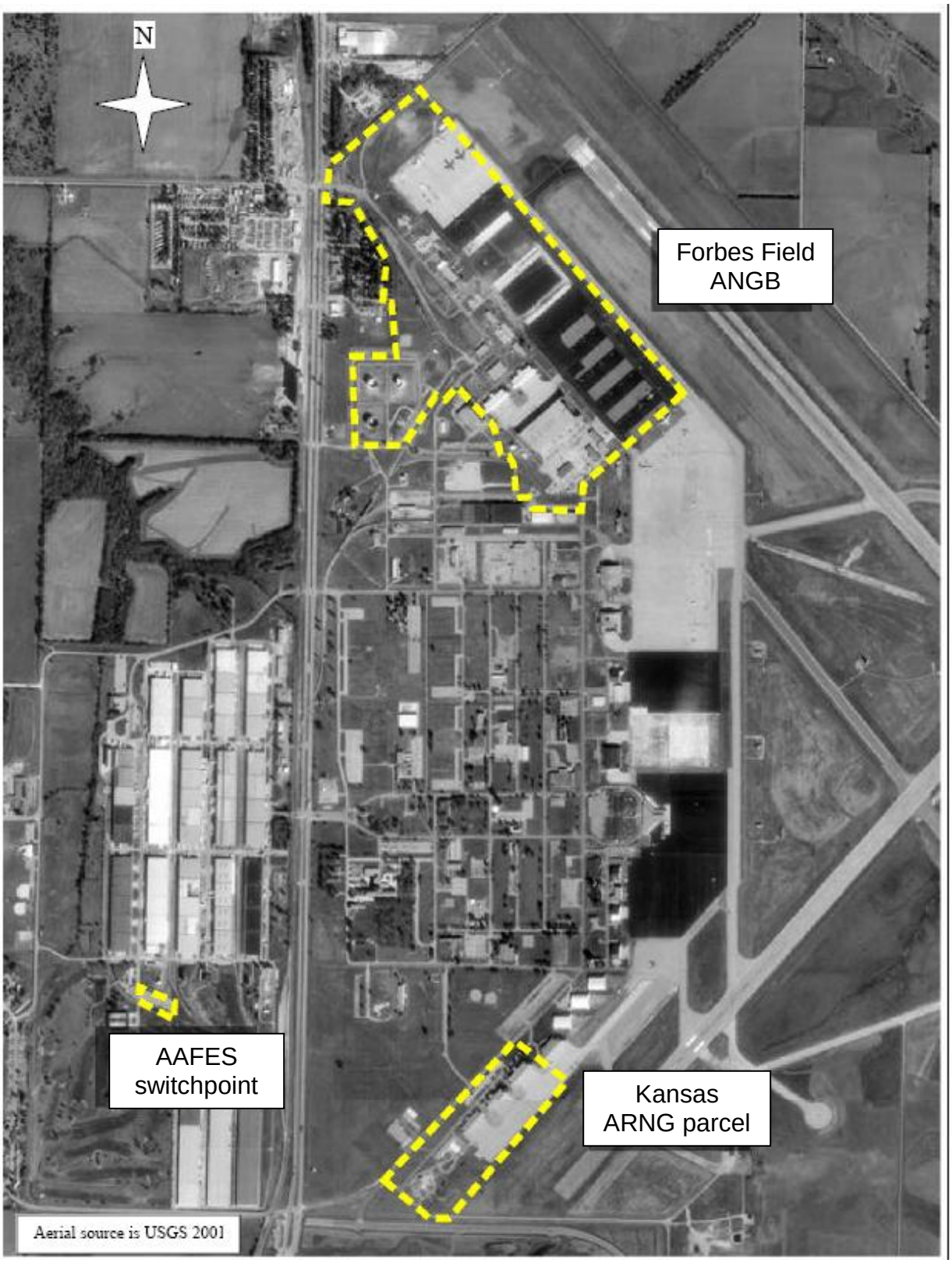

FIGURE 1-2. PARCEL LOCATION MAP (ANG 2003)

The Forbes Field ANGB parcel (parcel 1) consists of approximately 160 acres on the northwest corner of Forbes Field. The parcel is generally rectangular in shape, except for the tank farm portion. Orientation of the parcel is northwest to southeast. It is adjacent to the Forbes Field airport runway immediately northeast of the KS ANG property line. At this location, the 190 ARW operates and maintains KC-135 D/E aircraft in support of aerial refueling and airlift support operations worldwide.

The KSARNG parcel (parcel 3) consists of approximately 30 acres at the southwest corner of Forbes Field. It serves as the base of operations for the Army Aviation Support Facility (AASF) of the KSARNG. The parcel is rectangular in shape and is oriented northeast-southwest with the Forbes Field runway immediately to the southeast. The AASF maintains helicopter aircraft from various KSARNG battalions. There are four buildings on this parcel, all of which are described and evaluated in this report.

Parcel 5 consists of approximately 1.5 acres, about 0.5 mile west of Forbes Field in an industrial park. This parcel serves as a switching station for tractor-trailers associated with the AAFES and is used primarily for trailer storage. It is equipped with a small fuel service station and a small office building. This parcel and building are described and evaluated in this report.

1.2.1 Climate

The climate in the region of Forbes Field is typical of the Great Plains. Frontal air masses create wide variations in maximum and minimum seasonal temperatures. During the summer season, temperatures may exceed 100 degrees Fahrenheit (ºF) due to frontal air masses from the Desert Southwest. During the winter season, temperatures may drop to -20ºF due to inflows of cold, dry polar air. Shawnee County has a growing season of approximately 200 days, with the average first frost occurring on 26 October and the average last frost occurring on 9 April. The average annual precipitation is approximately 33 inches per year, with approximately 70% of the annual rainfall occurring as morning or evening thunder showers from April through October (ANG 2003).

1.2.2 Topography and Surface Water

The topography in the vicinity of Forbes Field is nearly level to gently sloping, with a total relief of not more than 40 feet between the three ANGB parcels. The largest elevation changes in parcel 1 and parcel 3 occur in the streambeds/storm drainage channels on the property. Parcel 5 is essentially flat, with no storm drainage channels or streambeds.

According to U.S. Geological Survey (USGS) topographic maps, the topography generally slopes downward from the south to the north. Surface elevations range from 1,010 to 1,050 feet above mean sea level (amsl) among the three parcels.

Forbes Field lies on a drainage divide between Lynn Creek and the south branch of Shunganunga Creek, and an unnamed tributary of the Wakarusa River. Lynn

Creek drains southeast into the Wakarusa River. The south branch of Shunganunga Creek drains north into the Kansas River. The drainage divide between Lynn Creek and the south branch of Shunganunga Creek runs through the center of Forbes Field, following the main runway.

The Wakarusa River, approximately 3 miles south of Forbes Field ANGB, is the most prominent permanent water feature in the area. Numerous modern ponds and reservoirs are present in the vicinity as well. The largest of these is Lake Shawnee, approximately 3 miles northeast of the base (ANG 2003).

1.2.3 Geology and Soils

Forbes Field is in the southeast part of Shawnee County, which is divided into north and south physiographic sections by the Kansas River. The region lies in the western part of the Forest City basin, which is part of the dissected Till Plains of the Central Lowland physiographic province. In the area, glacial drift ranges in thickness from a thin veneer to 40 feet, and in many places masks the shape of underlying bedrock formations by creating gentle rolling hills. The drift is composed of clays, silts, and sands. Sedimentary rocks of Paleozoic age overlie the Precambrian igneous and metamorphic basement complex in the area of Forbes Field. The sedimentary deposits are typically composed of shale, limestone, and thin sandstone, which record a distinctive cyclic pattern of sedimentation.

Bedrock underlying Forbes Field ANGB (parcel 1) consists of interbedded marine shale and limestone of the Scranton shale, Howard limestone, and Severy shale formations. A thin layer (5 feet–20 feet) of unconsolidated clays and silty clays is present above the bedrock formations. These deposits are apparently weathered from the underlying shales.

Various soil types have been identified in the Forbes Field area. The U.S. Department of Agriculture (USDA) and the Kansas Agricultural Experiment Station identified eight surface soils for the Forbes Field area. These include alluvial, breaks, and Labette soils, as well as two types of Ladysmith silty clay loam, two types of Pawnee clay loam, and Sogn-Vinland complex soils (ANG 2003).

1.2.4 Vegetation

Northeastern Kansas is within the Prairie Parkland (Temperate) Province. The prevailing vegetation consists of intermingled prairie and strips of deciduous trees. The upland forest is dominated by oak and hickory. Bluestem prairie, which is the most prevalent type of grassland, is dominated by grasses (big bluestem, little bluestem, switchgrass, and Indian grass), along with many forbs and legumes. As a result of fire suppression activities over the years, deciduous forest is encroaching on the prairie. Much of the original vegetation has been lost in this province due to agricultural expansion.

When Forbes Field was acquired by the federal government in 1942, it was generally undeveloped or occupied by agricultural land. Over time, most of the land within the former

AFB has been developed, with an associated loss of native vegetation. Presently, typical vegetation at Forbes Field consists of mowed fields and lawns with scattered ornamental trees. Within parcel 1is a small drainage ditch with grassy banks that has been modified in recent years (ANG 2003).

1.2.5 Wildlife

Wildlife at Forbes Field is limited to species that have adapted to existence in a developed, semi-urban, and industrial environment. This wildlife has not been formally documented at Forbes Field, but skunks and rabbits have been observed on the installation. Mammals typically found in northeastern Kansas (including Shawnee County) include the plains pocket gopher (*Geomys bursarius*), eastern cottontail (*Sylvilagus floridanus*), prairie vole (*Microtus ochrogaster*), and striped skunk (*Mephitis mephitis*) (Timm et al. 2004).

A total of 316 bird species have been recorded in Shawnee County (ANG 2004). The county is within the principal route of the Central North American Migration Flyway—also known as "the flyway of the Great Plains." The flyway is bound to the east by the valley of the Mississippi River and to the west by the Rocky Mountains. Bellrose (1976) shows a migration route near Forbes Field for a number of waterfowl, including the canvasback (*Aythya valisineria*), northern shoveler (*Anas clypeata*), blue-winged teal (*Anas discors*), northern pintail (*Anas acuta*), green-winged teal (*Anas crecca*), gadwall (*Anas strepera*), American wigeon (*Anas americana*), Canada goose (*Branta canadensis*), and lesser snow goose (*Chen caerulescens caerulescens*), in particular (ANG 2004).

2.0 METHODOLOGY

2.1 PROJECT KICK-OFF

A kick-off meeting was held 15 November 2006, at Forbes Field ANGB to discuss project goals, methodology, data resources, and logistical considerations. Pertinent real property, building and operations information, and base history also were discussed. The meeting was chaired by Mr. Matt Nowakowski, NGB technical advisor and project manager. Attending base personnel included: Colonel Hansen, base civil engineer; Colonel Bader, deputy civil engineer; Major Doug Chase, Forbes Field environmental manager; Ms. Christy Tipton, state environmental manager; and Ms. Susan Dechand, real property manager. Attending from the Kansas State Historic Preservation Office (SHPO) were Mr. Patrick Zollner, deputy SHPO and Ms. Sarah Martin, Kansas register coordinator. Contractors attending the meeting included Ms. Jayne Aaron, Ms. Marjorie Nowick, and Mr. Daniel Hart. A tour of the base followed the kick-off meeting. Major Chase, Mr. Nowakowski, Ms. Tipton, Mr. Zollner, Ms. Martin, Ms. Aaron, Ms. Nowick, and Mr. Hart participated in the tour.

2.2 RESEARCH METHODS

Background research was conducted using a variety of methods. First, a records search was conducted using the Kansas State Historical Society online cultural resources database. A 5-mile radius around Forbes Field ANGB was searched for information about previous cultural resources surveys and previously recorded archaeological sites, historic buildings, or NRHP districts.

The files of Forbes Field ANGB also were searched for historical information. The environmental office provided research material regarding Forbes Field including photos, databases, and a variety of planning and environmental compliance documents. The real property and civil engineering files were searched for relevant construction drawings, real property accountability records, real property licenses, and other information regarding past facilities and infrastructural construction, use, and demolition.

In addition, the following state and local museums and repositories were visited for information relevant to the project area:

- Combat Air Museum, Topeka
- Kansas National Guard Museum, Topeka
- Kansas Historical Society Library and Center for Historical Research
- Topeka and Shawnee County Public Library, including Topeka Room
- Kansas SHPO/Office of the State Archaeologist

2.3 FIELD METHODS

A pedestrian field reconnaissance survey was conducted on 15–17 November 2006 by Daniel Hart and Marjorie Nowick to identify any archaeological sites, and to document buildings and structures. Additional research, inventory, and testing were carried out by Mr. Hart on 5–7 June 2007.

2.3.1 Architecture

The inventory and evaluation of built resources considered all buildings and structures constructed prior to 1990, using the National Park Service (NPS) recommended terminal date for the Cold War as the end date for resources to be surveyed. Based on facility construction years contained in the NGB real property listing for Forbes Field ANGB, a list of 24 buildings and two static displays requiring survey was developed. These buildings and structures occur across all three parcels of the base. Table 4-1 presents information about the buildings and structures surveyed.

The field survey was conducted by inspecting each building and describing its general architectural attributes, building plans and interior spatial arrangements, character-defining features, additions and other modifications, and general condition. Digital photographs were taken of at least two views of each building, each view capturing two building elevations. In many cases, the buildings were so large or close together that digital photos were taken of individual elevations or portions of elevations and then were viewed together. Photographs also were taken of the surrounding environment of the buildings to understand their relationship to other facilities and airfield features. Maps of the base provided by the KS ANG also provided an understanding of the relationships of built resources to each other. Kansas SHPO building inventory forms were completed using descriptions and other information from field reconnaissance and research.

2.3.2 Archaeology

2.3.2.1 Survey

Kansas SHPO guidelines for archaeological surveys require a survey transect interval of 15 meters for areas of greater than 40% ground surface visibility. In areas of less than 40% ground surface visibility, pedestrian survey should be supplemented with shovel tests placed in staggered 15-meter transects to achieve greatest coverage. However, the SHPO acknowledges that these survey methods are not always appropriate for every situation because field conditions vary widely. It was determined, in consultation with the SHPO, that the long history of use and construction at Forbes Field warranted a tailored field approach.

To develop the archaeological survey strategy appropriate to Forbes Field, a windshield tour of the three project parcels was carried out. The purpose of the windshield tour was to identify areas unpaved or without facilities where survey would be possible. Information about the history of land use was gathered from the base environmental and civil engineering offices.

This included maps and aerial photographs showing the locations of former facilities and areas with ground disturbance or conditions that would make survey impossible. Forbes Field ANGB personnel also were interviewed. These data were compiled into a map of the base, which was used for survey and archaeological assessment purposes. Ground surfaces not covered with facilities or prior disturbance were subjected to a systematic pedestrian survey. These were the central and northern areas of parcel 1. Parcel 3 is entirely paved so no survey for archaeological resources was possible. Parcel 5 was examined, but found to be entirely deflated by turns of trucks and trailers and the deep scars that are left by the vehicular turns. Accordingly, only the main ANG parcel (parcel 1) was subjected to a pedestrian survey.

2.3.2.2 Shovel Testing

Seven shovel tests were excavated at the northern portion of parcel 1 to verify the presence/ absence of archaeological sites and to document subsurface conditions, including disturbance, as required by the project statement of work. The shovel tests were subjectively placed at locations where there was the least extent of ground disturbance based on the map compilation of past land use and disturbance. The shovel tests were 30 centimeters (cm) in diameter and were excavated to a depth of 30 cm or to the point where one sterile level was encountered below cultural material. Sediments removed from shovel tests were screened through ¼-inch mesh screen, and notations made regarding soils and cultural inclusions such as construction materials or other indications of prior disturbance. The locations of the shovel tests are depicted on figure 4-1.

2.3.2.3 Archaeological Probability Assessment

The land-use map developed prior to the survey and testing was used in unison with records search results and archaeological survey and testing results to provide an overall assessment of the probability for finding intact archaeological sites within Forbes Field ANGB.

2.4 EVALUATION

Under NHPA guidelines, cultural resources are to be evaluated for NRHP eligibility using the NRHP Criteria for Evaluation, as listed in 36 *Code of Federal Regulations* (CFR) 60.4. To be listed in, or considered eligible for the NRHP, a cultural resource must meet at least one of the four following criteria:

1. The resource is associated with events that have made a significant contribution to the broad pattern of history (criterion A).

2. The resource is associated with the lives of people significant in the past (criterion B).

3. The resource embodies distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic value; or represents a significant and distinguishable entity whose components may lack individual distinction (criterion C).

4. The resource has yielded, or may be likely to yield, information important in prehistory or history (criterion D).

In addition to meeting at least one of the above criteria, a cultural resource must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. Integrity is defined as the authenticity of a property's historic identity, as evidenced by the survival of physical characteristics it possessed in the past and its capacity to convey information about a culture or group of people, a historic pattern, or a specific type of architectural or engineering design or technology.

Location refers to the place where an event occurred or a property was originally built. Design considers elements such as plan, form, and style of a property. Setting is the physical environment of the property. Materials refer to the physical elements used to construct the property. Workmanship refers to the craftsmanship of the creators of a property. Feeling is the ability of the property to convey its historic time and place. Association refers to the link between the property and a historically significant event or person.

Cultural resources meeting these standards (eligibility and integrity) are termed "historic properties" under the NHPA. Sites or structures that may not be considered individually significant may be considered eligible for listing in the NRHP as part of a historic district. According to the NRHP, a historic district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects that are historically or aesthetically united by plan or physical development.

Certain kinds of cultural resources are not usually considered for listing in the NRHP, including:

- religious properties (criteria consideration A)
- moved properties (criteria consideration B)
- birthplaces or graves (criteria consideration C)
- cemeteries (criteria consideration D)
- reconstructed properties (criteria consideration E)
- commemorative properties (criteria consideration F)
- properties that have achieved significance within the last 50 years (criteria consideration G)

These resources can be eligible for listing only if they meet special requirements called "criteria considerations." A resource must meet one or more of the four criteria for evaluation (A through D) and also possess integrity of materials and design before it can be considered under the various criteria considerations.

Criteria consideration G (properties that have achieved significance within the last 50 years) potentially applies to buildings and structures that were less than 50 years old at the time of

evaluation. For districts, sites, buildings, structures, or objects that have achieved significance within the last 50 years, only those of "exceptional importance" can be considered potentially eligible for nomination to the NRHP, and the finding of "exceptional importance" must be made within the specific historic context associated with the property, as defined in *National Register Bulletin 22*, as amended in 1998. Buildings evaluated under criteria consideration G that do not qualify for exceptional importance must be reevaluated when they reach 50 years of age under NRHP criteria A–D.

In order to evaluate cultural resources at Forbes Field ANGB, the following NRHP bulletins were used as guides:

- How to Apply National Register Criteria for Evaluation (Bulletin 15)
- Guidelines for Completing National Register for Historic Places Forms
- Researching a Historic Property
- Guidelines for Evaluating and Documenting Historic Aviation Properties
- Guidelines for Evaluating and Documenting Historic Archaeological Sites
- Guidelines for Evaluating and Documenting Historic Properties that Have Achieved Significance Within the Last Fifty Years (Bulletin 22)

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3.0 ARCHAEOLOGICAL AND HISTORIC CONTEXT

3.1 INTRODUCTION

Themes related to prehistory and history of the project area comprise the context from which the project area is better understood and evaluated. This section begins with an archaeological context discussing the prehistory of the project area, followed by a historic context of the area. The historic context covers the period from the mid-1800s through 1989, which marks the end of the Cold War era. It includes a discussion of land use of the project area prior to establishment of Forbes Field, a discussion of the development of Forbes Field and the various Air Force missions undertaken at Forbes Field, and a discussion of the transition of the property to the KS ANG and subsequent events.

3.2 ARCHAEOLOGICAL CONTEXT

Relatively little archaeological work has been done in the area surrounding Topeka compared with other areas of the state. Nevertheless, some generalizations about this region of Kansas can be made. Human occupation of the region dates to approximately 10,000 years ago before present (BP). Previously recorded archaeological sites in the area represent habitation areas or small work or procurement areas. Very rarely are village sites or burial mounds found in the region (Adair et al. 1984). While much more remains to be learned about the area, it is evident that the region contains materials derived from all of the major regional prehistoric cultural periods including:

- Paleo-Indian circa 14,000 BP – 8000 BP
- Archaic circa 8000 BP – 500 BP
- Early Ceramic AD 1 – AD 1000
- Middle Ceramic AD 1000 – AD 1500
- Late Ceramic AD 1500 – AD 1800

3.2.1 Paleo-Indian Period

Studies of Late Pleistocene ecological data indicate that the flora and fauna in the Great Plains at the end of the Pleistocene differed from the plants and animals living today. The period's diverse plant communities and animal populations (mainly megafauna) were largely extinct by 11,000 BP and fully replaced by the modern Holocene biota by about 8,000 years ago (Hofman et al. 1996:206). The human groups who lived through this dynamic transitional period are generally referred to as Paleo-Indians. They witnessed the extinction of various types of megafauna that characterized the Pleistocene era and adapted to a changing environment.

Paleo-Indian people were highly nomadic, specialized big-game hunters who traveled in small bands. Signature stone tools developed by these peoples include unnotched projectile points of fluted or lanceolate type, often found in contexts where mammoth or bison remains also occur. Three of the main complexes within this period were Clovis (12,000 BP–10,600 BP), Folsom (10,900 BP–10,100 BP), and Dalton (10,500 BP–8000 BP). Each complex was associated with a distinctive subsistence technology and changes in the material culture of each complex infer subtle shifts in subsistence strategies through time. Paleo-Indian structural remains are poorly represented in the archaeological record, probably due to a mobile lifestyle and the use of perishable construction materials.

3.2.2 Archaic Period

A distinct change in subsistence and technology marks the transition from the Paleo-Indian period to the Archaic period. Archaic groups were not as specialized as earlier Paleo-Indian big-game hunters. Rather than relying mainly on big game as their food source, they routinely exploited a variety of other flora and fauna. They made use of features such as hearths and roasting pits, and created burned rock middens that were almost certainly used to process plant foods like bulbs and acorns (Thies 1990, Williams 1988, Hofman et al. 1996:211). Bison were apparently not abundant on the Plains during this period, and deer, as well as smaller animal species, appear to have played a substantial role in Archaic subsistence (Hofman et al. 1996:211). Archaic populations made use of atlatls for hunting game, hafted knives for processing animals and plants, axes for chopping trees, and grinding stones for processing seeds and other items. Stone tools were often thermally cured and included distinctive stemmed and notched projectile points. Archaic peoples also likely wove baskets, sandals, cordage, and mats out of grasses and other plant fibers, but these items are rarely preserved in archaeological contexts. Evidence for Archaic period structures is rare on the Plains, but houses are inferred to have been important, at least on a seasonal basis. Rock shelters, where available, were used intensely and repeatedly (Chapman 1975, Hofman et al. 1996:211).

3.2.3 Early Ceramic

The Early Ceramic period in the central Plains is roughly equivalent to the early Woodland period of the eastern United States. Various cultural developments are evident during this period including limited reliance on horticulture, use of ceramics, long-distance trade, and use of burial mounds, all of which indicate increasing sedentism. Sedentism also is manifest in the archaeological record in the form of large permanent villages and smaller associated permanently settled periphery villages, as compared to the seasonal camps and habitation sites of the Archaic and Paleo-Indian periods. Specialized camps appear to have been seasonally used for food processing (plant processing and animal butchering) (Adair et al. 1984).

Early Ceramic sites are much more numerous and materially diverse than Archaic sites, suggesting increased population and more sophisticated social organization. The increase in sites may also be due to under-representation of older Archaic sites in the sample of recorded sites in this region; such sites may be deeply buried by alluvial deposits. Regardless of this possibility, there appears to have been an increase in population. Cultural materials found at

Early Ceramic sites include cord-marked, smoothed, or cord-mark smoothed, wide-mouth ceramic jars with conical bases; corner-notched and contracting-stemmed dart points and smaller corner-notched arrow points, scrapers, axes, drills, gouges, sandstone abraders, grinding stones, and hammerstones. Houses appear to have been round or oval, constructed of wattle and daub, with hearths both inside and outside, and storage pits (Adair et al. 1984).

3.2.4 Middle Ceramic

The Middle Ceramic period is differentiated from the previous period by distinctive projectile point types and ceramic decoration. Sedentism and reliance on agriculture also increased noticeably during this period. Corn, squash, beans, sunflower, and marsh elder were cultivated. Sites are also larger than those found in the Early Ceramic period and have greater numbers of artifacts and permanent houses.

Subsistence consisted of a combination of hunting and gathering, supplemented by agriculture. Favored game included deer and bison. Ceramics produced during this period included plain shell-tempered vessels or vessels with incised and scroll designs that sometimes have lug or loop handles. Similarities of pottery suggest evidence of increasing ties with the Mississippian culture of Cahokia. Other evidence of these ties is seen in the presence of trade items such as conch shell and conch pendants and beads (Adair et al. 1984).

3.2.5 Late Ceramic (Protohistoric)

Of all the periods identified in this region of Kansas, the Late Ceramic period is the least understood. It is generally associated with the Kansa people, who were the first Indians encountered by Europeans in this region. The Kansa may have arrived in the area as early as AD 1600; however, there is limited archaeological evidence to support this claim. The only site in the region tentatively attributed to the Kansa is the Fanning site. Most other reports of Kansa villages and sites fall squarely within the historic period (Adair et al. 1984).

The Kansa people migrated from the Atlantic coast, probably in search of land for farming and better hunting lands. They are related to the Ponca, Quapaw, Omaha, and Osage peoples and speak a dialect of the Siouan language. Their tribe was broken into 16 clans, which were arranged into seven larger groups (Adair et al. 1984).

3.3 HISTORIC CONTEXT

3.3.1 Pauline, Kansas

The area of interest at Forbes Field lies immediately adjacent to the town of Pauline, Kansas. The town was founded by W.D. Paul in 1867 as the first town south of Topeka. Paul came to Kansas in 1857 and pre-empted a claim near Bernett's Mound in Shawnee County. In 1867, he traded it for a farm on the present site of Pauline (Topeka Capitol 1923). In the years to come,

Pauline would become a small but thriving community in the Williamsport Township and a rival of nearby Berryton.

Paul's friend Cyrus Holliday, president of the Santa Fe Railroad and founder of Topeka, planned a rail line through Paul's property. After some negotiation, the railroad bed was placed in front of the Paul farmhouse and was completed in 1869. A railroad station was built in the 1870s, and the town became a water and coal stop for the railroad. In the early years of Pauline, the unincorporated town was visited by traveling country parsons. The town had its own small independent amateur newspaper, the *Leader*, that was active by the mid-1870s (Bird and Wallace 1976).

All the claims and land abstracts were measured from a stake positioned at the center of the railroad bed and the wagon road that crossed it. Half of the wagon road was on Santa Fe Railroad property and half on Paul property. The property was donated by both parties and subsequently designated a county road. Afterwards, Paul donated land for a school and church along the wagon road (Topeka Capitol 1923). The Union Congregational Church was probably built in 1894 on a parcel also donated by Paul (Bird and Wallace 1976). The town post office, store, livery stable (later an automobile garage), and five or six residences were also built adjacent to the wagon road. By the late nineteenth century, there was a Farmer's Union Co-op and several ornate homes—all appearances indicated the town would be a prosperous agricultural center.

In 1901, Pauline was the scene of a famous chapter in Kansas law enforcement history. Two escaped convicts from Leavenworth prison took Sheriff Cook prisoner in the old Paul farmhouse. The escapees went into the house and took the owners of the house, Mr. and Mrs. Worcester, hostage. Thinking the two fugitives were unarmed, the sheriff rushed in to save the Worcesters and was himself taken hostage. His deputy was left to call for reinforcements from the sheriff's office and the Topeka Police Department. The two fugitives used the three hostages as human shields to exit the house, retreat into the woods, and flee, leaving the hostages behind. Both fugitives were captured soon after (Topeka Journal 1915).

By 1910, a typical wood frame Santa Fe Railroad depot was completed in Pauline at a cost of $985. It was 40 feet long, 16 feet wide, and situated on the west side of the mainline track (KSHS 2007). The advent of the automobile made it possible for everyone to do their business in Topeka, resulting in a decline in local business in Pauline. In 1923–1924, regional developers designed a new concrete highway that would extend through the center of Pauline. After a Supreme Court battle, Pauline became the first town in Kansas where an entire unincorporated village was moved to make way for a highway (Topeka Capitol 1923). After the ruling, most of the town's landmark buildings were moved back 30 feet to make room for the new road and the store (which included the post office), the church, the schoolhouse, and the garage. In the next decades, Pauline remained much the same as it had since the turn of the century, with little growth due to the continual encroachment of nearby Topeka.

By 1952, the town was composed of 73 families in permanent homes and another 40 families in trailer homes. One hundred new houses were being constructed by a private contracting firm at that time. Citizens decided to tackle the issues involved with being a town and circulated a

petition for a vote on incorporation. Forty property owners attended the meeting and determined the town's boundaries should extend 0.5 mile on either side of U.S. 75, and from Berryton Road on the south to the Santa Fe Railroad underpass on the north. The vote passed with 17 voting for incorporation, 11 against, and the rest abstaining. Despite the vote, the town remained unincorporated (Topeka Capitol 1952).

While Pauline experienced a boom, due mainly to the construction of Topeka Army Airfield, the railroad was experiencing a slow decline in passenger service. As fewer and fewer passengers were riding trains, service to Pauline and other stations was slowly being phased out. The last record of the Pauline station being scheduled for Santa Fe passenger trains was in 1957. The depot was still owned by the Santa Fe Railroad and Amtrak, but leased to the U.S. Air Force at Forbes Field, and used as an agent station for clerks handling railroad freight headed to Forbes Field. The station was officially closed on 27 October 1982, and donated to the Historic Ward-Meade Park in central Topeka by the Atchison Topeka & Santa Fe Railroad (KSHS 2007).

Forbes Field remained the mainstay of business in Pauline. By the 1960s, Topeka had grown to the edges of Pauline making the small town essentially a suburb of its larger neighbor. Industry related to Forbes Field and agriculture associated with the co-op also continued to sustain Pauline. As the fortunes of Forbes Field went up and down, so did those of Pauline. However, the resulting industrial park, ANG and ARNG presence, museums, and raceway continue to keep Pauline on the map south of Topeka.

3.3.2 Topeka Army Air Field and the World War II Years

Two weeks after the Japanese bombed Pearl Harbor, the U.S. Congress approved the construction of a number of Army airfields, including what would become Forbes Field. Originally called Topeka Army Air Field (TAAF), the installation was constructed in less than a year during 1942. The construction of the airfield revitalized the town of Pauline and spurred a huge infusion of business and people in and around the town. Business activity peaked, including new housing and increased railroad activity. Use of the Pauline depot reached its height that year with so much rail passenger business that a 12-foot extension was added to the depot's baggage room (KSHS 2007). In addition to a busy passenger service, freight trains hauled cattle and coal from Emporia and Burlingame to the south.

The airfield's establishment began in early 1942 when the federal government purchased approximately 1,920 acres of agricultural land on which to build the installation. Construction of the airfield concluded in late 1942; the completed airfield included three intersecting runways; aircraft parking aprons, hangars, and refueling facilities; vehicle maintenance and repair areas; electrical, gas, water, and sewer utilities; an ordnance storage area, a skeet range, a rifle range, an aircraft machine gun test firing berm; and numerous aboveground and underground fuel storage tanks. Despite the impressive rate of development, when the first troops arrived in August 1942, they were quartered in the Temple of Agriculture in unfinished, two-story, green-wood barracks (ANG 2003) on the Free Fair Grounds (Topeka Fair Ground) (Topeka Journal 1942).

The early uses of TAAF changed often. Originally home to the 333rd Bombardment Group, the TAAF was used for operational training of heavy bombardment crews (using the B-17 Flying Fortress and B-24 Liberator) before they were deployed overseas. Within a year, the airfield became a processing center for pre-deployment personnel and equipment of the 21st Bombardment Wing. By 1945, TAAF was no longer dealing with air crews. It had been transferred to the 1st Staging Command, and became a center for shipping ground personnel overseas. Later that year, the airfield was placed under the command of the Air Transport Command and nine C-47s and associated crew and equipment were moved to Topeka from the Fairfax Airport (Kansas City).

Source: City of Topeka Web Site

FIGURE 3-1. TRAIN DEPOT AT OLD PRAIRIE TOWN, WARD MEADE HISTORIC SITE

3.3.3 The Strategic Air Command Years

Following the conclusion of World War II, the U.S. military was re-tooled for the new challenges of the Cold War. Political conflicts and tensions with the Soviet Union and other Communist bloc countries spurred a conventional and nuclear arms race. In 1947, under the National Security Act, a separate U.S. Air Force was created as an independent branch of military service no longer associated with the U.S. Army. The success of air power in World War II made it clear that air power would remain a necessity for all future conflicts. As a result, various major Air Force commands were established immediately following World War II, including the Air Defense Command, Tactical Air Command (TAC), and Strategic Air Command (SAC). SAC's nuclear bomber force became the primary deterrent and first strike

force opposing the Soviet Union. As such, the proliferation of air bases enabled SAC to strike or retaliate from any location in the United States. SAC was the driving force behind expansion at Forbes AFB in the early days of the Cold War.

The C-47s and their crews remained at TAAF until the field's deactivation in October 1947. The deactivation was short-lived, and nine months later the airfield was reactivated as a component of SAC. The field was home to the 311th Air Division and the 55th Strategic Reconnaissance Wing. During this activation, TAAF was renamed Forbes AFB in memory of Major Daniel H. Forbes, a Topeka pilot killed 5 June 1948, while testing the Northrop XB-49 "Flying Wing" jet bomber near Modoc Dry Lake, California. The base, the 55th Strategic Reconnaissance Wing, and the 311th Air Division were deactivated again in October 1949 (ANG 2003).

With the arms race heating up, the 1950s were a busy time at Forbes AFB for both base expansion and changing and expanding missions. The base was reactivated in 1951 to support U.S. operations in the Korean War. The base housed the 21st Air Division and the 90th Bombardment Wing (BW), which flew the venerable B-29 aircraft—then, America's only nuclear platform and delivery system. The wing's primary mission was training. They trained the newly activated 376th, 308th, and 310th BWs and B-29 replacement crews. Approximately 10 crews were trained at the base each month until August 1952, when the bomb wing training program was concluded (ANG 2003).

Just months before the conclusion of the training mission, the wing's mission changed. On 16 June 1952, the 90th BW was re-designated as a strategic reconnaissance wing (SRW). The wing was still predominantly a training outfit for B-29s, but now the airmen trained reconnaissance crews as replacements for Far East Air Forces. As part of the mission change at Forbes, the 55th SRW had been reactivated and was moved from Ramey AFB (Puerto Rico) back to Forbes AFB. The 55th continued its mission of photography, photo-mapping, and electronic reconnaissance using the B-29 and B-50 aircraft.

Despite the change in mission, the future of Forbes AFB was uncertain (Topeka Capitol Journal n.d.). By December 1952, plans were announced for an expansion that would extend the life of the base for another 25 years (Topeka Daily Capitol 1952). Forbes AFB was to be a critical link in SAC's global jet bomber system. This meant not just the acquisition of the new RB-47 swept-wing jet bomber (the reconnaissance version of the B-47 all-jet bomber aircraft), but also the acquisition of KC-97 tanker aircraft by the refueling squadrons: the 90th and 55th SRWs (Lloyd 2000, Ravenstein 1984).

Forbes AFB saw many changes in units, personnel numbers, and aircraft with the announcement of its new role in SAC. The base gained approximately 3,100 acres to accommodate the infrastructure required by the new mission. The original runways and aprons were modified and extended in anticipation of new aircraft. The construction of a new 12,800-foot runway that would dwarf its existing 8,000- and 6,500-foot runways was announced (Topeka Daily Capitol 1953). At the time, the new runway was anticipated to be the longest runway in the United States. Begun in 1954 and finished the following year, the runway would accommodate both the newest (RB-47) and the largest aircraft (B-36) the Air Force had fielded to date.

The first RB-47 aircraft, flown by Brigadier General David Wade, commander of the 21st Air Division, arrived at Forbes AFB in 1954, followed by another flown by Lt. Col. Vincent Crane, commander of the 90th SRW. The 90th SRW was to receive a new aircraft every other day until all 45 aircraft were at Forbes. The 55th began its conversion to the RB-47 in September 1954 (Topeka State Journal 1954).

In April 1955, construction of Building 662, the largest hangar at Forbes AFB, was begun (but would not be completed and put into service until 1957). The double cantilever heavy bomber maintenance hanger was designed by the Kuljian Corporation in 1951. This type of hangar came in three sizes: X-1 (basic version-expansible), X-2 (intermediate-medium bomber-expansible), and X-3 (ultimate-heavy bomber-expansible). The cantilever system inside the building extended from the interior shop towers (or columns). The benefit of these hangars was their clear interior expanse, the relative ease with which they could be expanded and adapted for various types of aircraft, and their ease in assembly due to standardized, shippable parts that could be manufactured and erected by non-specialized labor (Weitze 1999).

Building 662 was of the X-3 design, the largest hangar of the three versions. It was referred to as a three-bay, 16-panel structure. The three bays were configured based on interior trussed archways and the “panels” referred to the motorized door panels that ran on railroad tracks on the front and rear façades. Although it appeared as though it were a pull-through type structure, the aircraft entered from each side with noses facing each other as they were parked inside. The aircraft tails protruded through canvas-sheathed panels in the doors. This type of hangar could accommodate an astonishing six B-36 bomber aircraft (the largest aircraft in the world at the time) in its three bays. Only nine of this type of hangar (including Building 662 at Forbes) exist in the United States; the greatest number being clustered in the Midwest between Kansas and Louisiana, with a few along both coasts. This type of hangar was soon phased out because SAC had new aircraft (the B-52 jet bomber) and a new operational focus on the bomber alert mission that called for alert hangars, organizational maintenance hangars, and operational shelters rather than large maintenance hangars.

Seven accompanying identical smaller nose-dock maintenance hangars were also begun in 1955 (and completed in 1956). Four flanked Building 662 (two on either side) and the remaining three lie on what would become the KSARNG parcel (now used for helicopter maintenance and storage). The two nose docks southeast of Building 662 were demolished in the 1970s to make room for other buildings. However, the remaining two, Building 665 and Building 666 to the northwest, are both still in service by the 190 ARW.

In June 1955, both the 90th and 55th SRWs gained their refueling squadrons. By 1957, most of the critical infrastructure relating directly to aircraft and mission support was completed and mission activities were in full swing. At this point, attention was turned to support facilities such as base housing for families. Housing projects had been approved as early as 1956 and were finally begun in 1957. In February 1958, the first families moved into the 640-unit Capehart housing project constructed on 160 acres immediately west of the base (Topeka Daily Capitol 1958).

In the ever-changing Cold War arms race, SAC's emphasis changed due to new technological developments in aerospace engineering, especially rocket technology. In the autumn of 1958, Forbes AFB took on another role. It was selected to support second generation "Atlas E" model intercontinental ballistic missile (ICBM) sites in the surrounding area. On 1 January 1959, Forbes AFB was reassigned to the 2nd Air Force from the 8th Air Force. The change was part of the geographical realignment of the Air Force strike force command structure in all three of the numbered Air Forces in the Unites States. The purpose of regrouping SAC bases was to provide effective command and control of the command's bombardment and missile bases. Forbes' reassignment indicated the key role it would play within the 2nd Air Force as a division headquarters of SAC, and as one of two bases in the 2nd Air Force with ballistic missiles. This was also the beginning of a SAC shift to bases in the northern United States and away from those in the south. Under the new structure, the 2nd Air Force would cover the central portion of the country while the 15th and 8th Air Forces would cover other regions. Forbes became one of the 2nd Air Force's northernmost bases with both missile and bombardment capabilities (Topeka Daily Capitol 1959). As part of the continuing changes within the 2nd Air Force, the 55th and 90th continued operating out of Forbes AFB until 1960, when the 90th was deactivated and replaced by the 40th BW from Schilling AFB (Salina, Kansas). The 40th continued the alert mission and flew their B-47s out of the base until 1964, when this wing was deactivated (Ravenstien 1984).

Originally, nine missiles were going to be housed at different locations on Forbes AFB, but Air Force planners decided that each missile should be placed at different individual launch sites. The missiles were eventually placed at Forbes AFB and near Valley Falls, Dover, Waverly, Osage City, Delia, Wamego, Overbrook, Holton, and Bushong. Construction of the missile sites was plagued with problems and controversy, but the building project persevered until 1960 when most of the sites were completed.

In the construction of the ICBM sites, the most significant problems were 22 strikes (work stoppages) and demonstrations. Incredibly, the project continued on schedule and, on 1 July 1960, the 548th Strategic Missile Squadron was active. On 24 January 1961, the first ICBM arrived at Forbes AFB; it was installed by 9 April 1961 (Topeka State Journal 1961, Topeka Capitol Journal 1961). On 16 October 1961, Air Force Ballistic Missile Activation Chief, Major General Gerrity, turned over operational control of the sites to 2nd Air Force Commander Lt. General John D. Ryan. By this time, all nine sites were armed. As a testament to Cold War fears, the generals urged Kansans to become interested in constructing fallout shelters as an insurance policy that could enhance deterrence. However, the Atlas's days were numbered and by 1964, the ICBM sites were being decommissioned. As a result, the 548th Strategic Missile Squadron was deactivated on 25 March 1965 (Ravenstein 1984).

By 1960–61 SAC was at its height of influence and strength nationally and internationally (figure 3-2). At this time there were 46 SAC bases, 6 in the Northeast, 11 in the Midwest, 17 in the South, and 12 in the West. This number would decrease during the following decades. At SAC's height in 1960, Forbes was one of 11 bases across the country that housed the SM-65 Atlas missile, in addition to its other SAC missions making it the second-largest and most diverse SAC base in the country (Haulman 2004). It had 7,900 officers, airmen, and civilians

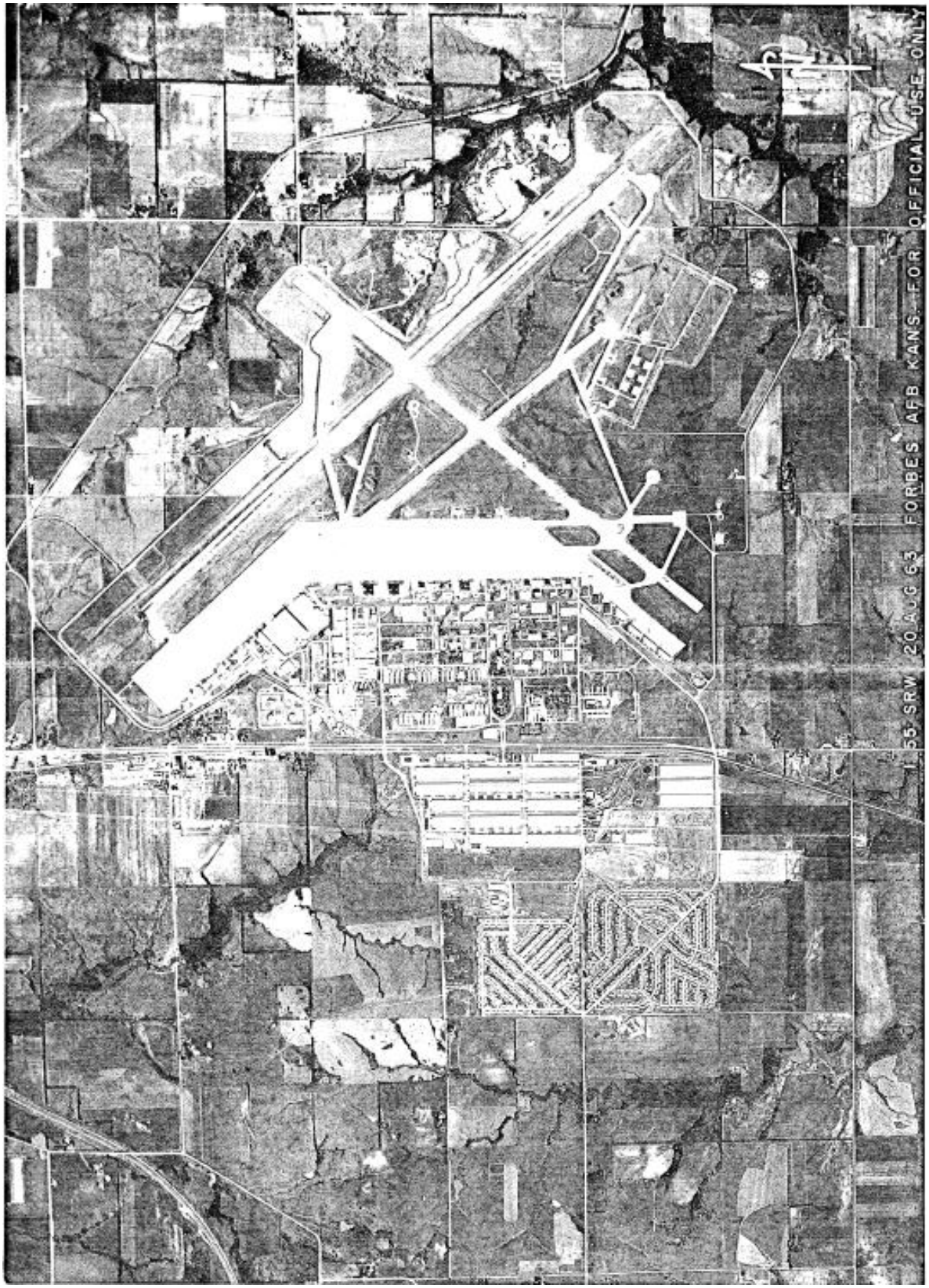


FIGURE 3-2. 1963 AERIAL PHOTOGRAPH OF FORBES AFB AT THE HEIGHT OF SAC DEVELOPMENT

who were assigned to the base. Although second in size, it was first in flying activity. It also was also the most diverse SAC base in the country, boasting a strategic reconnaissance wing, bombardment wing, operational missile unit, and all the supporting units and infrastructure (Topeka Capitol Journal 1961).

3.3.4 Strategic Air Command Alert Mission

The driving force behind the SAC mission at Forbes AFB was the alert concept created by the Air Force. The program consisted of aircraft and pilots who were on-call and expected to be in the air quickly in the event of a Soviet attack. Initially, the SAC stipulated that alert squadrons must be able to have one-third of their assigned fleets airborne within an hour of being called to duty, including bombers and tankers. Prior to the alert program, the allowable time span from order to air was six hours. By 1960, the one-hour benchmark was decreased to 15 minutes. Specifically, this alert status meant that aircraft had to be "cocked" and ready to take off within 15 minutes of the alert order. A "cocked" aircraft meant it was fully loaded, fueled, and all systems preflighted so that the only requirement for take-off was ground power (Lloyd 2000).

By 1960, 65 bases had alert bomber or refueling units (Global Security 2007). The bomber alert mission was a reflection of Cold War anxiety, and its purpose was rapid intercept and retaliation. Paramount to the need to get into the air quickly was developing infrastructure to aid in meeting this requirement. As early as 1954, SAC had recognized the need for new buildings, structures, and configurations supporting the alert concept. Early ideas centered on the development of alert hangars constructed solely for the alert units at the flight line. The general plans consisted of a formal alert apron and new permanent alert crew quarters. There were various apron plans that varied from short lengths of right-angle stubs along the edge of the main taxiway, to geometric patterns of flight stands near hangars, and perpendicular parking pens and stubs at the end of the runway. The latter arrangement was eventually developed at Forbes AFB. Most alert aprons were later constructed in a Christmas tree shape, which then evolved into a more comprehensive development program (Weitze 1999).

Alert facilities beyond hangars and minimal housing were needed to accommodate the number of increased crew and time requirements of the alert mission. Between 1956 and 1958, the SAC employed a number of strategies to meet this need. Some bases, including Schilling AFB, already had airmen dormitories near the main bomber parking apron. The time needed to get from these quarters to the aircraft was only three minutes. Most alert crews were initially housed in temporary facilities, including trailers in some cases. A specialized readiness crew building evolved.

The readiness buildings were semi-hardened two-story semi-subterranean structures where pilots and ground crews lived while on alert status. The lower story was underground and protected by a berm; the second story was aboveground. Metal culvert-style tunnels permitted quick exit from the lower level to the ground surface. Exit from the upper story was via ramps or down a walkway. This configuration allowed enlisted men and officers from both floors to access the tarmac at the same time without a bottleneck at stairwells that could lead to missed alert timeframes. Built to standard specifications, alert quarters were identical everywhere and were constructed at various SAC bases throughout the country. The windowless structures were

sized to meet the needs of the alert units: 18,000 square feet (70 men); 22,500 square feet (100 men); and 31,000 square feet (150 men) (Weitze 1999). By 1961, there were 66 alert crew buildings of various sizes.

The importance of Forbes AFB and the alert mission was reflected by the presence of the largest 150-man type alert building. The alert building at Forbes was designed in 1958 by Leo A. Daly, constructed at a cost of $791,000, and put into use in March 1960. The location was directly next to the runway apron. Prior to construction of the alert building, the alert crew was housed in World War II barracks across the base (Topeka State Journal 1960). The alert building found at Forbes had 10 tunnel exits, three on the northeast and southwest sides and two on the northwest and southeast sides. After the base left SAC control, the center two tunnel exits were removed and filled. The corresponding interior hallways were filled with offices.

The Forbes alert crew building is one of only 10 of the large 150-man type crew buildings constructed in the United States by 1961 (an eleventh was apparently cancelled) (table 3-1). No more of this design were constructed after this time because the alert program made changes in weapons systems, technology, and operations. By the 1970s, new alert requirements meant different housing, apron, and associated facility arrangements and requirements (Weitze 1999).

A 70-man alert crew building was constructed at the former Schilling AFB in Salina. It is the only other known alert building in Kansas. As of 2004, the Salina alert crew building retained its original floor plan, finishings, and many furnishings, although some changes were made to its exterior. Wood bunk beds and group airmen bathroom facilities all were intact.

It was also during this era that half of the facilities now used by the 190th ARW and KSARNG were constructed at Forbes AFB. Thirteen of the buildings were built to support SAC expansion—aircraft hangars, maintenance shops, support facilities, and administration facilities for the various units at Forbes. The remaining buildings were all constructed during the KS ANG tenure at Forbes Field ANGB (see table 4-1).

3.3.5 The Tactical Air Command Years

By the mid-1960s, SAC's influence was waning and the number of bases was rapidly falling. In 1966, there were only 38 SAC bases, as opposed to 46 at the program's height in 1960. Other major commands such as TAC, were on the rise. As a result, in 1965, the TAC took over at Forbes AFB and the 55th SRW was transferred to Offutt AFB in Nebraska. With the change in command came an expansion in personnel. The 313th Troop Carrier Wing and 29th Troop Carrier Squadron were now at Forbes AFB (Ravenstien 1984). Two years later, the KS ANG 190th Tactical Reconnaissance Group moved to Forbes AFB from Hutchinson Naval Air Station and occupied the same part of Forbes Field where they are situated now. They brought their B-57 Canberra aircraft with them. This aircraft had been in their service since 1958 and was one of the more unique aircraft flown out of Forbes AFB (Fowles 1989).

TABLE 3-1. LARGE MOLEHOLES (150-MAN FACILITY, 31,000 SQUARE FEET) TOTAL NUMBER: 10

Location (AFB-state)*	USAF Spreadsheet Data**	Google Earth Data from Gene Hilsheimer***	Other Data Source(s)****	Weitze SAC context information*****
[Note: List compiled from Wetize 1999 and USAF spreadsheets]	[Note: Words in quotes are directly from molehole "type" column in spreadsheet]	[Note: Information based on limited visual assessment from available aerial photos]	[Note: Listed in "References Cited"]	
Bunker Hill (Grissom) Indiana	"type unknown," building begun Feb 59, status undetermined	Appears to be in use. All ten tunnel exits appear present. There are few changes to the plan view. It is situated between two Christmas Tree type parking aprons.		Built as part of original SAC alert program
Forbes-Kansas	"tunnel/ramp" building begun Nov 58, intact 1999	N/A	Intact as of 2008. Two tunnel exits missing along long elevations. In fair condition (e^2M 2008).	Built as part of original SAC alert program
Hunter (Fort Stewart)-Georgia	"ramps" building begun Dec 58, heavily altered	Appears to be in use. It is heavily altered including a new gable roof. Nine tunnel exits appear present. The center tunnel exit on the east elevation appears to be removed. It is situated between two heavily altered Christmas Tree type parking aprons.		Built as part of original SAC alert program
Lincoln-Nebraska	Not included, no data	Does not appear on aerial photo-appears to be demolished		Built as part of original SAC alert program
Lockbourne (Rickenbacker)-Ohio	"type unknown" building begun Oct 58, status undetermined	Not included-no data	No molehole apparent from visual inspection but one building could be a candidate very modified but location adjacent to the apron makes it the most likely along with sidewalk to the apron (Hart 2008). Accessed January 2008 at http://maps.google.com /maps?f=l&hl=en&geocode=&q=Air+force+base&sll =40.574396,91.163208&sspn=32.627538,94.83398 4&ie=UTF8&near=Amarillo,+TX	Built as part of original SAC alert program
Malmstrom-Montana	"type unknown", building begun Jun-58, status undetermined	Appears to still be in use. Exterior alterations include removal of four of the 10 tunnel exits.		Built as part of original SAC alert program
Mountain Home-Idaho	"tunnel/ramp" building begun Jun-58, status undetermined	N/A	One of the first built. Interior is modified but exterior is intact. Found eligible for the NRHP. Still present as of Jan 2008. There is 1.5 associated "Christmas tree" design parking aprons present also (Matoon-Bowden 2008).	Built as part of original SAC alert program
Pease-New Hampshire	Demolished	Not included-no data		Built as part of original SAC alert program
Plattsburg-New York	Not included-no data	Appears in good condition with excellent integrity. All 10 tunnel exits are present with upper story ramp exits also. There do not appear to be any modifications to the plan view. Adjacent to rectangular parking apron.		Built as part of original SAC alert program
RI Bong-Wisconsin (cancelled)	N/A	N/A		Slated for construction but cancelled
Whiteman-Missouri	"tunnel/ramp" building begun Feb-59, intact in 1998	N/A	Molehole facility present in Jan 2008. Building is now called S6. Tornado damaged roof which has been repaired. Substantial interior renovations. Building cards present (Golson 2008).	Built as part of original SAC alert program

Location column
The locations provided in the Location column were taken from the SAC bomber mission context written by Weitze (1999). This appears to be the most thorough study of the SAC alert program, including moleholes, that has been written to date. Some of the locations in Weitze 1999 were also provided/verified by the USAF spreadsheets.

****USAF Spreadsheet Data column***
The USAF spreadsheet data was provided to the contractor by the Air National Guard Readiness Center (ANGRC) as an excel spreadsheet. The information was originally compiled by the USAF and given to the ANGRC. The information in the spreadsheet is not dated, so it is not clear when the information was most recently updated/verified. It is also not clear how the information was compiled by the USAF and what the sample in the spreadsheet represents. There are clearly more moleholes than have been provided in the spreadsheet.

*****Google Earth Data from Gene Hilsheimer***
This information comes from the Google Earth Community Web site of Gene Hilsheimer on the World Wide Web at http://bbs.keyhole.com/ubb/showflat.php?Cat=0&Number=260664.
As of January 2008, it provided a compilation of links to aerial photos of moleholes complied by himself and other Google Earth Community members. The aerial photography dates are unknown but copyrighted in 2008. Many of the dates appear to be 2006. The descriptions that are given in this section are a result of the limited information available from making a visual inspection of the aerial photography. Any assumptions made as a result of this information should be corroborated by additional sources to confirm its veracity. The information herein is only current as of the date of the aerial photography provided by Google Earth, which is most likely 2006, but should be considered indeterminate unless a comprehensive list of aerial sources can be compiled.

******Other Data Source(s) column***
The information presented in this column is a collection of any additional information the contractor (e^2M) could compile from available sources including cultural resource managers at some of the bases, available technical reports, and online aerial photography. All the sources identified in this section have been cited in the "References Cited" section following the table.

*******Weitze SAC Context column***
This column contains information about the bases identified to have a molehole in the Weitze context. Weitze identified 64 (or 65 dependent on construction at Ramey AFB in Puerto Rico) total moleholes constructed for the SAC alert program. An additional molehole at RI Bong AFB was cancelled and not counted in the overall total of moleholes constructed for SAC.

The B-57 Canberra was an outgrowth of the first English all-jet bomber, the English Electric Canberra. It was designed for a 40,000-foot ceiling, a 1,000-nautical-mile range, and a cruising speed of 400 knots with a 550 knot top speed. It also was designed to be operated from unimproved airfields, in any kind of weather, at night, and with conventional or atomic weapons. The ability to search for targets at low speeds and low altitude, and subsequently deliver its payload to a moving or stationary target was also critical (Knaack 1988).

The two-seat aircraft reached service in 1953, five days before the end of the Korean War for which it had been slated. Various iterations of the aircraft were produced including the B-57A, RB-57A, B-57B (figure 3-3), B-57C, RB-57D, B-57E, RB-57F, and WB-57F. Production continued through 1957, and eventually 403 B-57 Canberras of various models were manufactured (Knaack 1988).

The aircraft was already being phased out when the KS ANG received them in 1958. They eventually proved their worth in combat and in special missions for TAC and SAC during the Vietnam era. The aircraft was finally retired in 1974 after the Vietnam War (Knaack 1988). The 190th Tactical Reconnaissance Group continued to fly the B-57 until 1978, when their mission was changed to refueling. The newly designated 190th ARW also received new aircraft (KC-135s).

3.3.6 Kansas ANG and the Transition to Forbes ANGB

Prior to their present home at Forbes Field ANGB, the KS ANG consisted of the 127th Fighter Interceptor Squadron. In 1957, the 117th Fighter Interceptor Squadron was formed. The increase in KS ANG units meant that a larger facility was necessary to house the 117th. As a result, the 117th made the move from McConnell AFB in Wichita to the Naval Air Station in Hutchison, but the runways at the Naval Air Station were too short for their aircraft, the F-80 and new F-84 jets. The Pentagon switched the unit from a fighter interceptor squadron to a photo-reconnaissance unit using the B-57 Canberra jet bomber for reconnaissance missions. The 127th remained a fighter interceptor squadron with their aircraft, the F-86L (Fowles 1989).

In 1962, the two squadrons were once again redesignated; the 127th became the 184th Tactical Fighter Group and the 117th became the 190th Detached Systems Evaluation Group. This reorganization was to remedy deficiencies made evident during the Korean War and elsewhere. Each ANG base was restructured to hold a self-sustaining wing with all the necessary primary and support units for independent operation during peace or war. This made operations during the Vietnam era much more efficient and effective. During the Vietnam era (1964–1972) the 190th had become the 190th Tactical Reconnaissance Group and trained bomber pilots in the use of the B-57. The 190th won the “Most Outstanding Flying Unit Award” in 1966 (Fowles 1989). In 1967, the 190th took up residence at Forbes AFB in their present location. TAC did not have a need for such massive hangars on that portion of the base. The hangars were better suited for the KS ANG’s mission. Consequently, the KS ANG inherited the area of Forbes AFB with the large apron and massive hangars (ANG 2003).

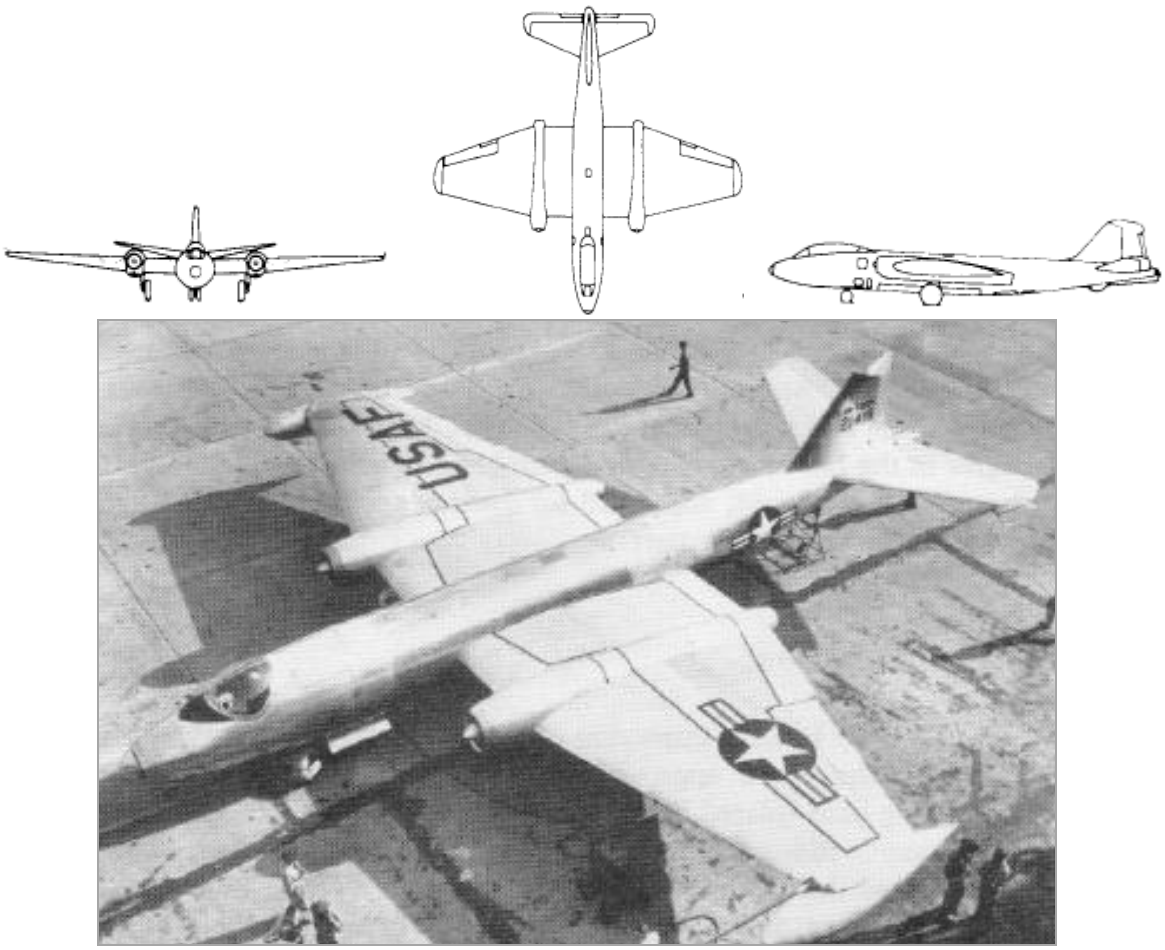


FIGURE 3-3. B-57 CANBERRA PROFILES AND OVERVIEW (KNAACK 1988)

At the end of the Vietnam War, the 190th underwent yet another mission change. In 1972, it received a new version of the B-57—the B-57G. Between 1972 and 1977, the end of the age of the B-57 began to become apparent. Three crashes killing two crewmen and destroying four planes occurred. The Pentagon concluded that the useful life of the B-57 was at its end, and the aircraft was retired by 1977, although some special configurations of the aircraft were retained for special missions. It was during this time period that Forbes AFB was closed and the parts of it occupied by the KS ANG, KSARNG, and AAFES transferred to the KS ANG. Forbes AFB remained a TAC installation until 1973 when the base was closed. The majority of the base was transferred to the GSA, which in turn transferred it to the city of Topeka for conversion to a civilian airfield. The transfer of the base from the Air Force to other uses took three years and, in May 1976, the former base was officially renamed Forbes Field. Commercial air service was moved to Forbes Field that same month and Frontier Airlines initiated the first jet service to Topeka in June 1976.

During the closing of Forbes AFB, the 190th took on a new mission and name. In April 1974, it became the 190th Defense Systems Evaluation Group tasked with testing American air defenses by flying missions using electronic countermeasures (ECM) to penetrate American air

space. This also required a new version of the B-57, the EB-57B (figure 3-4) outfitted with new ECM equipment in place of the bomb load. As part of the ECM mission, the 190th participated in operations COLLEGE DROPOUT, SAGA, VIGILANT OVERVIEW, GALLANT CREW 7, and BRAVE SERIES; war games and exercises designed to test new equipment against American air defenses and train in a battlefield environment (KS ANG 2007).

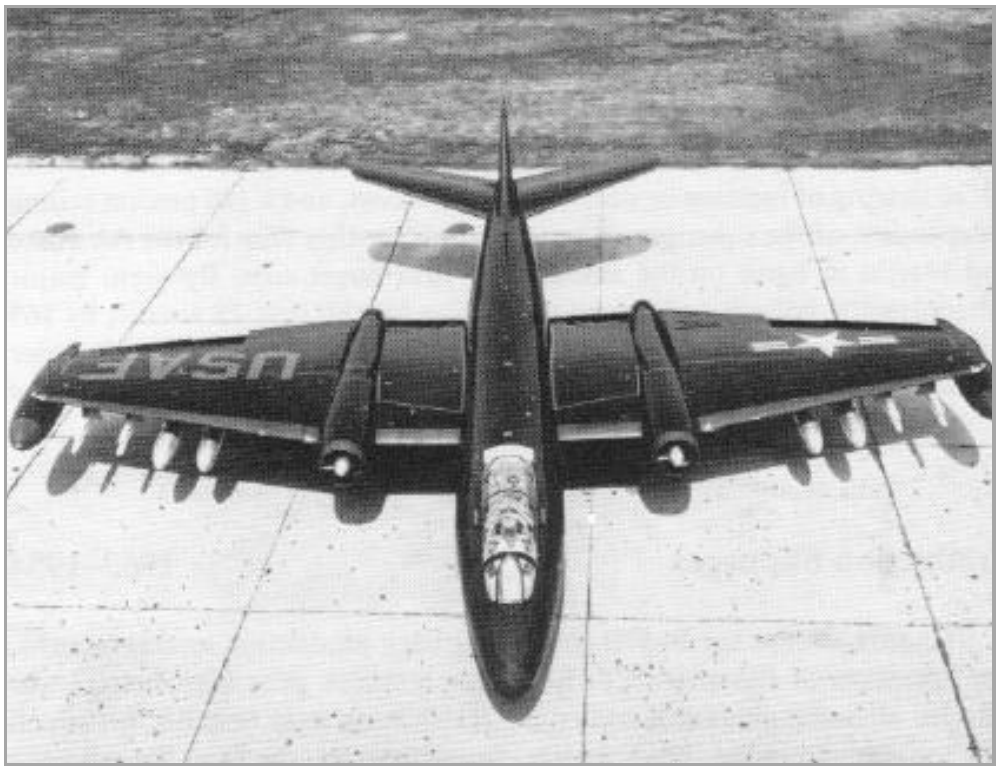


FIGURE 3-4. FULLY ARMED B-57B WITH WING-TIP TANKS (KNAACK 1988)

As Frontier Airlines began service to Topeka, the KS ANG continued their tenure in their present location, but under new management. On 1 July 1976, TAC transferred 513 acres of the former base to the NGB, which subsequently parceled the 215 acres the KS ANG occupied to be used as a new ANGB. Parcel 3 stayed with the KS ANG and was immediately occupied by the KSARNG. The parcel had three nose-dock hangars identical to the ones flanking the large hangar on parcel 1 occupied by the KS ANG. These hangars were quickly put to use as helicopter hangars by the KSARNG (Fowles 1989). Parcel 5 was also occupied at this time by the AAFES as a switching point for trucks delivering food and other materials to the ANGB.

Soon, the mission of the 190th changed yet again. On 22 August 1977, the 190th received notice that it would become the 190th Air Refueling Group, one of 13 such ANG units. This also meant a change in command from Air Defense Command to SAC. As a part of SAC, the 190th became part of the refueling force associated with the bomber alert program (KS ANG 2007). The transition was complete on 1 April 1978. At that time, the unit acquired eight KC-

135 tanker aircraft in support of its new air refueling mission, which continues to the present. Their KC-135s were eight of 104 total KC-135s in the ANG inventory at the time.

As part of their transition to the air refueling mission, the 190th embarked on the largest building program in their history, spending $5.7 Million on new buildings and renovations (KS ANG 2007). This included construction of five new buildings to support the KS ANG in their new mission. Critical buildings like the fire station, maintenance shops, and the dining facility were built specifically for the 190th between 1978 and 1980. Other buildings, like the engine shop, were expanded to accommodate the new mission and aircraft. The security police department also was expanded. After a short lull in construction, a few other buildings were constructed at Forbes Field ANGB during the mid to late 1980s. These later buildings were less critical support facilities including the entry control building between the hangars and flight apron, a maintenance shop, and storage buildings.

The 190th was occupied with many training missions in the first few months of 1978 to get them up to SAC standards. In 1979, the unit participated in the Global Shield ’79 (SAC) exercise and proved their mettle. They became a full-fledged component of SAC at that time with their excellent alert performance (third among all ANG bases). They were soon on Alpha Alert, a proud milestone in the unit’s history (KS ANG 2007).

The 190th also participated in other competitions and exercises and fared very well. In 1980, the 190th was chosen to represent the ANG in the annual Daedalian Maintenance Award competition, which meant it was the best of the ANG’s 92 flying units. The unit was also the state pistol champion for seven of eight years and won several regional and national pistol competitions, ranking third in the country in 1980 (KS ANG 2007).

Two additional KC-135 aircraft were provided in 1988, bringing 78 new military and 22 new full-time positions to the 190th ARW. As a result, a new storage building was constructed at the base. On 10 August 1990, the 190th ARW became the lead unit to deploy to the Middle East in support of operations Desert Shield and Desert Storm. In 1995, the unit was renamed the 190th ARW It was at this point that the B-57 Canberra static display was erected at the base commemorating the base’s history with that aircraft. It was not until 2001 that the KC-135 tail section with the KS ANG and 190th logo was erected (ANG n.d.).

4.0 CULTURAL RESOURCES SURVEY RESULTS

4.1 RECORDS SEARCH RESULTS

The records search conducted at the KS SHPO revealed that four archaeological surveys had been conducted within a 5-mile radius of the base. Three of the four archaeological surveys were for linear projects, including realignment of a stream channel and two road realignments. The other project involved survey of an area used as a borrow pit. No archaeological sites were identified as a result of any of these projects. The site files also document 10 previously recorded archaeological sites and one isolated find within a 5-mile radius of the base. These sites probably were recorded, either by individuals or groups, before environmental laws required archaeological survey. No sites were found within 1 mile of the project area.

The 10 archaeological sites and one isolated find consist of three historic sites (a cemetery, trash scatter, and building debris), one isolated find (an iron projectile point), and seven prehistoric sites. The prehistoric sites range in age from Archaic to Middle/Late Ceramic and include one lithic scatter, five campsites, and a quarry. The campsites are all situated on relatively sizeable permanent creeks or the Wakarusa River. The only exception is site 14SH00362, which is on a bluff overlooking the small surrounding drainages.

The records search data supports the contention that the archaeological potential of Forbes Field ANGB is relatively low. Previously recorded sites are situated predominantly on larger permanent creeks or rivers. No such large permanent creeks or rivers are (or were) within the project area.

4.2 ARCHAEOLOGICAL SURVEY AND TESTING RESULTS

4.2.1 Pedestrian Survey Results

Pedestrian survey of the three parcels revealed no surficial evidence for archaeological sites (figure 4-1). All of the parcels surveyed were nearly 100% disturbed by previous construction. Parcel 1 (KS ANG) is nearly 100% disturbed, with a majority of the parcel being covered by pavement, buildings, landscaping, or with utility lines or other infrastructure buried underground. Parcel 3 is inaccessible to survey because it is completely covered by pavement, buildings, utilities, or landscaping. Due to this construction, it is considered to be 100% disturbed. Parcel 5 is also 100% disturbed. The area has been deflated by tractor-trailers turning and construction of the building. Because parcels 3 and 5 are 100% disturbed, no further archaeological assessment of these two parcels is necessary.

FIGURE 4-1. PARCEL 1 FORBES FIELD ANG BASE -- CULTURAL RESOURCES SURVEY COVERAGE MAP

4.2.2 Testing Results

As a result of shovel testing, no intact soil horizons were encountered. Only disturbed soils containing a large percentage of construction debris were identified (figure 4-1). No evidence of archaeological sites or remains was encountered within the shovel tests.

4.2.3 Archaeological Probability Assessment

Forbes Field ANGB has a low to no probability of retaining intact archaeological resources. This conclusion is supported by the results of the records search, land-use history, discussion with knowledgeable individuals, pedestrian survey, and shovel testing. Documented ground disturbance to parcel 1 is extensive from in-filling, land contouring, paved roads, runways, parking lots, structures, landscaping, and utility lines (figure 4-2). There has been a long period of intensive use of the parcels by the U.S. military since World War II, resulting in the grading and paving of much of the available land surface.

Areas of the base have been deeply in-filled. Originally, the north end of the base was approximately 40 feet lower than the south end. Much of the portion of the current ANGB, especially the extreme north end, has been in-filled by up to 40 feet of material to assure a flat surface for runways and aprons. The north half of Coyote Drive, the new access road from the northwest entry gate, is on nearly 10 to 15 feet of fill and has a variety of drains and previously closed groundwater monitoring wells near it. The shallow draw that the road follows was filled to accommodate the road (Chase 2007). Parcels 3 and 5 are largely under tarmac, roads, parking lots, landscaping, or buildings. The densely situated aboveground infrastructure is complemented by equally dense underground electrical lines, sewer lines, water and storm drains, phone lines, groundwater monitoring wells, fuel tanks, and other utility lines.

The records search indicated that there are no previously recorded archaeological sites in or within a mile of Forbes Field and relatively few sites within a 5-mile radius. Recorded sites are situated on larger streams or rivers, none of which are or were found within the project area. Based on the very low density of identified sites in the region, as well as the absence of landforms associated with previously recorded archaeological sites near the project area, the probability of encountering intact archaeological sites in the project area is considered to be low.

4.3 ARCHITECTURAL RESULTS

A total of 24 buildings or structures were included in the architectural survey and evaluated as part of this project. In addition, two were static displays that were recorded, but not evaluated. Nineteen buildings and two static displays are on parcel 1 at Forbes Field ANGB, four buildings are on parcel 3 at the KSARNG facilities, and one building is on parcel 5 at the AAFES switchpoint.

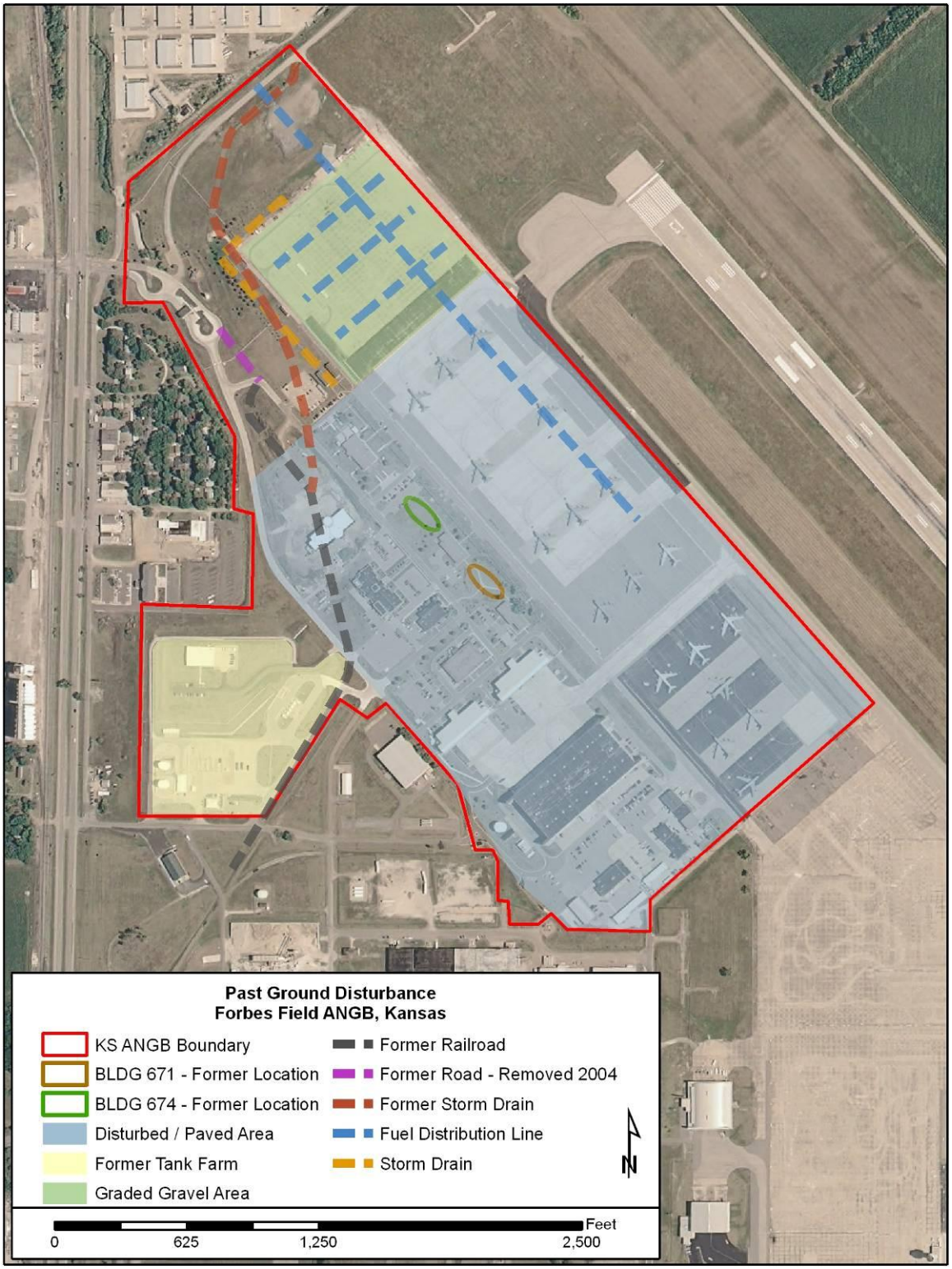


FIGURE 4-2. PARCEL 1 ANG SITE DISTURBANCE AND ARCHAEOLOGICAL PROBABILITY MAP

[NOTE: Entire base contains low to no probability of containing archaeological sites.]

TABLE 4-1. BUILDINGS SURVEYED

Building No.	Function	Year Built	Original Use
Forbes Field ANGB Buildings and Static Displays			
648	Entry control building	1984	Entry control building
662	Maintenance hangar	1957	Maintenance hangar
663	Fire protection water storage	1957	Fire protection water storage
664	Water fire pump station	1957	Water fire pump station
665	Maint dock med A/C	1956	Maintenance dock medium aircraft
666	Maintenance dock	1956	Ground equipment shop
668	General purpose aircraft shop	1956	General purpose aircraft shop
670	Reserve forces operational training	1956	Wing maintenance administration center
673	Reserve forces operational training	1956	Squad operations
679	Squad operations	1960	Alert crew readiness facility
750	Fire/crash/rescue station	1980	Fire/crash/rescue station
760	CE maintenance shop	1979	CE maintenance shop
770	Vehicle maintenance shop	1979	Vehicle maintenance shop
775	Heating facility building	1979	Heating facility building
780	Dining hall	1978	Dining hall
783	CE storage shed	1984	CE storage shed
55099	Jet engine maintenance	1985	Jet engine maintenance
57000	B-49 Canberra memorial display	1995	B-49 Canberra memorial display
57005	KC-135 tail-fin static display	2001	KC-135 tail-fin static display
57007	BSE warehouse and supply	1988	BSE warehouse and supply
57008	BSE hazardous storage	1986	BSE hazardous storage
KS ARNG Parcel Buildings			
636	Squad operations	ca. 1956	General purpose aircraft shop
680	Maintenance dock medium aircraft	1956	Maintenance dock medium aircraft
681	Maintenance dock medium aircraft	1956	Maintenance dock medium aircraft
682	Maintenance dock medium aircraft	1956	Maintenance dock medium aircraft
Switchpoint Building			
2279	AAFES switchpoint administration	ca. 1945	Scale house

4.3.1 Forbes Field ANG Base Parcel 1

Parcel 1 is occupied by the KS ANG. The irregular-shaped parcel consists of a runway apron making up the northeast half of the parcel, the administrative and technical buildings

composing the southwest half of the parcel, and a fuel farm extending farther to the southwest. The parcel is immediately east of US 75 and the town of Pauline.

Building 648: Entry Control Building

This building (figure 4-3) was constructed for the KS ANG in 1984 as the primary control entry building between the hangars/maintenance yard and the active flight apron. It covers 51 square feet. It rests on the poured concrete flight apron, has a flat roof, and is clad with corrugated metal siding. There is a wooden door with an upper light in the southeast elevation and new single-hung windows in the remaining elevations.

FIGURE 4-3. BUILDING 648, SOUTHWEST AND NORTHWEST ELEVATIONS

Building 662: Maintenance Hangar

This building was constructed in 1957 for SAC using the standardized double cantilever heavy bomber A/C 39-01-47 hangar design. It was adapted by Capitol Engineering of Topeka for Forbes AFB. Adaptations from the standard plan originally designed into the building mainly included a third story with offices as well as other smaller additions. The building is rectangular in plan, measuring 662 feet 10 inches northeast-southwest by 270 feet 8 inches northwest-southeast and covers 166,914 square feet. It rests on a reinforced concrete foundation, has a very low pitch gable roof, and is clad with corrugated metal siding. The three-story building is 65 feet 10 inches high, supported by interior arched steel trusses.

The northwest elevation provides aircraft access (figure 4-4). There are 16 sliding panels providing access to three interior bays along the length of the elevation. Within the sliding doors are rectangular doors that allow pedestrian access and aircraft tails to project from the hangar. The doors have been re-clad and have a set of two-by-six fixed pane windows in each panel, totaling 16 on the entire elevation.

FIGURE 4-4. NORTHWEST ELEVATION OF BUILDING 662

The southeast elevation and the adjoining portion of the ground floor southeast interior of the aircraft work space have been altered from their original aircraft functions (figure 4-5). The original sliding aircraft doors have been removed, and the façade clad with metal siding. A one-story addition has been constructed with three single-leaf pedestrian doors. In addition, there are four sets of vertical retracting metal freight doors and six sets of double-leaf pedestrian doors on the elevation. The interior space has had offices and shops into the original work space.

The northeast elevation has two double-leaf pedestrian doors and one single-leaf pedestrian door (figure 4-6). Two recent additions have been constructed. Both are veneered in red brick and have a metal box fascia. The south addition has a recessed double-leaf pedestrian door. There is a metal ladder to the second and third floors.

The southwest elevation has two one-story brick veneer additions. One houses a stairway leading to a basement. There are also two single-leaf pedestrian doors and a double-leaf pedestrian door accessing this elevation. Two large rectangular vents are near the roofline.

Building 663: Fire Protection Water Storage

This structure is a cylindrical steel tank used for water storage (figure 4-7). It was built in 1957 and has a capacity of 10,000 gallons. It rests on a concrete foundation. There is an access ladder on the west end and a valve leading into the ground on the east end.

FIGURE 4-5. SOUTHEAST ELEVATION OF BUILDING 662

FIGURE 4-6. NORTHEAST ELEVATION OF BUILDING 662

FIGURE 4-7. BUILDING 663, SOUTHEAST SIDE

Building 664: Water Pump Station

This building was constructed by the KS ANG as a firefighting water pump station immediately southwest of Building 662 (figure 4-8). It was built in 1977, and covers 1,607 square feet. It is semi-subterranean and rests on a sunken concrete foundation. It has a flat roof and is made of poured concrete. The rectangular floor plan is oriented longitudinally northeast-southwest. A horizontal band of fixed metal windows runs along the north and south sides. The south façade has stairs leading down to a sunken entrance doorway with a double-leaf pedestrian door.

FIGURE 4-8. BUILDING 664, NORTHWEST AND SOUTHWEST ELEVATIONS

Building 665: Maintenance Hangar

Buildings 665 and 666 are identical structures constructed by SAC in 1956 using the standard wing multi-purpose 39-01-53 hangar design. Building 665 is northwest of Building 662, across the paved maintenance apron. Building 665 covers 28,991 square feet and measures 295 feet 6 inches northeast-southwest by 126 feet 9 inches northwest-southeast, including offsets. It is supported by offset gable steel roof trusses that are boxed with metal sheathing. The main body of the building is clad with corrugated metal siding (figure 4-9).

The northeast façade has three multi-panel sliding doors. The center door has a center aperture where an aircraft tail section can remain outside while the forward section of the aircraft is serviced. There is one pedestrian door inset within the larger center hangar door just east of the midpoint.

The southwest elevation has four 12 foot by 14 foot vertical retracting bay doors, a metal sliding window at each end, and a metal stairwell and door on either end. The southeast elevation has no wall openings. The northwest elevation has a single pedestrian door.

Building 666: Maintenance Hangar

Building 666 was constructed by SAC in 1956 using the standard wing multi-purpose 39-01-53 hangar design (figure 4-10). It covers 28,991 square feet and measures 295 feet 6 inches northeast-southwest by 126 feet 9 inches northwest-southeast, including offsets. It has offset gable steel roof trusses clad with corrugated metal. The main body of the building is sheathed with corrugated metal siding. It is northwest of Building 662 across the paved maintenance apron.

The northeast façade has three multi-panel sliding doors. The center door has a center aperture where an aircraft tail section can remain outside while the forward section of the aircraft is serviced. There is one pedestrian door inset within the larger center hangar door just east of the midpoint.

The southwest elevation has four 12 foot by 14 foot vertical retracting bay doors, a metal slider window at each end, and a metal stairwell and door on either end. The southeast elevation has no wall openings and the northwest elevation has a single pedestrian door. There do not appear to be any differences between building 665 and 666.

Building 668: Maintenance Shops

This one-story building was constructed in 1956 for SAC as a general purpose shop (figure 4-11). It covers 19,830 square feet and is oriented longitudinally northeast-southwest. It rests on a concrete foundation, is veneered in red brick, and has a flat roof with a metal box fascia. It is immediately west of Building 665.

FIGURE 4-9. BUILDING 665, MAINTENANCE HANGAR, SOUTHEAST ELEVATION

FIGURE 4-10. BUILDING 666, SOUTHEAST FAÇADE

FIGURE 4-11. BUILDING 668, NORTHEAST AND SOUTHEAST ELEVATIONS

The northwest elevation has two projecting brick additions with two-over-six fixed metal windows, a double-leaf door with windows and no transom, and a single-leaf pedestrian door with an upper light. The southwest façade has a double-leaf pedestrian door that is the main entrance, two vertical retracting metal bay doors, one awning window and two fixed windows. The southeast elevation has two single-leaf pedestrian doors, one with a sidelight and transom, and the other with an upper light, five fixed metal windows, and two fixed metal multiple-pane windows. The northeast elevation also has two projecting brick additions.

Building 670: Support Services

This one-story building was constructed in 1956 by SAC as a maintenance center (figure 4-12). It covers 7,464 square feet, rests on a concrete foundation, and is immediately north of Building 665 on Militia Road. Building 670 is rectangular in plan and is oriented longitudinally northwest-southeast. It is constructed of concrete block with brick veneer. It has a flat roof with a box fascia and has a red brick veneer.

The southwest façade has a double-leaf pedestrian door with upper lights and a single-leaf pedestrian door accessed by a single concrete step. The northwest elevation has a single-leaf door with an upper light and transom. The door is accessed by three concrete steps. The northeast elevation has one double-leaf door at the center with an upper light and transom. The southeast elevation has a single-leaf metal door with an upper light.

FIGURE 4-12. BUILDING 670, NORTHWEST AND SOUTHWEST ELEVATIONS

Building 673: Headquarters

This one-story building was constructed in 1956 by SAC as a squad operations building (figure 4-13). It was used as the headquarters building until March 2007, when the new headquarters building was completed. It is currently abandoned. It covers 7,464 square feet and lies between Minuteman and Flightline roads northwest of Building 670 with a longitudinal orientation of northwest-southeast. The rectangular building is constructed of concrete block with a red brick veneer exterior. It has a flat roof with a box fascia. The northwest elevation has a single-leaf door with an upper light and transom. The southeast elevation has a single-leaf metal door with an upper light. The northeast elevation has a double-leaf door with an upper light and transom. The door is accessed by a single concrete step with a path that leads to the flight apron. The southwest façade has a double-leaf door with upper lights and a three-part window with cranks on the end windows.

Building 679: Squad Operations/"Molehole"

Completed in 1960, Building 679 was constructed as an alert mission 150-airmen readiness crew building (aka the "Molehole") for the 90th Reconnaissance Wing, assigned to SAC. It currently serves as the base security office and houses other administrative functions. Building 679 is immediately west of the airfield apron at the north end of the base.

FIGURE 4-13. BUILDING 673, HEADQUARTERS, SOUTHEAST AND SOUTHWEST ELEVATIONS

The two-story, rectangular structure was designed for defensiveness and the rapid exit of the alert crew (figures 4-14 through 4-18). Although having two stories, the structure presents as a windowless, one-story building with broad sloped lawns. It is unusual for its ramped and projecting metal tunnel (culvert) type-exits. In actuality, only the upper level is visible and is set back on the roof of the subterranean lower level behind a built-up berm. There are eight steel tunnel tubes for access/egress from the lower level. Two ramped entrances with handrails, one on its north side and one on the south side, cross the roof of the lower level and grassy berm. This bermed and partially subterranean design is referred to in historical accounts as "semi-hardened" for its defensive benefits.

The 31,044 square foot building measures 242 feet by 78 feet at the lower level, and 156 feet by 78 feet at its upper level. The upper level is constructed of concrete masonry units (CMU) over the lower level of reinforced concrete. Interior partitions are of non-load-bearing concrete block. The upper level roof is very low gable, almost slightly curved. The lower level roof is flat, most of it serving as the floor for the upper level.

As previously mentioned, there are two tunnel exits per elevation at the lower level. However, only seven are functional for egress, as depicted in figure 4-16. The tunnels are 8 feet in diameter and open from a small interior vestibule. They are of corrugated sheet metal of the type commonly used for culverts. From the outside, entrance into the tunnels is via flush glazed doors of metal with side transoms set within concrete door frames. At their interior, the tunnels open into small vestibules. Entrance to the upper levels of the north and south elevations is via

FIGURE 4-14. BUILDING 679, OVERVIEW, VIEW TO THE NORTH

FIGURE 4-15. BUILDING 679, SOUTHWEST ELEVATION

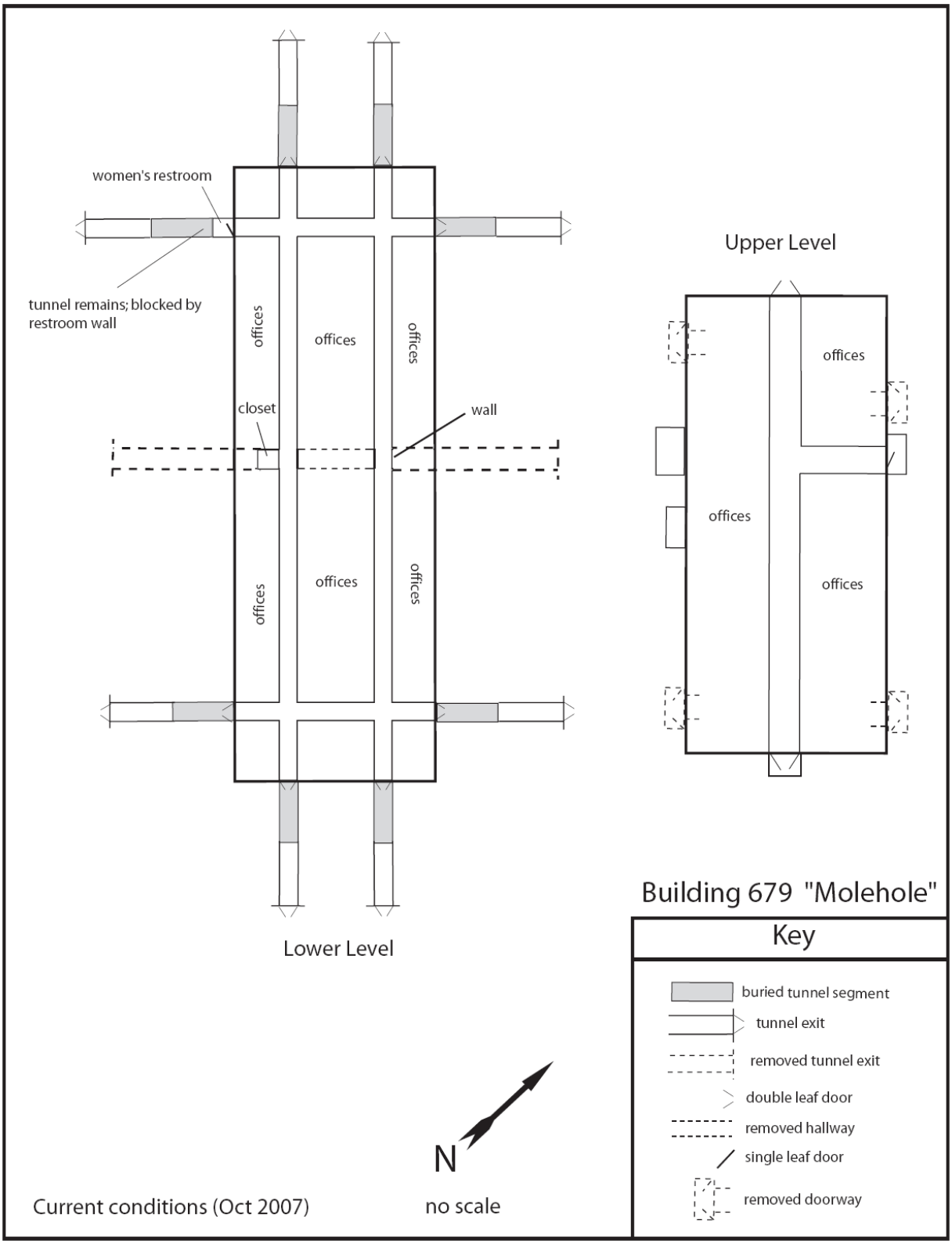
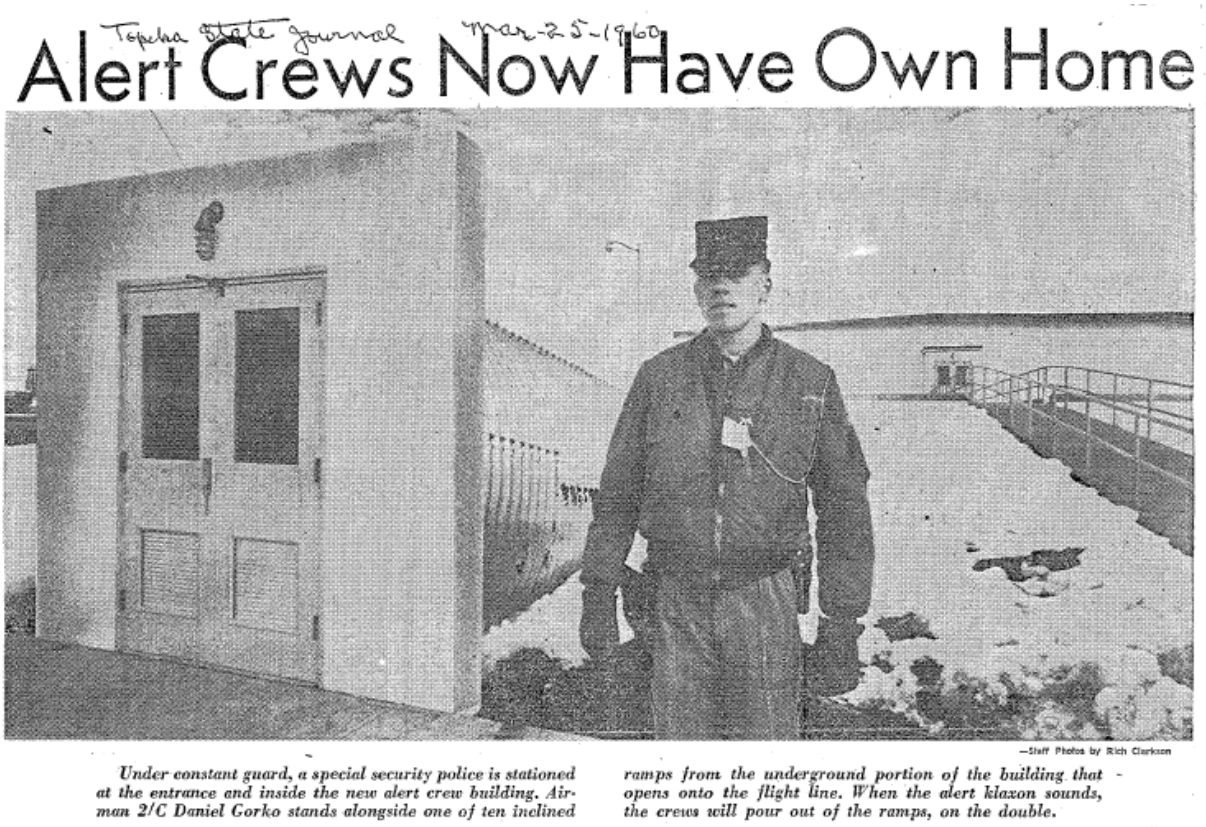


FIGURE 4-16. BUILDING 679, DIAGRAM OF CURRENT CONDITIONS

FIGURE 4-17. BUILDING 679, SOUTHEAST ELEVATION



Topeka State Journal Mar-25-1960

Alert Crews Now Have Own Home

—Staff Photos by Rich Clarkson

Under constant guard, a special security police is stationed at the entrance and inside the new alert crew building. Airman 2/C Daniel Gorko stands alongside one of ten inclined ramps from the underground portion of the building that opens onto the flight line. When the alert klaxon sounds, the crews will pour out of the ramps, on the double.

FIGURE 4-18. NEWSPAPER PHOTO FROM A 1960 ARTICLE DESCRIBING THE MOLEHOLE

ramps that cross the berm and the roof of the lower level to double doors set into airlocks. Inside the upper level of the building, these ramped entrances lead to a central longitudinal corridor. This corridor defines the floor plan. On the upper level of both the west and east elevations, exit is via doors set within small attached airlocks at the middle of each elevation. Paved walkways cross the berm to these doors. On the west and east elevations are two in-filled door openings. On the upper level of the west façade is a mechanical room attached to the exterior, and two in-filled openings on either side of it.

Building 750: Fire Station

This one-story building was constructed by the KS ANG in 1980 as a rescue/fire station and covers 14,780 square feet. The rectangular building is constructed of concrete block with red brick veneer exterior (figure 4-19). It has a flat roof and box fascia. It is oriented longitudinally northwest-southeast and is immediately southeast of Building 662 along the flight apron. This building has a one-story center section with two flanking sections that are both two stories.

The southwest façade consists of five vertical retracting bay doors for vehicles at the north end, one double-leaf and one single-leaf pedestrian door in the center section, and four fixed metal windows on the first floor and two on the second floor on the south section. The northwest elevation has a single-leaf metal pedestrian door. The northeast elevation has five corresponding bay doors at the north end, no openings in the mid section, and three vertical retracting bay doors in the south section that open onto the flight apron. The southeast elevation has two single-leaf pedestrian doors with upper lights and two fixed metal windows.

FIGURE 4-19. BUILDING 750, NORTHWEST AND NORTHEAST ELEVATIONS

Building 760: Civil Engineering

This one-story building was constructed by the KS ANG in 1979 as a maintenance shop (figure 4-20). It is oriented longitudinally on a northwest-southeast axis. It is composed of two parts, a taller vehicle bay to the south and offices to the north. It is immediately south of Building 760 and west of Building 662 near the southern property line. The rectangular building covers 10,008 square feet and is of concrete block with red brick veneer exterior. It has a flat roof and box fascia.

The northwest elevation has no openings. The southwest façade is composed of two vertical retracting bay doors, three double-leaf pedestrian doors, and two fixed windows. The southeast elevation has a double-leaf pedestrian door and three fixed metal windows. The northeast façade has a projecting entrance with a glass door, and a vertical retracting bay door and two fixed metal windows.

FIGURE 4-20. BUILDING 760, NORTHWEST AND NORTHEAST ELEVATIONS

Building 770: Vehicle Maintenance Shop

This one-story building was constructed by the KS ANG in 1979 as a vehicle maintenance shop and covers 13,620 square feet (figure 4-21). The rectangular building is constructed of concrete block with red brick veneer exterior. It has an irregular flat roof of differing elevations with a box fascia.

The northwest elevation has six vertical retracting bay doors. The northeast elevation has two single-leaf and two double-leaf pedestrian doors and two fixed windows. The southwest elevation has no wall openings. The southeast elevation has six single vertical retracting bay doors, one double vertical retracting bay door, and two fixed windows.

FIGURE 4-21. BUILDING 770, NORTHWEST AND SOUTHWEST ELEVATIONS

Building 775: Heating Facility Building

This one-story building was constructed by the KS ANG in 1979 as a heating facility and covers 1,800 square feet (figure 4-22). The rectangular building has a metal-sided exterior and a low-pitch side-gabled metal roof. It is immediately southwest of Building 662 and between Buildings 684 and 59020.

The northeast façade has three vertical retracting bay doors and a single-leaf metal pedestrian door. The southeast elevation has two metal slider windows. The southwest elevation has two single-leaf metal doors, and the northwest elevation has a single-leaf metal door, one metal slider window, and two metal vents.

Building 780: Dining Facility

This one-story building was constructed by the KS ANG in 1978 as a dining facility and covers 1,166 square feet (figure 4-23). The building is of concrete block with a red brick veneer exterior. It has a flat roof with a metal box fascia It is oriented longitudinally southwest-northeast and is on the west corner of Heritage and Minuteman roads.

The southeast façade is the main entrance where two vertical retracting bay doors rest next to one another along with a projecting entryway partially made of glass blocks, which has an exterior single-leaf door and shelters an interior double-leaf pedestrian door. The northwest elevation has an airlock entrance of glass and brick frame. The southwest elevation has a double-leaf glass door with a transom and four fixed metal windows. The northeast elevation

has a covered projecting entrance with three steps up to the doorway threshold. There are five vertical rectangular fixed metal windows on the east end.

FIGURE 4-22. BUILDING 775, NORTHEAST AND SOUTHEAST ELEVATIONS

FIGURE 4-23. BUILDING 780, NORTHWEST FAÇADE

Building 783: Segregated Magazine

This one-story building was built by the KS ANG as a segregated magazine in 1984, and covers 563 square feet (figure 4-24). The rectangular concrete block building has a low-pitch shed roof and is oriented longitudinally northwest-southeast at the northwest end of the flight apron. The only wall openings are two single-leaf pedestrian doors and two double-leaf pedestrian doors on the northeast elevation. They open onto the flight apron.

FIGURE 4-24. BUILDING 783, NORTHEAST AND NORTHWEST ELEVATIONS

Building 55099: Storage Shed

This one-story building is a small shed that was constructed by the KS ANG in 1985, and covers 200 square feet (figure 4-25). The rectangular concrete block building has a flat roof with a single vertical retracting bay door opening to the west.

Building 57007: Supply Shed

This one-story building is a supply shed built by the KS ANG in 1988, and covers 1,400 square feet (figure 4-26). It is in the fuel storage area at the west end of the base. The rectangular corrugated metal building has a low-pitch shed roof with four double vertical retracting bay doors on the south elevation. There are no other wall openings in the building, except two small vents on the east and west sides.

FIGURE 4-25. BUILDING 55099

FIGURE 4-26. BUILDING 57007, SOUTH ELEVATION

Building 57008: Storage Shed

This one-story building is a small storage shed that was constructed by the KS ANG in 1986, and covers 350 square feet (figure 4-27). It is immediately northwest of Building 665 near the taxiway into the maintenance hangar area. The rectangular corrugated metal building has a low-pitch front-gabled roof. The west façade has a double garage-style door ramped to parking. No other openings are found on this building.

FIGURE 4-27. BUILDING 57008, SOUTHWEST ELEVATION

4.3.2 Parcel 3 (KSARNG)

This rectangular parcel is occupied by the KSARNG. The four buildings surveyed on this parcel consist of a squad operations building at the southwest end of a line of three identical hangars similar to Buildings 665 and 666 on parcel 1 occupied by the KS ANG (figure 4-28). The parcel is due south of parcel 1 along the southern flight apron at the other side of the Forbes Field.

Building 636: KSARNG Security

Building 636 is a T-shaped building with the original rectangular gable roofed metal-clad shop perpendicular to a long flat-roofed, one-story concrete block administrative addition in front of it (figure 4-29). The addition is oriented longitudinally northwest-southeast.

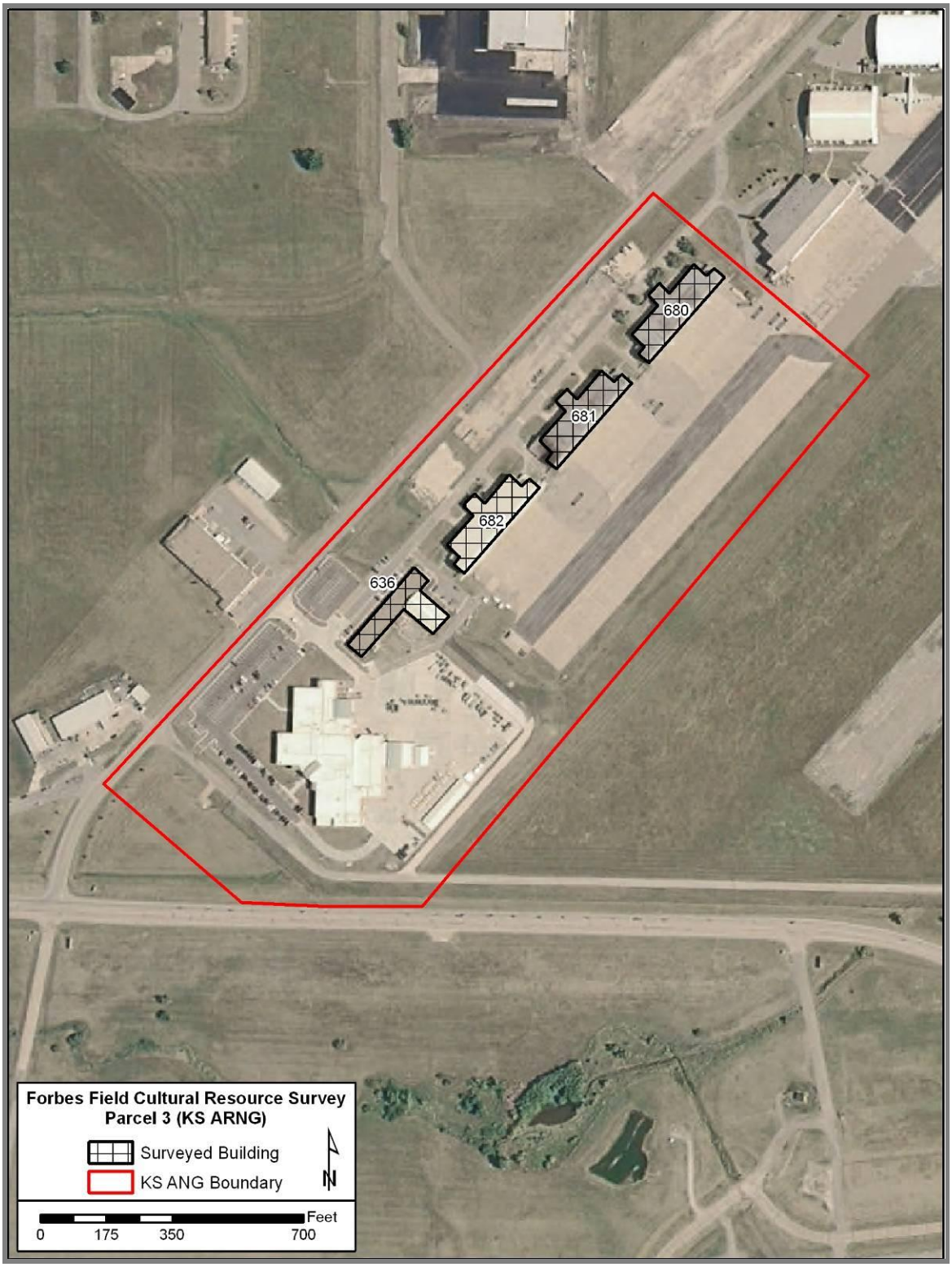


FIGURE 4-28. PARCEL 3 CULTURAL RESOURCES SURVEY COVERAGE MAP

FIGURE 4-29. BUILDING 636, SOUTHWEST ELEVATION

The southwest elevation has 15 fixed single-light windows recessed into larger openings and a set of double doors. The northwest elevation has a set of metal double doors flanked by two fixed metal windows set in larger recessed openings. The southeast elevation has a set of metal double doors. The northeast elevation has multiple additions and a series of blocked windows.

Building 680: Hangar

This building was constructed by SAC in 1956 using the standard wing multi-purpose 39-01-53 hangar design (figure 4-30). It covers 28,996 square feet and measures 295 feet 6 inches northeast/southwest by 126 feet 9 inches northwest/southeast, including offsets. It is supported by offset gable steel roof trusses with a corrugated metal roof. The exterior material is corrugated metal siding. It is northwest of Building 681 at the northwest end of the KSARNG parcel.

The northwest elevation has a central nose bay flanked by four boarded-up vehicle doors, two on either side of the nose bay. On the second story, there are three two-over-two pane windows, two three-over-two pane windows, and two single-leaf pedestrian doors accessed by an exterior metal riser stairway. The southwest elevation has a small shed addition on the ground floor and a small band of windows on the second floor. The northeast elevation has a shed addition in the northwest corner with a louvered window-sized vent, two single-leaf pedestrian doors, and five boarded-up windows. The southeast elevation consists of three nose-dock doors.

FIGURE 4-30. BUILDING 680, SOUTHEAST ELEVATION

Building 681: Hangar

Like Building 680, Building 681 was constructed by SAC in 1956 using the standard wing multi-purpose 39-01-53 hangar design (figure 4-31). It covers 28,996 square feet and measures 295 feet 6 inches northeast-southwest by 126 feet 9 inches northwest-southeast, including offsets. It is supported by offset gable steel roof trusses that are roofed with corrugated metal. Its exterior is clad in corrugated metal siding. It is northwest of Building 682 and southeast of Building 680.

The northwest elevation has a central nose bay flanked by four vehicle doors, two on either side of the nose bay. On the second story there are three two-over-two pane windows, six three-over-two pane windows, and two single-leaf pedestrian doors accessed by an exterior metal riser stairway. At least three single-leaf pedestrian doors are evident as well. The southwest elevation has a small shed addition on the ground floor and a small band of windows on the second floor. The northeast elevation has a shed addition in the northwest corner with a louvered window-sized vent, two single-leaf pedestrian doors, and five boarded-up windows. The southeast elevation consists of three sliding nose-dock doors.

FIGURE 4-31. BUILDING 681, SOUTHWEST ELEVATION

Building 682: Hangar

This building was constructed by SAC in 1956 using the standard wing multi-purpose 39-01-53 hangar design (figure 4-32). It covers 28,991 square feet and measures 295 feet 6 inches northeast-southwest by 126 feet 9 inches northwest-southeast, including offsets. It is supported by offset gable steel roof trusses beneath a corrugated metal roof. The exterior is of corrugated metal siding. It is northwest of Building 636 and southeast of Building 681.

FIGURE 4-32. BUILDING 682, SOUTHWEST ELEVATION

The exterior has been clad with new corrugated metal. The northwest elevation has a central nose bay flanked by four vehicle doors, two on either side of the nose bay. On the second story, there are three two-over-two pane windows, two three-over-two pane windows, and two single-leaf pedestrian doors accessed by an exterior metal riser stairway. At least three single-leaf pedestrian doors are evident as well. The southwest elevation has a small shed addition on the ground floor and a small band of windows on the second floor. The northeast elevation has a shed addition in the northwest corner with a louvered window-sized vent, two single-leaf pedestrian doors, and five metal sliding windows. The southeast elevation consists of three nose-dock doors.

4.3.3 Parcel 5 (AAFES)

Parcel 5 consists of a single building surrounded on three sides by an unpaved parking area situated on a 1.5-acre site. The rectangular parcel is used by the AAFES as a switchpoint and storage for AAFES tractor-trailers.

Building 2720: Switchpoint

This original World War II era scale house is situated on a 1.5-acre parcel that is surrounded by a parking area and chain-link fence (figures 4-33 and 4-34). The exact construction date is unknown. The building is approximately 15 feet by 30 feet and is approximately 450 square feet. It is in fair to poor condition.

FIGURE 4-33. BUILDING 2720, AAFES SWITCHPOINT

FIGURE 4-34. PARCEL 5 SURVEY COVERAGE MAP

It is a one-story structure of frame construction with side gable roof. The exterior is clad with asbestos tiles, and the roof is of composition shingles. The south elevation has an original wooden door with upper lights and a small shed roof extension. The north elevation has two wooden six-over-six pane double-hung windows. The east façade has a wooden door with upper lights under a shed roof extension and a six-over-six pane wooden double-hung window. A louvered vent is in the gable end. The west elevation has one double-hung wooden window with six-over-six lights.

4.3.4 Static Displays

Two static displays are present in the project area. They are on parcel 1 near the entry control building and front gate in a landscaped park.

Building 57000: B-57 Canberra Static Display

This static display consists of a B-57 Canberra aircraft on two display posts (figure 4-35). The aircraft is surrounded by a circular red brick sidewalk flanked by ornamental bushes and a grass lawn. A granite engraved memorial sign is to the north of the display along a straight sidewalk that leading south to the circular sidewalk. Many of the bricks have commemorative

FIGURE 4-35. B-57 CANBERRA STATIC DISPLAY

names of donors, 190th retirees, commanders, and others engraved on them. The number 0-21480 is on the aircraft tail and the words "cc CMSGT E Decker" and "cc MSGT K Elliot" are found under the cockpit. The static display was assembled in 1995, reportedly from three different B-57s.

Building 57005: 190th Tail-Fin Static Display

A straight red brick sidewalk constructed with regular paving bricks and commemorative pavers with the names of donors continues south from the B-57 Canberra aircraft display to another circular sidewalk surrounding a painted KC-135 tail section (figure 4-36). It has the word "KANSAS" in all capital letters across the top, a prominent image of a minuteman below and in the center, and the words, "190th Air Refueling Wing Kansas Air National Guard" on four lines at the base of the tail section. The tail section from an unknown aircraft was installed as a display in 2001.

FIGURE 4-36. 190TH ARW TAIL SECTION DISPLAY

5.0 EVALUATION

Forbes Field was built during World War II as a base for heavy bombers. Since World War II, the base has been used continuously in some capacity for the military. Currently, Forbes Field ANGB uses a portion of the former Forbes AFB for its operations. The buildings being evaluated as part of this project span nearly the entire Cold War period. Many were constructed and used by the Air Force prior to the KS ANG's tenure on the base. The three parcels used by the KS ANG, KSARNG, and the AAFES were part of the former AFB (see figure 1-2).

Twenty-four buildings were evaluated for their NRHP eligibility as part of this project. Two static displays were recorded but not evaluated. Fourteen buildings are 50 years old or older, and 10 are not yet 50 years old, but were built during the Cold War era (through 1989). Other buildings were present in the project area. However, they were not included in the survey because they were built after 1989.

Two of these buildings are discussed in detail below (Building 662 and Building 679). Building 662 is the largest hangar on the Forbes Field ANGB and Building 679, also known as the "Molehole," is perhaps the most recognizable building on the base besides the hangar. The discussion of the remaining surveyed buildings follows that of Building 662 and Building 679.

5.1 BUILDING 662

As previously discussed, to be evaluated as eligible for listing in the NRHP, a property must be significant by meeting one or more of the four NRHP evaluation criteria and possess integrity of location, design, setting, workmanship, feeling, materials, and association.

5.1.1 Significance

Building 662, the double-cantilever X-3 type heavy bomber hangar is a relatively rare building type within the United States and within the Air Force/ANG. It appears that this hangar is one of only nine such massive standardized hangars that were constructed in the continental United States. Its rarity is due to the constantly changing political circumstances and mission objectives of the Air Force and, more specifically, the SAC. The hangar was built in an evolving Cold War atmosphere of technological innovation that had direct impacts on military mission objectives, operations, and supporting infrastructure.

The hangar was built when SAC's bomber force was the primary means of deterrence against the Soviet Union, as well as the method of retaliation in the event of a Soviet attack. SAC became the preeminent military command at the time and embarked on a massive base construction program in the early and mid-1950s to house their aerial fleet. One such location was Forbes AFB, which grew to be the second-largest SAC base in the country. Forbes

TABLE 5-1. NRHP ELIGIBILITY OF SURVEYED BUILDINGS

Building No.	Function (location)	Year Built	NRHP Eligibility (eligible/not eligible)
Buildings 50 Years Old (built through 1957)			
636	Squad Operations (ARNG)	ca. 1956	not eligible
662	Maintenance Hangar (ANG)	1957	not eligible
663	Fire Protection Water Storage (ANG)	1957	not eligible
664	Water Fire Pump Station (ANG)	1957	not eligible
665	Maintenance Dock Medium Aircraft (ANG)	1956	not eligible
666	Maintenance Dock (ANG)	1956	not eligible
668	General Purpose Aircraft Shop (ANG)	1956	not eligible
670	Reserve Forces Operational Training (ANG)	1956	not eligible
673	Reserve Forces Operational Training (ANG)	1956	not eligible
679	Squad Operations (ANG)	1960	eligible
680	Maintenance Dock Medium Aircraft (ARNG)	1956	not eligible
681	Maintenance Dock Medium Aircraft (ARNG)	1956	not eligible
682	Maintenance Dock Medium Aircraft (ARNG)	1956	not eligible
2279	AAFES Switchpoint Administration (AAFES)	ca. 1945	not eligible
Buildings Constructed Between 1958–1989			
648	Entry Control Building (ANG)	1984	not eligible
750	Fire/Crash/Rescue station (ANG)	1980	not eligible
760	CE Maintenance shop (ANG)	1979	not eligible
770	Vehicle Maintenance Shop (ANG)	1979	not eligible
775	Heating Facility Building (ANG)	1979	not eligible
780	Dining Hall (ANG)	1978	not eligible
783	CE Storage Shed (ANG)	1984	not eligible
55099	Jet Engine Maintenance (ANG)	1985	not eligible
57007	BSE Warehouse and Supply (ANG)	1988	not eligible
57008	BSE Hazardous Storage (ANG)	1986	not eligible
Static Displays			
57000	B-49 Canberra Memorial Display (ANG)	1995	not evaluated
57005	KC-135 Tail-Fin Static Display (ANG)	2001	not evaluated

received one of only nine double-cantilever X-3 type heavy bomber hangars in the country to be built for the massive bomber force before SAC priorities changed and massive hangars of this type no longer met mission requirements. Within only a few years, SAC implemented the bomber alert program that focused on alert aprons and multi-purpose structures that were more than just hangars. The first operational ICBMs were also built and ready for operation by 1960, which further reduced the need for a massive bomber force capable of delivering nuclear and conventional weapons to other continents. Thus, the period when the massive bomber hangars

were constructed is less than a 10-year span from late 1951, when the hangar type was developed, to the late 1950s when the focus changed to smaller wing hangars for different aircraft such as the B-52.

Building 662 appears to be eligible under criteria A and C. Under criterion A, Building 662 is significant for its association with important Cold War events and historical trends. Building 662 is a direct reflection of a particular time period within the Cold War. Its size and base location reflect the brief period during the Cold War that such structures were being built at strategically placed SAC bases within the Midwest, Northeast, and West based on the perceived performance, capabilities, and threat of Soviet bombers.

The building is not associated with persons significant in history so it does not appear significant under NRHP evaluation criterion B. No significant Air Force commanders, officers, enlisted men, celebrities, politicians, or private individuals were associated with this structure.

Under criterion C, Building 662 also appears to be significant because it embodies the characteristics of a particular type, period, or method of construction and represents the work of one of the most influential military architects of the time. The structure is one of only a handful of the heavy bomber standardized hangar type designed by the Kuljian Corporation and erected during a very finite period in Cold War history. Furthermore, the Kuljian Corporation was one of the primary architects for SAC and this structure represents perhaps their largest standardized Air Force structure.

Building 662 does not appear to be significant under criterion D. The building's research potential is contained entirely in its design. Its original design is well documented in current and historic photos, historic newspaper articles about the construction and use of the building, and copies of the original construction drawings, as are all of the subsequent alterations made to the building. These documents are available from the Forbes Field ANGB civil engineering office and Air Force historic contexts discussion of the same documents at the U.S. Army Corps of Engineers history office. Therefore, the building does not have any further research potential.

5.1.2 Integrity

Despite the significance and relative rarity of the double cantilever hangar design exhibited at Building 662, substantial alterations occurring after the period of significance have severely impacted the historic integrity. The recessing door panels on the primary and rear façades, the interior trussed cantilevers and arches, and the flat parapeted roof line are some of the key character-defining features for the SAC double cantilever hangar building type. Alterations to convert the building to fulfill ANG mission requirements included removing the door panels from the southeast elevation and building out offices and walled interior spaces along the southern half of the building (figure 5-1). Not only have these alterations negatively affected the building's integrity of design, but also its integrity of feeling and association. Double cantilever hangars of this type were designed to flexibly accommodate a range of sizes of large aircraft.

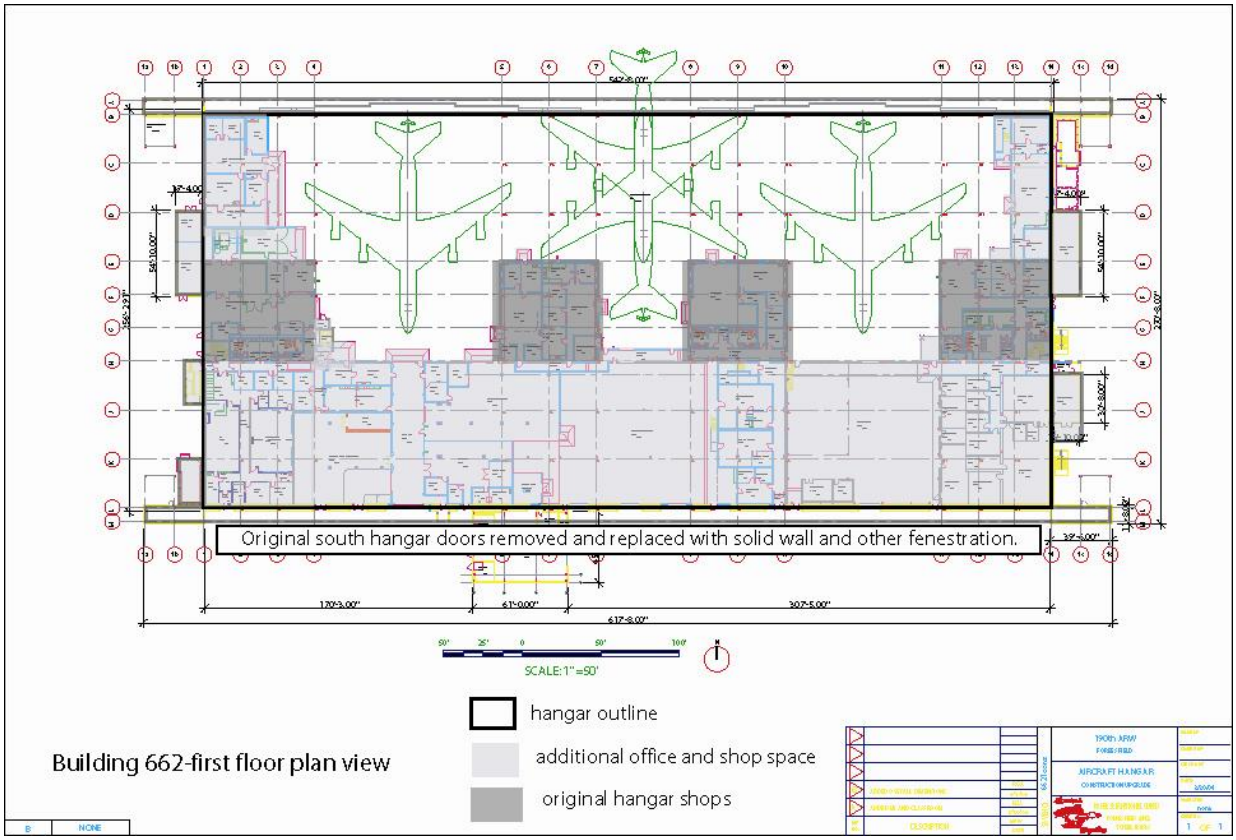


FIGURE 5-1. GROUND FLOOR PLAN OF BUILDING 662 WITH LATER ENCROACHMENTS SHADED GRAY

Although the original construction of the hangar included four interior structures housing shop space (denoted in figure 5-1) and the locally modified plans called for office space on the third and fourth floors, the buildout of additional office spaces and conversion of original shop space to other uses have significantly reduced the yawning open interior space, a defining characteristic. As originally built, the double cantilever design had arches and trusses from one set of hangar doors through the interior to the set of doors on the opposite façade. The introduction of interior walled spaces removed the open, airy feeling created in the original as-built design. As built, the hangar was designed to service planes entering from both the north and south façades, a historic association that is now lost.

Buildings significant under criterion A usually require a high level of setting and association integrity, while those significant under criterion C require integrity of design and feeling. The alterations to Building 662 have negatively impacted each of these areas of integrity, with the exception of setting, which also changed as Forbes Field was converted from a SAC base to an ANG installation. Although Building 662 retains integrity of location, materials, and workmanship, its overall historic integrity is not sufficient enough for NRHP eligibility.

5.2 BUILDING 679

5.2.1 Significance

Building 679 is the crew readiness alert building associated with the SAC bomber alert program. It is also known as the "Molehole." Building 679 was adapted for Forbes AFB by Servis, Van Doren, and Hazard of Topeka from a standard design dated April 1958 by architects and engineers Leo A. Daly Company of Omaha and the U.S. Army Corps of Engineers, Omaha District. Building 679 is only one of 11, 150-man alert dormitories built for Air Force SAC bases in the United States. Approximately 40 moleholes of various sizes are still extant. The remaining number have either been demolished or may still be extant, but there was no data available to determine their status. Building 679 was directly associated with a major mission of Forbes AFB, the second-largest SAC base in the United States. Thus, it meets NRHP eligibility criterion A—having contributed to events important in history or the broad patterns of history, the U.S. defensive military response during the Cold War.

Building 679 is not associated with persons significant in history so it does not appear significant under NRHP evaluation criterion B. No significant Air Force commanders, officers, enlisted men, celebrities, politicians, or private individuals were associated with this structure.

Building 679 appears to be eligible under NRHP evaluation criterion C. The building was designed by Leo A. Daly Company who had a significant role in military and SAC building design and construction. They had significant experience in World War II building design and had been designing buildings for SAC since 1955. The alert crew readiness building is a specific building type with design based on defensiveness (semi-hardened), survivability, housing of airmen, control functions, and rapid exit to the tarmac. Building 679 is an example of the 150-man readiness building type, the rarest of the three sizes constructed. It is only one of 11, 150-man alert readiness structures constructed in the United States, and one of approximately 40 nationwide that are extant today. It is one of only two alert crew readiness buildings in Kansas, the other alert building being of the smallest type, housing 70 men. Of these, it is the only of this size in Kansas, and the only of this size under ANG control nationally.

The building does not appear to be significant under criterion D. The building's research potential is contained entirely in its design, which is well documented in current and historic photos, historic newspaper articles about the construction and use of the building, and in copies of the original schematics. All of these records are available from the Forbes Field ANGB civil engineering office. Because the building is well documented, it does not have any further research potential applicable under criterion D.

5.2.2 Integrity

As has been previously discussed, in addition to meeting at least one of the four above criteria, a cultural resource must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. Integrity is defined as the authenticity of a property's

historic identity, as evidenced by the survival of physical characteristics it possessed in the past and its capacity to convey information about a culture or group of people, a historic pattern, or a specific type of architectural or engineering design or technology. Location refers to the place where an event occurred or a property was originally built. Design considers elements such as plan, form, and style of a property. Setting is the physical environment of the property. Materials refer to the physical elements used to construct the property. Workmanship refers to the craftsmanship of the creators of a property. Feeling is the ability of the property to convey its historic time and place. Association refers to the link between the property and a historically significant event or person.

Building 679 retains integrity of its location, design, setting, materials, workmanship, feeling, and association. It is not without changes, but retains its recognizable plan and characteristics. Building 679 is at its original location where it functioned with the alert hangars and runway, essential to its essential alert mission. It also retains features that contribute to its distinctive design for its alert mission. These character-defining features are its "semi-hardened" construction with perimeter berm and subterranean lower level, windowless upper level, floor plan with cross-corridors and public spaces articulating to tunnel or ramped exits, and ramped and tunnel exits/entrances for rapid egress at times of alert. Building 679 retains eight of its 10 culvert tunnels. The tunnels continue to function and articulate to corresponding corridors. Spaces that housed bedrooms and bathrooms have been reconfigured, but are partially present and generally recognizable.

The upper-level extends from the berm as it did originally. In its interior, its longitudinal corridor still exists and articulates with north and south ramped entrances. These entrances led to spaces for the kitchen, airmen's and officers' dining rooms and lounges, briefing room, library and reading room, and security room.

Despite changes to Building 679, the building is still able to visually convey a sense of its original use during the period of significance. Building 679 is evaluated as significant under NRHP evaluation criteria A and C, and despite changes made after its period of significance, retains its historic integrity. It retains integrity of design, setting, materials, location, workmanship, and feeling. Building 679 conveys its essential significance. Accordingly, Building 679 is evaluated as eligible for the NRHP.

5.3 OTHER BUILDINGS AND STRUCTURES

Other buildings and structures found on the base that are 50 years old or older do not appear to be sufficiently significant to be eligible for listing in the NRHP. While they were constructed as part of the SAC buildup and became part of the second-largest SAC base in the country, the buildings are standard SAC buildings that epitomize routine use and aspects of the military presence in Kansas and the United States. They did not contribute functions essential to missions that were uniquely of the Cold War. The individual buildings fall into the general category of utilitarian military vernacular in style, and are not of any particular architectural significance.

5.4 BUILDINGS BUILT PRIOR TO 1958

These buildings (see table 5.1) are generally associated with the Cold War era, but only tangentially tied to important themes such as the alert mission. They did not directly represent or reflect those themes under the Cold War (NRHP evaluation criterion A). Further, they are not associated with persons significant in history. No significant Air Force commanders, officers, or enlisted men, or celebrities, politicians, or private individuals were associated with the buildings, so they do not appear significant under NRHP evaluation criterion B. The buildings are not architecturally distinctive. They can be found reproduced in large numbers throughout the United States and are not the best architectural examples or significant works by important architects or companies. Therefore, they do not appear eligible for the NRHP under criterion C. Lastly, the buildings are not likely to yield any important information regarding their design and construction or that of the base as a whole. That information can and has been captured by historical research about the various time periods the former base was occupied. As a result, the buildings do not appear eligible for listing in the NRHP under criterion D. Activities performed in the buildings are considered support and routine, rather than unique or historically critical to the understanding of the history of the base. Although these buildings are more than 50 years old, they are not considered individually eligible for NRHP nomination or eligible as a district.

5.5 LATE COLD WAR-ERA BUILDINGS

The remaining buildings at Forbes Field were constructed between 1958 and 1989, and are less than 50 years old. They were evaluated within the historic context of the late Cold War. According to criteria consideration G, as defined in *National Register Bulletin 22, Guidelines for Evaluating and Nominating Properties that Have Achieved Significance Within the Past Fifty Years*, as amended (1998), properties less than 50 years old that are evaluated, either individually or as a district, must possess qualities of "exceptional importance" in order to be considered potentially eligible for nomination to the NRHP. This criterion is intended to limit potential NRHP nomination eligibility status to properties that are less than 50 years old for which " . . .sufficient historical perspective and scholarly, comparative analysis exist to justify the claim of exceptional importance" (*National Register Bulletin 22* 1998). The finding of exceptional importance must be made within the specific historic context associated with the property, and applies to the extraordinary importance of a specific event, and to types of resources that are so fragile that survivors of any age are unusual.

None of the buildings built during the late Cold War era (see table 5.1) at Forbes Field ANGB, other than Building 679, appear to reach the threshold of significance. Activities performed in the buildings are considered support and routine, rather than unique or historically critical to the understanding of the history of the base. Therefore, they are not eligible for listing in the NRHP, but should be reevaluated upon turning 50 years old.

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6.0 MANAGEMENT RECOMMENDATIONS

The following recommendations are offered to assist the KS ANG in complying with applicable federal cultural resources preservation statutes and the requirements of AFI 32-7065.

No further archaeological work at Forbes Field ANGB is recommended on the basis of the current cultural resources survey. The sensitivity assessment has demonstrated the lands and structures on the base to be extensively disturbed by past military activities. Further, an archaeological survey and subsequent shovel testing were negative for evidence of archaeological sites and confirmed the ground disturbance. As a result, the archaeological potential and sensitivity for archaeological resources is considered to be low, and no further work is recommended at this location. Any proposed construction of KS ANG facilities on the base is not likely to affect significant archaeological resources since archaeological resources were not identified and are not likely to be present in these areas. However, in the unlikely event that archaeological remains are discovered during construction, all work should stop in the immediate vicinity of the construction until a qualified archaeologist can assess the remains. Likewise, should human remains be discovered, work should stop immediately and the county coroner contacted to assess the remains. The SHPO and federally recognized Indian tribes, as appropriate, should be consulted.

Building 679 has been evaluated as eligible for listing in the NRHP under criteria A and C. It is a rare and historically significant building. Building 679 should be maintained as a historic building. As such, changes to the building will require consultation with the SHPO as part of the planning process for the proposed action set forth in 36 CFR 800, regulations implementing section 106 of the NHPA (16 USC 470(f)). However, routine maintenance such as cleaning or painting the building would not require consultation with the SHPO. If changes are proposed that would adversely affect the building or should demolition be considered, the KA ANG will need to consult the SHPO to explore measures that would avoid, minimize, or mitigate the adverse effect of the proposed changes or demolition. These agreed-upon measures would be memorialized in a memorandum of agreement to which the SHPO is party. Changes that would alter the doors, ramps, or tunnel exits of the building, its floor plan, construction of an addition, or alter its semi-hardened structure—all character-defining features—would be considered adverse effects. It is likely that the building would need to be documented to the standards and level specified by the Historic American Building Survey / Historic American Engineering Record, which would serve as appropriate mitigation of adverse effects and ensure all necessary historical information is preserved in documentation form and available for future research at the Library of Congress.

There are 10 buildings on parcel 1 occupied by the KS ANG that are not 50 years old and that were evaluated for their Cold War significance. When these buildings are 50 years old they should be reevaluated for their architectural significance.

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1953 Longest Runway in the U.S. August 19, 1953.

1958 First Forbes Family Moves Into Capehart Housing Development. February 18, 1958.

1959 Forbes Base Reassigned to 2nd AF. January 1, 1959.

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1915 It Had a History; Interesting History of Old Paul House, Near Pauline. January 16, 1915.

1942 Troops Move in Air Base Home Late This Month. August 10, 1942.

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APPENDIX A: KANSAS BUILDING FORMS

ID	636
HIST PROP NAME	Building 636
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 636
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1970
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	GOOD
PRINC MATERIAL	OTHER
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	flat
REMARKS	offices currently used by ARNG un
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/15/2006
SEQUENCE NUM	636-1
PHOTO ROLL/FRAME	Photos/636-1
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	648
HIST PROP NAME	Building 648
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 648
PRES USE	SINGLE DWELLING MULTIPLE DWELLING SECONDARY STRUCTURE HOTEL INSTITUTIONAL HOUSING CAMP VILLAGE SITE BUSINESS
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	666190
LEGAL DESCRIP	n/a
CONST DATE	1984
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	FAIR
PRINC MATERIAL	WOOD
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	square
ROOF TYPE	flat
REMARKS	abandoned entry control building
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/15/2006
SEQUENCE NUM	
PHOTO ROLL/FRAME	
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	662
HIST PROP NAME	Building 662
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 662
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote Drive
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1957
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	Kulijian Corporation/Capitol Engin
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	GOOD
PRINC MATERIAL	METAL
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular style
FORM TYPE	
ROOF TYPE	low-pitch gable
REMARKS	primary hangar, reskinned with n
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	
SEQUENCE NUM	662-4
PHOTO ROLL/FRAME	FF Christy
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	663
HIST PROP NAME	Building 663
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 663
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1957
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	GOOD
PRINC MATERIAL	METAL
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	round
ROOF TYPE	monitor
REMARKS	water tank
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/15/2006
SEQUENCE NUM	663-W
PHOTO ROLL/FRAME	Photos/663-W
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	664
HIST PROP NAME	Building 664
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 664
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1977
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	GOOD
PRINC MATERIAL	CONCRETE
OVERALL STYLE	OTHER
OTHER STYLE DTLS	Military vernacular
FORM TYPE	rectangular
ROOF TYPE	flat
REMARKS	water pump station
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/15/2006
SEQUENCE NUM	664-ne&se
PHOTO ROLL/FRAME	Photos/664-ne&se
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	665
HIST PROP NAME	Building 665
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 665
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1956
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	FAIR
PRINC MATERIAL	CONCRETE
OVERALL STYLE	OTHER
OTHER STYLE DTLS	Military vernacular
FORM TYPE	rectangular
ROOF TYPE	monitor
REMARKS	maintenance hangar, reskinned
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	665-se
PHOTO ROLL/FRAME	Photos/665-se
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	666
HIST PROP NAME	Building 666
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 666
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1957
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	EXCELLENT
PRINC MATERIAL	METAL
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	saltbox
REMARKS	maintenance hanger leased by Ka
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	666-ne1
PHOTO ROLL/FRAME	Photos/666-ne1
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	668
HIST PROP NAME	Building 668
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 668
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1956
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	EXCELLENT
PRINC MATERIAL	BRICK
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	flat
REMARKS	reclad with brick from concrete bl
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2007
SEQUENCE NUM	668-NE&SE
PHOTO ROLL/FRAME	Photos/668-NE&SE
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	670
HIST PROP NAME	Building 670
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 670
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1956
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	EXCELLENT
PRINC MATERIAL	BRICK
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	flat
REMARKS	reserve forces operational training
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	670
PHOTO ROLL/FRAME	Photos/670
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	673
HIST PROP NAME	Building 673
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 673
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5960
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1956
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	EXCELLENT
PRINC MATERIAL	BRICK
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	flat
REMARKS	headquarters building, reclad with
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	673-SE&SW
PHOTO ROLL/FRAME	Photos/673-SE&SW
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	679
HIST PROP NAME	Building 679
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 679
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1960
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	Leo A. Daly
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	GOOD
PRINC MATERIAL	CONCRETE
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	flat-very low pitch gable
REMARKS	old crew readiness building or "m
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2007
SEQUENCE NUM	679-ne
PHOTO ROLL/FRAME	Photos/679-ne
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	680
HIST PROP NAME	Building 680
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 680
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1956
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	FAIR
PRINC MATERIAL	METAL
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	saltbox
REMARKS	hangar nowleased and used by K
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	680-overview
PHOTO ROLL/FRAME	Photos/680-overview
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	681
HIST PROP NAME	Building 681
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 681
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1956
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	FAIR
PRINC MATERIAL	METAL
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	saltbox
REMARKS	Kansas Army National Guard now
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	681-1
PHOTO ROLL/FRAME	Photos/681-1
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	682
HIST PROP NAME	Building 682
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 682
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1956
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	EXCELLENT
PRINC MATERIAL	METAL
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	saltbox
REMARKS	reskinned with new metal siding
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	682-1
PHOTO ROLL/FRAME	Photos/682-1
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	750
HIST PROP NAME	Building 750
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 750
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1980
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	EXCELLENT
PRINC MATERIAL	BRICK
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	flat
REMARKS	ANG fire station, reclad with brick
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Christy Tipton
PHOTO DATE	11/16/2006
SEQUENCE NUM	750
PHOTO ROLL/FRAME	FF Christy/750
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	760
HIST PROP NAME	Building 760
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 760
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1979
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	EXCELLENT
PRINC MATERIAL	BRICK
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	flat
REMARKS	base civil engineering building, re
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	760-ne&se
PHOTO ROLL/FRAME	Photos/760-ne&se
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	770
HIST PROP NAME	Building 770
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 770
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1979
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	EXCELLENT
PRINC MATERIAL	BRICK
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	flat
REMARKS	vehicle maintenance shop, reclad
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	770-nw&sw
PHOTO ROLL/FRAME	Photos/770-nw&sw
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	775
HIST PROP NAME	Building 775
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 775
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1979
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	GOOD
PRINC MATERIAL	METAL
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	low-pitch front gable
REMARKS	corrugated metal heating facility
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	775-ne&se
PHOTO ROLL/FRAME	Photos/775-ne&se
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	780
HIST PROP NAME	Building 780
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 780
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1978
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	EXCELLENT
PRINC MATERIAL	BRICK
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	flat
REMARKS	dining facility, reclad with brick
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	780-SW
PHOTO ROLL/FRAME	Photos/780-SW
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	783
HIST PROP NAME	Building 783
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 783
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1984
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	GOOD
PRINC MATERIAL	CONCRETE
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	low pitch shed roof
REMARKS	storage shed
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	783-ne&nw
PHOTO ROLL/FRAME	Photos/783-ne&nw
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	2720
HIST PROP NAME	Building 2720
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 2720-AAFES transfer stat
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1942
DATE EST OR DOC	ESTIMATED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	DETERIORATED
PRINC MATERIAL	ASBESTOS
OVERALL STYLE	OTHER
OTHER STYLE DTLS	minimal traditional style
FORM TYPE	rectangular
ROOF TYPE	end gable
REMARKS	former scale house, now used by
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	2720-2
PHOTO ROLL/FRAME	Photos/2720-2
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	55099
HIST PROP NAME	Building 55099
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 55099
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1985
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	EXCELLENT
PRINC MATERIAL	CONCRETE
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	flat
REMARKS	storage shed on runway apron
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/15/2006
SEQUENCE NUM	55099
PHOTO ROLL/FRAME	Photos/55099
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

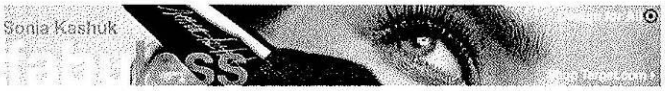
ID	57000
HIST PROP NAME	Static Display
HIST USE	MONUMENT/MARKER
PRES PROP NAME	B-57 memorial static display
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1995
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	n/a
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	EXCELLENT
PRINC MATERIAL	METAL
OVERALL STYLE	n/a
OTHER STYLE DTLS	n/a
FORM TYPE	n/a
ROOF TYPE	n/a
REMARKS	B-57 Canberra bomber display. O
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	57000 B-57C
PHOTO ROLL/FRAME	Photos/57000 B-57C
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/27/07

ID	57005
HIST PROP NAME	190th ARW Tail fin static display
HIST USE	static display
PRES PROP NAME	190th ARW tail fin static display
PRES USE	MONUMENT/MARKER WORK OF ART PROCESSING STORAGE AGRICULTURAL FIELD ANIMAL FACILITY FISHING FACILITY OR SITE HORTICULTURAL FACILITY
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	2001
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	n/a
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	EXCELLENT
PRINC MATERIAL	METAL
OVERALL STYLE	n/a
OTHER STYLE DTLS	n/a
FORM TYPE	n/a
ROOF TYPE	n/a
REMARKS	KC-135 tail fin static display at ent
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MONUMENT/MARKER
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	57005-tail-a
PHOTO ROLL/FRAME	Photos/57005-tail-a
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/27/07

ID	57007
HIST PROP NAME	Building 15007
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 15007
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1988
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	uknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	EXCELLENT
PRINC MATERIAL	METAL
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	low pitch front gable
REMARKS	tank farm building
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	57007
PHOTO ROLL/FRAME	Photos/57007
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/26/07

ID	57008
HIST PROP NAME	Building 57008
HIST USE	MILITARY FACILITY
PRES PROP NAME	Building 57008
PRES USE	MILITARY FACILITY BATTLE SITE COAST GUARD FACILITY NAVAL FACILITY AIR FACILITY PARKING LOT PARK PLAZA
ADDRESS NUMBER	5920
ADDRESS DIRECTION	SE
STREET NAME	Coyote
STREET TYPE	Drive
CITY	Topeka
ZIP	66619
LEGAL DESCRIP	n/a
CONST DATE	1986
DATE EST OR DOC	DOCUMENTED
BUILDER/ARCHITECT	unknown
OUTBUILDINGS	n/a
INV CODE	
COUNTY	SHAWNEE
CONDITION	EXCELLENT
PRINC MATERIAL	METAL
OVERALL STYLE	OTHER
OTHER STYLE DTLS	military vernacular
FORM TYPE	rectangular
ROOF TYPE	front-gabled
REMARKS	support storage shed
CATEGORY	DEFENSE
FUNCTIONAL TYPE	MILITARY FACILITY
ELIGIBILITY	NO
DATE LOGGED HPO	
LOGGED BY	
PROJECT NAME	Kansas ANG-Forbes Field cultural
PHOTOGRAPHER	Dan Hart
PHOTO DATE	11/16/2006
SEQUENCE NUM	57008-SW
PHOTO ROLL/FRAME	Photos/57008-SW
COMPLETED BY	engineering-environmental Manag
DATE FORM COMPILED	3/27/07

APPENDIX B: WEB SITES ACCESSED



WEAPONS OF MASS DESTRUCTION (WMD)

Air Force Facilities

As of about 1951, SAC organized its future bases in concentric rings focused on distances from Moscow and with the outermost ring 4,600 nautical miles from the symbolic target. SAC's first key bases were those across the West, Southwest, lower Midwest, and South. Yet even as these bases geared up, SAC's strategy changed. Installations sited and built from scratch were underway across the upper tier of states just below the Canadian border, and heavily concentrated in New England, with other pre-existing AAF locations completely modernized. "Bombers taking off from New England instead of New Mexico, for instance, could reach their targets more quickly and with fewer refuelings or stops, since they would be closer to begin with.

Installations with unobstructed runways of 12,000 to 13,000 feet, whose pavement was the outcome of significant experimentation for the weight of the very heavy B-36, and soon the B-52 and the KC-135 tanker, became the centerpieces of the command. In 1950, SAC runways for the B-47 required ten "battalion" months to build; for the B-36, 18 battalion months—an increase of 50 percent in time over that needed to accommodate the B-29. Generally, two battalions provided the workforce for construction, with SAC runway construction time varying from five to nine months under optimal conditions.

The Air Force built two types of runways during this period; asphaltic and concrete. Concrete pavement was considerably more expensive, although the Air Force strongly preferred it and scheduled the material at permanent (25-year) bases. High temperatures, jet blasts, and spillage of jet fuel damaged asphaltic runways more seriously than these factors affected concrete, and in either case, jet blasts eroded runway shoulders while jet engines sucked in debris. Hence, runway shoulders required stabilization as the Cold War unfolded. Even where concrete was planned, the material was confined to hangar access; maintenance, fueling, and parking aprons; calibration platforms; warm-up pads; and the final 1000 feet of runways.

By mid-1953, the Air Force initiated a formal study of its runways considered "economically infeasible to extend or to be replaced with new runways." Already at this early date, six installations fell into this category. The next year, 1954, Air Force concern over the asphalt versus concrete dilemma reached its height, and the Secretary of Defense requested that the National Academy of Sciences make a separate evaluation.

In 1956, the Air Force finalized the asphalt-concrete controversy by adopting concrete for runway pavement exclusively at any primary use facility. The Asphalt Institute protested this policy decision, and as one final test the Air Force constructed a test track of flexible and rigid pavement panels at Kelly Air Force Base in San Antonio. The flexible panels failed, substantiating the Air Force choice of concrete. More sophisticated tests of concrete pavement did continue, however.

SAC established itself as a global military arm. The Air Force inherited World War II overseas bases from the AAF in Asia, Alaska, Newfoundland, Germany, Great Britain, Bermuda, the Azores, Libya and Saudi Arabia. At certain of these locations, SAC built up a Cold War presence. Yet key to its plans for strategic second strike capabilities, SAC needed significant new sites. With planning underway in 1948, SAC focused on North Africa—specifically French Morocco—for a large presence of men, rotating aircraft, training, and nuclear weapons depots. Morocco installations went in at the four locations of Nouasseur, Sidi Slimane, Benguerir, and Boulhaut (with a fifth intended at El Djema Sahim).

By the mid-1950s SAC had accompanying refueling bases, supported by a huge oil pipeline project with fuel tank farms, in progress in lower Spain at Torrejon, Zaragoza, and Moron. Morocco, in particular, is important due to construction there during the transitional years of 1951-1953. Immediately following the work in Morocco, SAC undertook bases in Newfoundland, Labrador, and Greenland, with those at Thule and Goose Bay significant for their role not just for SAC, but also for ADC.

Early in the 1950s, SAC developed a reflex operation between its southern bases and Morocco, with B-36 and B-47 wings rotating to North Africa for extended temporary duty. During the middle and late 1950s, SAC adopted a dispersal program—spreading out its potential as a Soviet target by placing its aircraft, weapons, and personnel on many more bases, with each bombardment wing having two additional installations to which it could disperse.

Strategic Air Command wings had become extremely large. As the Russian missile threat became more pronounced and warning time decreased, Strategic Air Command bases presented increasingly attractive targets. But by providing additional bases to which the aircraft could be dispersed, the enemy's targeting problem would be compounded, and more bombers could become airborne within a given time period. It was therefore decided to break up these large concentrations of aircraft and distribute them among more bases.

Simultaneous with the changeover toward the B-52 and KC-135, reflex assignments, satellite dispersal, and alert programs went into effect for SAC. Although SAC was still in its infancy, generally, the Air Force programmed 29 bases for the command as of February 1955, planning for another 34 as of April that same year. These programmed SAC installations were in addition to the 38 U.S., and 13 foreign, bases already operational for the command by mid-decade. Of some note, SAC requested a total of 329 bases by July 1959, a fantastic idea. SAC installations, inclusive of those overseas and of tenant bases, peaked at 85 in 1962. As SAC began to put its bombers on sustained alert status at selected bases from 1956 forwards, with dispersal planned for 55 bases at the end of the next year, the command also addressed the needs of a specialized alert apron and immediately adjacent crew quarters.

SAC called its first bomber alerts, with a rapidly evolving reconfiguration of its bomber aprons from large rectangular parking areas to grouped clusters of parked aircraft to a formal alert pattern by 1957. Specific nose docks for the B-47 mirrored the sweptback wings of the bomber itself, with nose docks sometimes moved from one installation to another to accommodate strategic planning.

Formalized alert aprons went in at the first bases before 1957, with a 45-degree entry runway, and with individual aircraft parking pads at right angles to the stub. Almost as soon as construction was in progress, however, SAC changed to a double-angled configuration with parked aircraft themselves at a 45-degree angle to the stub. The final configuration, dubbed a herringbone or Christmas tree, first used house trailers for alert crew quarters next to the individual bombers on alert. The alert areas went in at 65 SAC installations nationwide during 1956 to 1960, with a partially below ground, reinforced concrete alert quarters for the pilots built at each apron. The alert quarters, called moleholes, were in effect partially hardened. With dispersal, SAC made some of its alert aprons bomber-only and some tanker. By the early 1960s bombers and tankers were sometimes on alert at a single installation—with tanker pens in addition to the Christmas tree configuration, and with house trailers again brought to the tarmac.

SAC used Air Force bases and civil airports as dispersal sites for B-47's. Some of the civil airports were

- Atlantic City Airport, NJ
- Detroit-Wayne County Airport, MI
- Lambert Field, St. Louis, MO
- Logan Airport, Boston, MA
- O'Hare Field, Chicago, IL

In the late 1960s the Soviet Union began deployment of the new Yankee-class ballistic missile submarines, and the United States became concerned that missiles fired from these submarines could attack SAC bomber bases. A dispersal program by 2nd Bomb Wing at Barksdale AFB included deployment of Detachment 2 to Amarillo Air Terminal (formerly Amarillo AFB) and Detachment 3 to Clinton-Sherman Industrial Air Park (formerly Clinton-Sherman AFB). Both detachments were active from around 1969 until 30 March 1975 when they were inactivated. SAC used a variety of Air Force bases for dispersal. The 456th Bombardment Wing at Beale AFB deployed Detachment 1 to Hill AFB, which was activated 01 January 1973 and discontinued 01 July 1975. A $2 million dollar alert facility large enough to accommodate seven aircraft was constructed. The first of four B-52s assigned there arrived on 28 December 1973. The 42nd Bomb Wing at Loring AFB deployed Detachment 1 to McGuire AFB from 01 January 1970 through early 1975 [possibly only with KC-135s].

In the 1957-1964 years, military analysts predicted that a Soviet nuclear attack would begin with missiles, followed by a second wave bomber contingent. SAC bomber alert facilities were most critically important during this transition from a bomber threat to ICBMs, and were significantly less important as a comprehensive response web after placement of Atlas D, E, and F, and Titan I, ICBMs during 1958-1962. Some of the most critical SAC bomber bases of the early Cold War—such as Forbes and Schilling in Kansas, Lincoln in Nebraska, and Walker in New Mexico—became much less important as bomber readiness shifted to the northern tier and ICBMs went in place adjacent to their installations. In addition, SAC decisions for placement of the B-52 influenced the futures of bomber missions at bases previously key for B-36 and B-47 wings.

The first B-52 wings were extremely large, composed of 45 bombers and 15 or 20 KC-135 tankers, all situated at one base. Starting in 1958, the B-52 Dispersal Program called for the large B-52 wings to be reformed into three equal-sized wings of 15 aircraft each. With two of the new wings thus formed being relocated to bases of other commands, each dispersed B-52 squadron became a strategic wing. The entire force was established at 42 squadrons by Headquarters USAF in 1958, with each B-52 wing having an air refueling squadron of 10 to 15 aircraft.

During the 1962-1976 period, overall, construction for SAC focused on its missile missions. During the terms of Presidents Carter and Reagan, from about 1976 through the end of the Cold War in 1991, SAC sponsored a second major phase of new infrastructure. Although construction in support of the B-52 bomber mission really required no new major designs for SAC after the late 1950s, the command did require new infrastructure for the continuing sophistication in command posts and for the B-1.

During the eighties, the Army Special Projects Office designed and completed work on Air Launched Cruise Missile (ALCM) buildings on 10 bases for the Strategic Air Command. Each base required an integrated maintenance facility that housed a missile maintenance area, computer test area, and administration area. The administration area on each base was protected from accidental explosions in the remainder of the building in which it was located. Several weapons storage igloos were also constructed at each of the sites. These areas were expanded to receive the ALCM facilities and required security systems with fences and closed-circuit television. The total construction cost of this program was in excess of $300 million. Work for the Strategic Air Command continued with the upgrade of 14 bases and the addition of one facility on the Short Range Attack Missiles/Offensive Avionics System program. Ten of the 14 upgraded bases were ALCM bases.

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KANSAS COYOTES: The First 25 Years
1957 ~ 1982

The History of Forbes Field

The History of the 190th

The 117th's Early Years

The First 117th Unit Patch

Basic Facts about the National Guard

Maj Forbes and the YB-49 Crew

It is in grateful appreciation to Colonel Carl L. Boggs that we dedicate this history of the 117/190th. The 190th belongs to no one man any more than it belongs to "Curley" Boggs—and no man has more of his life and heart in this unit than he does. Whatever this unit becomes in the future, part of the honor will be his. He took a faltering unit and built it into an outstanding one. Upon his retirement, he left behind a firm foundation, upon which, the rest of us continue to build. To the men who served under him and to their families, he has and always will be, an inseparable part of this unit.

Forward

You may notice as you read through this history that it was written by several different people. The first 20 years was written by SSgt. Robert Piepenbrink. We gratefully acknowledge his many months of research and effort. Without this first 20 years we would not have attempted to have this history printed for the 25th Anniversary. There is no doubt this was a monumental job and one that SSgt. Piepenbrink should be very proud of.

In the 190th files we found the second part 1978-80. A unit Historian wrote it, though we are sorry to say we don't know which one. This was mostly complete, though we did add a few paragraphs to it. Please note here that we would like to give full credit to the person who wrote this. It would have made the task of finishing this impossible without this information.

The final part, from 1980-1982 was taken almost exclusively from reports in the Coyote Log and local newspapers. I am positive there is a lot that is left out that should have been said. Please remember that we did the best we could with what we had to work with, and the time we had to get it done. We felt that the last five years should be added to Robert Piepenbrink's fine history to bring it up to date.

It is to the author of a book that the honor of dedication goes. We, as the editors of the final pages, found ourselves in a unique situation. We had the work, but not the author available to us. To print a history of the 190th without a dedication, somehow, did not seem right. We had taken upon ourselves the job of finishing the work that had been begun by someone else so we also took upon ourselves the honor of dedication.

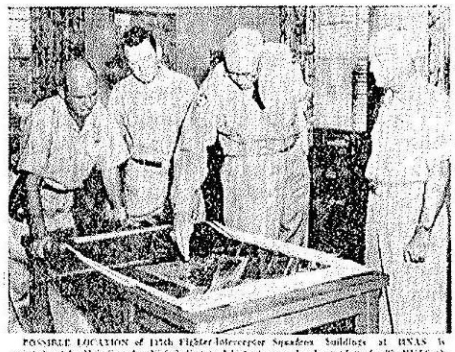
PART-TIME PROFESSIONALS
From the 117th Fighter Interceptor Squadron
To the 190th Defense Systems Evaluation Group
By: SSGT. ROBERT PIEPENBRINK

Lineage

The unit began in 1942 as the 440th Bombardment Squadron, Light. This was a B-26 unit, working from North Africa , Sicily , Italy and France during the war in Europe . For precision bombing over Casino and Naples , it received a Presidential Unit Citation. With the end of the war in Europe , the 440th was transferred to Okinawa , where it took part in the bombardment of Japan .

In October of 1945, with the end of the war, the 440th was deactivated by the Army Air Force. The Squadron was then reorganized as the 117th Bombardment Squadron, Light, of the Pennsylvania Air National Guard, stationed at Philadelphia Municipal Airport . In April 1951, the 117th was called to active duty for the Korean War. It served as a training unit at Langley Air Force Base, Va. With the end of the war, the Squadron was returned to the Pennsylvania Air National Guard, and redesignated a Fighter Interceptor Squadron. Over the next few years, though, the 117th was unable to maintain the minimum required strength. (60% of authorized). Finally the decision was reached to remove the unit from the Pennsylvania quota, and add it to that of Kansas , which seemed to offer more hope.

Formation of the 117th



POSSIBLE LOCATION of 117th Fighter-Interceptor Squadron buildings at HNAS is pointed out by Maj. Gen. Joe Nickel, Kansas Adjutant general, who conferred with HNAS officers on Kansas Air National Guard facilities. At right is Capt. George B. Chafee, HNAS commanding officer. At left is Major Carl L. Boggs, CO of the 117th, and Col. Edward R. Fry, KANG air chief of staff. Locating KANG at the air station hinges on joint-use agreement.

By the fall of 1956, the first steps were being taken for the eventual organization of the 117th in Kansas, though the official transfer was still several months away. First, a cadre of trained and experienced Air Guardsmen had to be found. This was easy enough. The 127th Fighter-Interceptor squadron, Kansas Air National Guard, was already in existence in Wichita, at McConnell Air Force Base. The creation of a new unit would offer a chance of promotion to many of the men of the old unit, if they transferred. Then too, it was a good chance to get out from under superiors one disliked. These arguments appealed especially to the Guard's full time employees, the Air Technicians. From the same unit, a commander could also be found. Major Carl L. "Curly" Boggs, commander of the 137th Maintenance and Supply Group, and Chief of Maintenance of the 127th Fighter-Interceptor Squadron, was evidently experience enough to handle a new squadron, and was well-liked by the men of the 127th who would form the cadre. As one said, looking back, "A lot of them came to Hutchinson to follow Curly Boggs." He had just begun a one-year course of instruction at Air Command and Staff College, Maxwell AFB, Ala. The only officer in the Air National Guard admitted for the full course that year.

Major Boggs was born in Kansas on 26 May 1916 , and graduated from Wichita North High School in 1935.He spent one year at Wichita Business College, but with the Depression still in full swing, by 1937 he was working for Beechcraft Aviation, producing two-engine trainers. On 2 January1942, he was drafted into the Army Air Corps. Trained as a mechanic, he flew as an engineer gunner on medium bombers flying antisubmarine patrol out of Westover Field in Massachusetts. As he put it, "As long as I was going to be flying in the things, I decided to learn to fly one myself." By 28 July 1943, he had become 2ndLt Boggs, USAAF. He we declared the outstanding cadet of Southeast Air Force Training command—a position determined by both academic standing and flying proficiency—and was awarded a presentation sabre. On 1 April 1944 , he left the United States as a B-17 pilot, assigned to the famous 305th Bomb Group, Eighth Air Force, formerly under the command of Lt. Colonel Curtis E. Lemay. He completed his 30 missions with 240 hours of combat flying over Europe , having once ditched in the English Channel. One of his airplanes was the "Wichita Wench," featuring the obligatory girl "but they made me put pants on her."

Assigned as a Repair and Reclamation officer in France, Captain Boggs flew most of the Air Force inventory. On 15 March 1946 , he was released from the active Air Force. He might have stayed, but he wanted to live in his native Kansas, and didn't know yet how to combine an Air Force Career with staying in one place.

Six months later he found out. After reading of it in a newspaper, he joined the Kansas Air National Guard on 7 September 1946, and 10 days later became Air Technician Chief of Maintenance for the 127th Fighter-Interceptor

Squadron.

With the commencement of the Korean War, Curly Boggs was activated (with the rest of the 127th) on 25 September 1950. While the unit went to France, he was assigned to the 136th Fighter-Bomber Wing, composed of Texas and Arkansas Guardsmen. He served with them as commander of the maintenance squadron while the 136th flew in Japan and Korea.

On the 13th day of July 1952, Boggs now Major, was deactivated, and went back to being an air technician. His task now was to return to Wichita and raise a replacement squadron for the 127th, which was still in France. In carrying out this mission, Major Boggs gained experience, which would aid him greatly in the formation of the 117th four years later. (Among other things, he learned how to hijack men from the Air Force Reserve, a knack especially useful in acquiring trained pilots and navigators). He remained with the 127th for almost four years, until he was selected to attend the Air Command and Staff College.

While the new Squadron now had (or at least would have) a commander, there were still a few details to be decided. The first was equipment. The 117th would remain a fighter-interceptor squadron, and as such would be equipped with F-80 "Shooting Stars" (and the T-33 trainer version of the Shooting Star), with the prospect of more modern equipment at a later date. The choice of equipment and location (Kansas) between them settled the place of the 117th in the Air Force chain of command. It would become the 4th squadron of the 137th Fighter-Interceptor Wing, Kansas and Oklahoma Air National Guard. The existing three squadrons were the 127th in Wichita , and other in Tulsa and Oklahoma City.

Now all the unit needed was a home. There were a number of possible sties in Kansas at that time: Shilling AFB (Salina); McConnell AFB (Wichita), Forbes AFB (Topeka) and Hutchinson Naval Air Station, Hutchinson. McConnell already had the 127th, and an additional squadron would have left both units with difficulties in recruiting. Schilling and Forbes were both somewhat crowded at the time. Hutchinson had all its buildings full at the moment, but there was room for more on base. Besides, it already had an Air Force radar detachment, which was something that the 117th would need as an operation fighter-interceptor squadron. So Major Boggs and various other technicians of the 127th prepared to move their families to Hutchinson.

Hutchinson NAS was about 12 miles from the actual town of Hutchinson, (population: 40,000). It had been built during the Second World War to take advantage of the generally good flying weather of Kansas. Deactivated at the end of the war, it had been reactivated and to some extent rebuilt for the Korean War. By 1956 it was no longer as active as it once was, however, and there was some hope that a small augmented squadron could be fitted in. The announcement that the 117th would be formed at Hutchinson was made by Air Defense Command on 3 January 1957, a Thursday. By the following Monday, a headquarters and recruiting center was in operation at 23 ½ East First St., in the Air Force Filter Center. (Needed in those days as a point at which to concentrate radar reports). All the unit needed now was people.

YOUNG MEN 17 to 18½

AND

RESERVISTS WITH MILITARY OBLIGATIONS

A MESSAGE JUST FOR YOU!

You Can Take Your Military Training at home. Congress has directed That The AIR NATIONAL GUARD be Maintained at Proper Strength to Provide the RESERVE of 27 AIR NATIONAL WINGS in this Country needed in time of GRAVE NATIONAL PERIL. That, You Can be of Immense Value to the NATIONAL Defense, Receive Your REQUIRED Military Training at Home, at Wherever You Go to Work or College in Any State, and Accrue time toward Military retirement, if you will JOIN THE AIR NATIONAL GUARD. This deferment will not be Granted to those who wait to JOIN the AIR NATIONAL GUARD AFTER IT REACHES AUTHORIZED STRENGTH.

A new unit of the Kansas Air National Guard, the 117th Fighter Interceptor Squadron, was activated 1 January 1957 at Hutchinson, Kansas. The authorized strength of this unit is 42 officers, 3 warrant officers, and 417 airmen. The temporary recruiting office is located in the Ground Observer Corp Headquarters at 23½ East First, Hutchinson, Kansas. As soon as the authorized airmen strength is filled we know that the other young men of this community will probably take their training away from home under the selective Service. DON'T BE TOO LATE -- JOIN TODAY!

The task facing the staff (Major Boggs was still away in training) looks impossible today. They had to enlist 92 men by 1 March in order for the unit to be recognized (and paid) by the Federal government. In order not to imperil the combat readiness of the 127th, only 13 men were transferred in from it. Among them were Tony Leis, later Chief of Supply, and Paul Simmons, later unit exec. Both of these men helped maintain the traditions of the Kansas Air National Guard, since both men had gone on active duty

with the old 127th Air Observation Squadron in 1941. Another of the original 13 was Sgt. Kenneth Horner, now (Spring 1978) the last of the original members of 1946 still on active duty. A veteran of World War II and Korea, Horner was a Master Sergeant by 1946, and was the first E-8 and the first E-9 of the Kansas ANG as these ranks were created.

No matter what the quality of the initial 13, and additional 79 men would have to be recruited from the community at Hutchinson in less than two months. The recruiters, though, had certain advantages. First, they had slots of 27 air technicians, of whom only eight were transfers from the 127th. Thus, 19 men would gain full-time employment by joining the 117th. The second factor was the draft. Not only was the community filled with veterans of World War II and Korea , but all those who were not yet trained could expect to be called up sooner or later. These young men had only one hope of avoiding the regulars (and possibly marching in the infantry) and that was to join a unit of the National Guard or Reserves. The situation reminds one of the Civil War recruiting poster reading "Last changes to AVOID THE DRAFT! ENLIST IN THE CALVARY !"

These advantages did not make raising the required men easy. They made it just barely possible. As an early member recalled, they took "anything that breathed" to make up the 20 percent of strength needed for federal recognition. When the 117th Fighter-Interceptor Squadron, Kansas ANG, held its first roll call on 23 February 1957, it had 94 me – just two more than the absolute minimum for Federal recognition. At that time, several of the recruits were thoroughly unsatisfactory, and were released as more suitable men became available.

One of these more suitable men was MSgt. Melvin Simpson, whose recruitment illustrates the methods used by the unit. A computer search was made for any former USAF personnel trained in certain specialties needed by the 117th, and with residences within a reasonable distance of Hutchinson. Sgt. Simpson was among those turned up. Raised in Hutchinson, he had completed a four-year hitch in the regular Air Force in May of 1956, and then taken a civil service position with the Air Force. Nothing could have made him happier than the call from the recruiter, offering him an Air Force job in his hometown. Sgt. Simpson joined the unit as First Sergeant in March, and became air technician in April 1957.

This dent in personnel problem was only a beginning though. The aircraft assigned to the 117th were parked at McConnell Air Force Base, Kans., since the Navy had no hangar space to spare initially. The pilots and mechanics had to commute to Wichita for weekend drills and daily flying. The remainder of the small unit met in a Quonset hut in downtown Hutchinson, since the Navy could find no available space in Hutchinson NAS. Finally, in April, part of Building 303 became the orderly room and base supply. Unit supply was at 707 West 7th, still in downtown Hutchinson, so the unit was pretty thoroughly scattered on a UTA. (We might note that the bins unit supply acquired in this period have become some of the most enduring components of the unit. They have traveled from West 7th to East 2nd to Hutchinson ANGB, and then to two locations in Topeka, finally settling (or at least resting) at Building 451, with a move to Building 662 already planned).

Recruiting was the main function in those days. With the initial quota passed, they could pick and choose. Mostly, the draft being what it was then, they chose college graduates. Indeed, once the 117th sent 40 men to Lackland AFB for Basic Military Training, and 39 of them were college graduates. This did pose some problems: A college man could make more trouble if he was discontented. By and large, though, the recruits were able men and learned their trades rapidly .

Things really began to happen in July of 1957, when Major Boggs returned from school and assumed active command of the 117th. Within a month, the unit was off on its first Summer Camp, voluntary for weekenders. It was to Casper Wyoming , together with the 127th. This did a great deal to heighten unit skills, but perhaps not so much for esprit de corps as later ones would, since the "augmented squadrons" of those years were split off by sections during such training. The maintenance security police of the 117th and the 127th formed a joint section, and so forth. Be that as it may, though, for the first time in the history of the unit, it was doing something as a unit. It was shortly after that summer camp (6-20 July, 1957) that Major Boggs talked with the Guard Bureau about the future of the unit. He needed a facility, he needed funds, and he needed technicians. To get them, he made a commitment. He told them he would double the unit strength.

The drive began in a big way on 8 Feb 1958, "Air National Guard Day" in Hutchinson , by order of the Mayor. The local movie theatre (the "Fox") hosted the 42nd Army Band, and a short feature, "Scramble Two," on the mission of the Air Guard. The Adjutant General of Kansas was to make a brief speech. Two billboards were loaned to the unit, and decorated with the face of a pilot, a jet and the motto: "Defending America since 1915: the Air National Guard." In other advertisements in the newspapers, short Air Guard ads were included, with the legends "Don't fly on the highway—do your flying in the Air National Guard," and "You get a good deal in the Guard." Within Major Boggs' limitation, the strength of the unit nearly tripled, from about 150 in the fall of 1957 to 448 by late June 1958. While not at full-authorized strength, the 117th was now close enough to be thought of as a functioning unit.

Besides the start of the recruiting drive, 8 February 1958 marked another victory for the 117th. The first of the unit's F-80s arrived at HNAS, more than a year after the creation of the unit. It was not necessary to build hangars for them, as had been planned. The Navy was in the process of closing down HNAS. They had announced the closing in April of 1957, and the Navy was to be out by July of 1958. That was quite a relief to the 117th. The Navy did, after all, own the base, and they weren't easy people to live with. They never got used to the greater camaraderie between Air Force officers and enlisted men, and the Air Force personnel never got used to the Naval habit of turning off the smoking light at certain times during the day. More important, with the Navy leaving, they could find room for the planes and pilots and mechanics wouldn't have to commute to Wichita each day. They'd have the airplanes right where they needed them.

The move was barely in time for the F-80s. From the beginning, they had been regarded as transitional aircraft. Initially, the intention had been to replace them with F84s, but the runway at Hutchinson (7500 feet) was a little short for that. Then the 117th was slated for F-86Ds, Fighter-Interceptor aircraft that would make use of the Air Force radar detachment already at the base. Major Boggs was in the Pentagon, discussing the changes needed for the conversion – spare parts, man-hours, schools for his pilots and mechanics – when General Winston P. (Wimpy) Wilson, a personal acquaintance, came by, and the dialog went something like this:

WILSON : "Well, Curly, how do you think you'll like these B-57 Canberras?"
BOGGS: "What about them?"
WILSON : "That's what you'll get for new equipment."
BOGGS: "@#$%! I can't even spell it."

The Canberras

The Canberra was originally designed to replace the world's last wooden combat aircraft, the DeHavil Mosquito Bomber. In March of 1945, the RAF drew up the specs for a jet replacement for the famous light bomber. The Mosquitos had done well enough during the war, but the advent of the jet engine clearly rendered them obsolescent. Besides, the design had posed certain difficulties. Not least was the tendency of the plywood bomber to come unglued – literally! – in tropical bases. This happened to the men, of course, but when it happened to the machines, changes clearly were in order.

There was no immediate response to the RAF specification. By March of 1945, it was evident that a new design could not be put into production by the end of the war, so attention focused on current production.

The immediate post-war years involved little urgency in aircraft design and production. Aircraft manufacturers began acquiring a lean and hungry look. Among the leanest and hungriest was the English Electric Company, which had existed for years by producing other companies' types. In fact, it hadn't designed an aircraft itself since the 1920s. Nonetheless, with contracts terribly scarce in the post-war years, English Electric decided to try for the replacement of the Mosquito, and on 13 May 1949 , the first flight of their design, the " Canberra ," took place. In design, it was heavily indebted to the first British Jet fighter, the DeHaviland Comet. In part, though, it was very much the child of the MOSQUITO bomber it was intended to replace. First, it was light, fast and highly

maneuverable – the classic MOSQUITO characteristics. Second, it had good range for a medium bomber. Third, it could take off and land in a remarkably short field. It could, in fact, climb on one engine.

All in all, it was a well-designed aircraft, and met with much-deserved commercial success. Within months, four firms were involved in Canberra production, and many of the commonwealth air forces were expressing an interest. Here it must be pointed out that the timing was perfect. The first Canberra flew at the end of the Berlin Blockade, and operational production (8 October 1950) was just after the outbreak of the Korean War. When the big aircraft orders of the Korean conflict were placed, there were already factories tooled up to produce the Canberra .

It was Korea that brought the Canberra to the USAF. The war had caught the Air Force preparing for a strategic nuclear exchange, and not really oriented toward tactical support, especially night interdiction. The primary aircraft for such a mission was the old B-26, a World War II veteran, clearly not up to another war. Besides, they were long out of production, and the inventory was being seriously depleted. A new aircraft for the night interdiction mission would have to be found.

With the war already in progress, there was no time to produce one from scratch. An existing aircraft would have to be used for the job.

The problem was that there were no night interdiction aircraft then in production or even at the prototype stage. The Air Force assembled everything that might be converted to the role, and surveyed the field:

The North American AJ1 "Savage" was already in use with the Navy as an early strategic nuclear bomber, but it was still in prop-driven aircraft. STOL characteristics were excellent, of course – had to be for the Navy – but the type seemed to be about at the end of its design potential with the improved A2J1, and it was still too vulnerable to ground fire and carried too small a bomb load. It lacked both armament and armor, and adding them could only have been at the expense of the already limited bomb load.

The North American B-45 "Tornado" was already in service with TAC. Indeed, it was the oldest design in the competition, having first flown in March 1947. It was, basically, a jet version of a World War II medium bomber, and lacked maneuverability at low altitudes. It was used as a reconnaissance aircraft in Korea , and took casualties so high that it never employed there as a bomber.

The Martin XB-51, formerly the A-45 (the Air Force had dropped the A-series designations) was the only competitor not already in production. The investigating Air Force officers were favorably impressed by much of the XB-51, but it required the longest runway of any of the planes considered, and it didn't have the range of endurance that the Air Force asked of the night bomber.

That left the English Electric Canberra, and long before the official fly-off in February 1951, it was evident that the Canberra would be the Air Force's choice. Its range, speed, bomb load and handling characteristics clearly suited it for the night interdiction role.

There were still difficulties, though. The Air Force wanted several (actually several dozen) changes, and adoption of an English design meant British measurement parts and virtually a separate supply system for Canberra units. Further, all the English factories were tied up with British and Commonwealth contracts.

Ultimately what the United States bought was two Canberras and permission to manufacture them in the United States . The American contract went to Martin, whose SB-51 had been runner-up in the competition. What they produced—the B-57—was more a new design based on the Canberra than anything else.

First, it had been changed to American-measurement parts. Other changes of a technical nature had been made to suit the plane for American mass production. Then changes were made to satisfy the Air Force. The wheels changed, and the Rolls-Royce Avon Saphire engines of the original were exchanged for Buick J-56s. Armament

was added, where the British Canberras had always relied on their speed for their protection.

Naturally, few planes are produced without further modification, and the B-57 was no exception. There were 5 production types, lettered A through F. The "A" model was closest to the British original, and a dream to handle as pilots recalled later on. The "B" model was much the same with a new speed braking system and a new cockpit and canopy design. (The American two men in tandem cockpit is the easiest quick way of telling American Canberras from the three-man crews in the British ones.) The "C" model was a trainer, with dual controls. The "E" model was given target-towing equipment, and used for general utility work. The RB-57D was the forerunner to the U-2 at high altitude reconnaissance. Two other series (G & F) would be created be rebuilding of the existing aircraft into high-altitude high-speed reconnaissance aircraft (RB-57F) and electronics-packed night interdiction (B-57G). Sooner or later, the men of the 117th would fly and service most of them.

In time, though, the production of the B-57 was just plain awkward. By the time Martin had series-production B-57s coming off the assembly lines, the Korean War was over. By the time the whole fleet had been produced, the Air Force was again facing reductions in strength. Both the need for medium bombers and the budget to support them had decreased. On the other hand, a different mission clearly needed additional support. Photoreconnaissance was a possible mission for Canaberras from the beginning -- it had been a requirement in the initial selection that the medium bomber chosen have some capacity for such a roll -- but the need was clearly increasing with Russian nuclear capability. A need was developed for aircraft to survey bomb damage in the United States in the event of a nuclear exchange.

This being a strictly wartime and strictly local function, there was no point in budgeting such units from the limited resources of the regular Air Force. They could be performed just as well by members of the Air National Guard and Air Force Reserve. This was where the 117th came into the picture. It was clearly due to be reequipped. It was located at a base unlikely to be priority target for a Russian first strike, and it was located more or less centrally for reconnaissance over a large part of the central United States. Soon a decision was reached: B-57s from demobilized Bomb Squadrons would be reworked in RB-57s and assigned to various Guard and Reserve units, among them the 117th Fighter-Interceptor, soon to be renamed the 117th Photo Reconnaissance Squadron.

Photo Recon

In April 1958, the first of the new aircraft arrived. It was a B model, released by the Air Forces 38 Bomb Squadron in Lyon , France. Ultimately, the Squadron was scheduled to receive 12 B models and one C. The Bs were designed for one pilot and a navigator, and the Cs were the dual-control pilot training modifications.

The new airplanes brought a new name and a new assignment, the first, being with the Louisville Wing. It became a part of the 127th Tactical Reconnaissance Wing along with the 107 and 171 TRS (Detroit) and the 172 (Battle Creek for less than a year and then returned to the Louisville Wing. The 117th, now assigned to the Continental Air Command, was the 117th Photo-Reconnaissance Squadron. The primary mission was now bomb damage survey and photoreconnaissance in event of enemy attack. The unit also had a secondary mission of photo mapping and was capable of an additional peacetime mission of radar calibration.

The new mission meant other changes were necessary. The authorized strength was raised, and a recruiting drive aimed at raising the unit strength by 300 men was begun. Specifically, a massive drive had to be started for the navigators required for the new aircraft. All the existing ground maintenance personnel would have to be retrained as well. Nonetheless, by summer 1958, the program was well under way.

In July 1958, the unit had its first accident. Lt. "Bill" Miller was flying in the front seat of a B-57 for the first time, making touch-and-go landings for practices. Major Boggs was in Operations at the time, and as he recalled it, "the first thing I heard was a hellacious loud noise." As he looked out, he saw that he had trouble. Just as Lt. Miller was giving his engines power after touching the runway, the left engine virtually exploded into flames. It very nearly cartwheeled, and only the expertise of Lt. Miller's instructor, an old Air Force type, kept it from doing so. "It was an outstanding piece of airmanship," said Major Boggs, years afterward. In the meantime, the crash crew was already responding. It was Major Boggs' order that a crash fire truck be out by the runway with its engine running any time such training was in process, and this time it paid off. They were on the scene within about 20 seconds, saving the lives of both crewmen and most of the plane. The wing itself, though, was beyond hope. For more than half a year, the bird would remain at Hutchinson with one wing, a reminder that while it might all be practice, it wasn't all fun and games.

The B-57s with which they were training, though, were just temporary. The first arrival in April, and in July word came down that the 117th would be receiving the RB-57As, a special photoreconnaissance modification. The first of them would arrive in August 1958, while the 117th was on its first summer camp as a Tac Recon Squadron.

Summer camp for the 117th that year ran from the 3rd to the 17th of August, and it was the first of a number of visits of Gulfport , Mississippi , where the 117th trained with three other ANG Photo-Reconnaissance Squadrons. For many of the men, it was the first summer camp and the first airplane trip, since the unit flew down in three c-119s. It was the first time a guard unit went to camp in military transport.

Gulfport sits right on the Gulf of Mexico, sandwiched between resort hotels packed, in August, with people who paid money to go where the Air Guard was being paid to stay. Next door was a Seabee base, and as a matter of professional courtesy, Air Guardsmen could be out all day on a fishing boat for five dollars, everything included. Nighttime meant hunting fish with spears by lamplight. In between times quite a bit of work was done, and the 117th began to settle down to its new mission. While the unit was at Gulfport , Major Joe Kerch, Air Force Advisor, flew in the first RB-57A. They would remain with the 117th for 14 years.

Somewhere about this time the unit insignia, symbolizing the 117ths role as a photoreconnaissance unit, came into use. To some extent, the 117th inherited this first unit insignia. The 117th in Pennsylvania used an owl motif, and the unit in Kansas kept this. There were changes, though, to reflect both the individuality of the unit, and the reconnaissance mission. The owl was redrawn by Sgt. Zerger of maintenance, and he now plainly bore radio equipment on his back and a camera in his hands.

Another sign of the adaptation of operations "Wheatstalk," undertaken in the summer of 1958 in preparation for the upcoming ORI. "Wheatstalk" was a practice war between "Canaberraland: and "Faginland." The border between those two nations ran along the line Garden City-Wellington-Fort Riley-Omaha-Des Moines. North and west of that line was peaceful and prosperous Canberraland. To the south and east ruled the power-mad Faginlanders, their resources and goals carefully worked out by officers of the 117th. Finally , the big event began. A weekend drill commenced with the words: "Open hostilities erupted along the Canberraland-Faginland border this morning…." Immediately, the full strength of the 117th was committed to the aid of defending Canberralanders. RB-57s sought to determine the strength and disposition of ground forces, rail and vehicular traffic movements, and other signs of enemy strength and intention. They monitored airfields used by Faginland, and checked the build up of hostile air strength. So successful was the 117th in gaining crucial intelligence, that the Faginlander Army was driven back all the way to the uninhabitable wasteland of Texas , and has not been heard of since.

Meanwhile, the search was on for a way to repair the Canberra whose wing had been destroyed in training just the previous July. Replacing a ruined wing on a B-57 is just a little more complicated than most of the repair and maintenance work the ground crews undertook. For one thing, they didn't happen to have a spare wing in stock when they needed it. Neither did anyone else. Besides, in those pre-C-5A days, a bomber wing (19'7" x 29') was just about impossible to transport when it wasn't attached to a bomber.

As it was eventually handled, a new wing was found at Martin's plant in Baltimore, and shipped to Kansas in a three-vehicle convoy. The vehicles left the factory on 13 January 1959 , one in the lead with a warning sing, one behind likewise, and one in the middle with the 20 foot wide wing, nine feet off the ground. The first day, they traveled seven miles, which took them to the city limits of Baltimore. Baltimore only permitted such traffic from 2 to 6 in the morning. They arrived in Hutchinson ANGB on 19 February – 37 days and 1,750 miles later. The actual "bee-line" distance from the Martin Plant to Hutchinson is about 1,000 miles, but an additional 700 miles were consumed in rerouting to avoid tunnels, underpasses, narrow bridges and unsympathetic highway authorities.

The first day was the worst mileage for a day's efforts. The best, the day before the arrival at Hutchinson , was still only 303 miles. The wing had come through it all only slightly damaged. Somehow, it was a little crumpled somewhere in Ohio during a snowstorm. Save for that it was fine, though, and soon the Canberra was flying again.

(One ought to note somewhere in here that "Canberra," sounding a little strange to American ears, was not by any means the only thing the planes were called. "Cranberry," or "Iron Cranberry" were also used. For decency's sake, we will not trouble the reader with the terms used by maintenance personnel in relation to malfunctioning aircraft.)

Early 1959 saw a prelude of things to come: "Operation Eye-Opener." In this first of many, the RB-57s of the 117th were to attempt to see how effective Aerospace Defense Command's measures really were. As Major Boggs explained at the time, the handling characteristics and the flying performance of the B-57 made it almost ideally suitable for such a task. The results of such missions are known to those who have a need to know. There is no point in telling the Soviet Union 's Manned Bomber Command what their chances are. All that can be said is that the 117th and the 190th do win some of the time, but not often.

Summer Camp in 1959 was in a new location – Alpena , Mich. For most of the unit, this meant a three day journey by train, the last 100 miles of it backward, since there was no way for the trains to turn around closer to the base than that. In fact, nothing's very close to Alpena, which is the only really prominent defect of the base. Men had to catch a bus or ride from the few men who had come up with POVs just to reach the nearest off-base activities. It was, for the most part, though, an enjoyable trip, and it took the 117th to a part of the country most of them had never seen before.

Summer camp for 1960 was something of a rerun of 1959. The unit entrained once more for Alpena. MSgt. Simpson, who had been advance party in 1959, traveled with the main body this time, and in his words, ".. all I got done was feed people." It seemed that by the time he had started the last carload toward the dining cars for lunch, he was only about an hour from starting the first carload on its way to supper. With a three-day train trip, there were of course, no shower facilities, and many of the men did not trouble to shave. Between three days travel each way, and one day spent sidelined in Chicago, half of the summer camp was spent in this fashion. Well, it might not have done a great deal for training, but no doubt it boosted morale, and helped the men of different sections to get to know one another better. Nothing helps you get a firm idea of someone else's character like watching him take your last dime in a poker game.

There was no doubt by now that the Squadron was in good shape. Inspections were being passed handily, and unit strength was quite acceptable. In fact, the 117th was now engaged in training other units. Men of the 192nd Tac Recon Sq., Reno , Nevada, were coming to the 117th for B-57 training.

The unit was also engaging in community activities, of which probably the most long-lasting was the unit basketball team, formed by the air technicians for play in the Commercial League of Hutchinson. It can't be said that the team ever swept aside the opposition, but there was never a year in which it was not a serious competitor.

By the end of the 1960 Summer Training, the unit was thoroughly familiar with the RB-57A, and with the unit mission. It now settled down into a pattern from which it would vary little over the next ten years. In that time

the equipment and the unit mission remained unchanged, and while there was some turnover among the lower ranks, enough officers and senior NCOs stayed with the squadron year after year that it could be said without much exaggeration that the squadron just kept getting more experienced in the same mission.

Summer camp of 1961 was spent in Hutchinson ANGB, which was a first for the unit. It was, needless to say, rather more subdued than its predecessors.

In the spring of 1962, six aircrew members and approximately 20 maintenance personnel departed Hutchinson for the South Pacific to participate in Project Blue Straw. Blue Straw was the atmospheric testing of nuclear radiation within the mushroom cloud following a nuclear explosion.

Enroute to the South Pacific, personnel of the 117th arrived first at Kirtland AFB, New Mexico , to receive indoctrination on the mission to receive their aircraft assignments. Two of the aircrafts flown by members of the 117th, 52-1500 and 52-1504, then assigned to the Test Squadron at Kirtland, were to turn up 12 years later, in 1974, assigned to the 190th.

The B-57s were configured with ferry tanks and pylon tanks so they would have sufficient fuel to make the flight from Travis AFB, Calif. to Hickam , Hawaii. Flying time was six hours and all aircraft arrived at Hickam without incident. Aircraft were refueled and preceded on to their operating base on Christmas Island .

Six weeks later, the required tests had been completed and the detachment returned to Kirtland and members of the 117th were released and returned to Hutchinson.

August of 1962 saw the squadron back on its old stomping grounds at Alpena once again. This time the 117th was transported to and from Alpena by air, and so perhaps got more working days in. It was readily conceded, though, that the train trip was much more interesting.

In February 1963, the 117th was informed that it had taken the Bronze (Third Place) Spaatz Trophy for the calendar year 1961. The Spaatz Trophy is awarded to the best Air National Guard flying units on the basis of alert performance, reenlistment rates, airman manning, operational readiness, testing scores, weapons familiarity and safety. The 117th was especially noted for high scores in airman testing and accident –free flying. Of a possible 1000, the 117th had scored 890. It was the first time that a unit of the Kansas Air National Guard had placed.

The unit that accepted the award, though, was not the 117th Tac Recon Squadron, but the 190th Tac Recon Group.

The 190th

This was the result of an operation in which the 117th did not play a part, but which underlined the role of the Air National Guard in the National Defense, and led to changes within the 117th. In the fall of 1961, with increasing tension over West Berlin , "Operation Stairstep" was put into effect, and one third of the Air National Guard was mobilized and transported to Europe . It was a fine display of the potential use of the Air National Guard to respond quickly in a crisis, as well as a badly-needed reinforcement for NATO. The 117th was not directly involved in "Stairstep," since it was better suited by equipment and training to assess battle damage in the United States . The operation showed, though, that the current organization of the Air Guard was poorly suited for a limited emergency.

In the post-war years, the Guard had been organized into wings, each wing being a self-sustaining organization, divided up by function into groups for administration, supply, maintenance and operations. Since it was not practical to place entire Air National Guard Wings on a single airfield in peacetime, for day-to-day operations (and weekend drills) – they were divided into "augmented squadrons," each containing all the necessary support elements for the one squadron of aircraft that formed the heart of each augmented squadron. The problem came

on mobilization. By law, while a reservist may be summoned individually, members of the National Guard may only be mobilized as a part of their unit (though they may be transferred out afterward). This meant that if one had to have part of an augmented squadron for whatever purpose, one had to call up the whole unit. The classic case was the Arizona Air National Guard. The Air Force needed only their planes, their pilots and a bare minimum of mechanics, since they would be deployed to an existing base in Spain which already had enough support personnel. Instead, the whole squadron was called up, the elements the Air Force really wanted sent to Spain , and the rest more or less dumped at Luke AFB to get them out of the way. Clearly some better systems were necessary.

The solution was to restructure the Air Guard into Wings composed of self-sustaining Groups, and to use the same structure in war or peace. This meant that each augmented squadron became a group (with a new number) consisting of the old flying squadron (old number) and several support elements – combat support, material, dispensary, and HQ, each with the same number as the newly-formed group. The groups tended to be slightly larger than the old augmented squadrons, but in event of war, they could be called by squadrons, and the flying squadron included enough maintenance personnel that if one was sending the unit to an already-functioning base, one would need to call up only the single squadron of a four-squadron group.

Thus in our own case, the 117th Tac Recon Squadron remained, but as only one of a number of Squadrons making up the 190th Tac Recon Group. The conversion took place on 14 Oct 1962 . The new Squadrons were the 190th Combat Support Squadron, the 190th Material Squadron, the 190th USAF Dispensary, and the HQ, 190th Tactical Reconnaissance Group. This required an increase in authorized airmen from 501 (with real strength 460 to 568, and in officers from 64 to 101. There would be 117 technicians. Major Elvin C. Gerard became maintenance officer for the Combat Support Squadron, Captain Harold Wanamaker took command of the 190th MATron, Major William Fry commanded the 117th, and Lieutenant Phil Hofer the Dispensary. LtCol. Boggs remained commander of the new group.

With the conversion from the 117th Tac Recon Squadron to the 190th Tac Recon Group, Sgt. Zerger, who had drawn up the old insignia, felt that a new one was necessary. This time, it ought to be something all the 190th's own, and reflecting the mission and the state. There were, of course, difficulties. The 190th ought by rights to have the motto "Semper Canberras," but the aircraft could not be part of the insignia by the Air Force Regulations. Similarly, the state could not be mentioned explicitly, though a state symbol might be used. By the same set of regulations, the predominant colors had to be blue and yellow.

Within these restrictions, Sgt. Zerger set work, with his own ideas and those of other members of the 190th. There ought to be something to represent Kansas , they felt, and various symbols were considered. Wheatstalks, Sun Flowers, and Tornados seemed the best bets. There ought to be something for the fighting capacity of the unit too; a miniature TAC insignia? A minuteman, to represent both fighting capacity and our heritage as an Air Guard unit? Sgt. Zerger, inspired in part by a design on his own family crest, favored a helmet. After a few preliminary sketches, it was clear that it would have to be a closed helmet if there was not to be the further complication of drawing the man within. Literally dozens of sketches were drawn at this stage, as the interested parties tried to combine those elements, and to choose between them. Among the final contenders, a shield divided into three parts, with a minuteman, a sunflower, and a TAC winged sword; a helmet with at plum running down the back, with a wheatstalk overhead, a similar helmet on a shield quartered blue and yellow, and a similar background with a helmet with wings. It wasn't until late 1970 or early 1971 that a pattern was at last finalized; a winged helmet (gold) superimposed on a dark blue tornado, passing through a light blue sky. Then a description had to be drawn up, with explanations of the symbolism in both the objects shown and the color chosen. (The most awkward part of this was explaining the red outline of the tornado. It was done to liven up a flat background, but that's not the sort of explanation the Air Force wants). What with all that, the design wasn't submitted to the Air Force for final approval until about April of 1971, and the wheels of officialdom grinding rather slowly – not approved until about six or eight months later. In fact, while the preliminary sketches were all marked "190 TAC RECON GP," the first approved insignia were marked "190 BOMB GP TAC."

On Tuesday, 20 Aug. 1963 , the 190th was nearing the end of an uneventful Summer Field Training at Hutchinson Air National Guard Base. Captains Charles W. Simmonds and Clenn J Biberstein were approaching Hutchinson at the end of a training mission. Capt. Biberstein was a fairly recent member, but Capt. Simmonds had joined the Air Force in 1955, and had 1,100 hours of flying time. He had joined the 190th in February of 1963.

Fifteen miles southwest of Hutchinson , the canopy blew off. It was meant to do so prior to ejection, but no explanation has been given as to why it did so then. In any event, it was disastrous. 300-mile-an-hour winds entered the cockpit, sweeping away Capt Simmonds' helmet and injuring his face. Capt. Biberstein, behind and below, was somewhat less exposed. He fought his was forward, and seeing the situation, gave his helmet to Simmonds. Voice communication was impossible in the cockpit, so Simmonds wrote on his kneepad. "No elevator control – Get out." As Biberstein explained it later, Simmonds was the boss, and in any event there was nothing else he could do. He returned to his seat and ejected.

Despite the helmet Simmonds had been given, he made no communication with Hutchinson . Perhaps there was no time, or perhaps the radio – like the elevator controls, had not survived the hurricane winds. At 3:22 p.m. he crashed into a field southwest of town, still at the controls of his crippled aircraft, and presumably still trying to bring it home intact. The plane buried itself in a trench 40 feet long and 8 feet deep, and Capt. Charles W. Simmonds, at the age of 30 become the first member of the 190th to perish in the performance of his duties. An accident investigation team was formed under the command of Colonel Francis Vetort, Air Force advisor to the 107th TFW in Niagra Falls , but as is standard Air Force policy, knowledge of their findings is distributed only of a "need to know" basis.

Combat Cranberry

The commitment of Canberras to Vietnam would ultimately provide new missions and different aircraft for the 190th. This process started with the commitment of a small detachment (never more than six planes) of RB-57Es (tow planes reworked for reconnaissance) in 1963. In August of 1964, following the Tonkin Gulf incident, 36 additional aircraft, mostly B-57s, were sent to Bien Hoa. The commitment of a B-57 force to Vietnam posed difficulties for the Air Force. The last active duty squadrons flying Canberras as bombers were deactivated in 1959. Now they had to find a system for providing combat ready crews fro the Vietnam units, and Air Force training facilities were already being overtaxed by the Vietnam buildup.

The regular Air Force turned to the most experienced Canberra-flying unit in the nation to solve the dilemma. The 190th was granted additional funds for parts, and fuel, and permitted additional technician strength. In return, it undertook to train virtually every one of the early Canberra crews committed to Vietnam . At the peak of the activity, six two-man (pilot and navigator) teams were being trained monthly. All told, the 190th trained 119 pilots and navigators for Vietnam , under a variety of programs and code names known collectively as "Combat Cranberry." The training took 35 to 65 days, depending on other training received, and was intended to make the regulars almost as proficient as the weekenders.

Many of the 190th look back on summer camp of 1965 as the finest ever. For the first and (so far) only time, the unit went to Cap Cod, Massachusetts at Otis AFB. The scenery was beautiful, and it was a part of the country not many of the unit had seen before. The base and the local civilians were friendly, but what is best remembered is the food. The club was open about every other night with special seafood meals for the midwestern visitors.

Other guardsmen remembered different things about Otis. Some were able to see the historic sights of New England , such as Boston or Plymouth Rock. Some remember "Pete's Puddle," a small lake on base, on which sailboats could be rented. Boating was less popular in Kansas then, so a number of men in the 190th had their first experience with sailboats on "Pete's Puddle." No doubt this provided as much amusement for the natives as it did for the Guardsmen. Others recall with wonder, admiration and gratitude the coeds of the nearby Falmouth area, but on this the unit historian maintains a discrete silence.

Also in 1965, it was announced that the 190th had taken the Spaatz Trophy in Silver, for 1964, second among all the units of the Air Guard. Years of training with the same men and the same aircraft were paying off.

In June of 1966, a tornado swept through Manhattan and Topeka , Kans. and men of the 190th were called to active duty to help maintain order in the aftermath. Called up on the 10th, the 94 men of the unit were still on duty as late as the 24th.

July saw them on a more pleasant activity. The unit went back to Gulfport for summer field training. A total of better than four-fifths of the unit, or 498 men of the 616 assigned, attended. Weather seems to have been a serious problem, though. Flying activities were limited to only seven days, though in those days the aircraft flew for almost 200 hours. (187 hours and 50 minutes, to be exact). This, of course, does not count flying time back and forth to camp.

There with the 190th, sharing the facilities, were 800 men of the United States Army's 20th Special Forces, Army National Guard. Contrary to popular expectations, their food too was cooked.

For its performance in 1966, the 190th received the Air Force Association's Most Outstanding Flying Unit Award for the Air National Guard. The award was given in 1967.

The Great Move

By 1966, the 190th had been stationed at Hutchinson for nine years, and seemed ready to remain indefinitely. The runaway had been repaired and lengthened, and plans were being drawn up for a series of buildings for the specialized functions of the unit. Appearances were to prove deceiving. Before the next year was over, the 190th would leave Hutchinson , never to return. Its new home was 175 miles northeast -- Forbes AFB, Topeka . The move was ordered as an economy measure, since it would leave the Air Force with one less base to maintain, and since Forbes was less crowded than it had been when the 117th was organized at Hutchinson . The move itself looked expensive, though, until Colonel Boggs hit on the idea of devoting Summer Field Training for 1967 to the project. Accordingly, weekenders and technicians of the 190th took the place of professional movers, and transported everything -- the machine shop, the Colonel's desk, and the Group Regulations -- a hundred and seventy-five miles to Forbes.

In order to make maximum use of limited time and equipment, the unit divided up into shifts. Vehicles were on the road 24 hours a day throughout summer camp. All told, more than 100,000 vehicle miles were logged, and some drivers made 14 to 18 round trips each week. Almost incredibly, there were no accidents (at least no traffic accidents) in the entire operation. It wasn't without close calls, though. There were at least two tire blowouts. In one case a tire blew on an M-51 dump truck, and the vehicle skidded into the oncoming traffic lane, back toward its own, and stopped 50 feet from the concrete pillars of an overpass. Despite such inconveniences, by the end of Summer Camp, the entire unit was functioning again at its new home. In 21 days, the men of the 190th had moved $6,000,000 of supplies and equipment without special equipment other than a few rented trucks.

By comparison with the personnel difficulties, though, the physical move was no problem at all. With operations shifted beyond reasonable commuting distance, the air technicians had to either move to Topeka or find new jobs in the more or less depressed economy of Hutchinson . Most of them moved. Weekenders were less dependent on the unit economically, but many of them had been with the unit 10 years already, and many of the others still owed Uncle Sam part of their initial six years. Over the years, many guardsmen from the Hutchinson area would leave the 190th, but the conversion was slow. Besides, in the late 60s, no guard unit remained below strength for any appreciable period of time. Thousands of well-qualified young men with some objection to wallowing in mud for a year were prepared to fill any and all vacancies.

Summer camp for 1968 took the 190th to a new location. Volk Field , Wisconsin can't be described as being near anything, unless the equally desolate Camp Douglas counts. It is, however, very pretty country, with more hills and trees than most Kansans are used to. If one came by car or motorcycle, there was the local tourist attraction.

the Wisconsin Dells, less than an hour's drive away. There was little fishing, and few natives, friendly or otherwise, but it was quiet and relaxing two weeks.

It was to be the last such field training for the 190th in ten years or more.

With the unit not really requiring the participation of the whole group at any one time, and so many small exercises, a complete summer field training began to seem more an expensive luxury than a necessary expense. Besides, any choice of a particular two weeks caused howls from guardsmen (weekenders) that they could not be spared from school, business or family just then. Also, travel time was training time lost. The result was a gradual "winging down" of AFT. From 1969 on, training was held at Forbes rather than at some more distant station. Then instead of a particular two weeks, the unit stretched out the options for summer camp over a six-week stretch. By 1972, men of the 190th were performing their two weeks annual training at their own convenience and that of their supervisors year round.

This has not been done without some ill feeling. Many supervisors feel that the old AFT did a great deal both for unit training and morale. On the other hand, present methods are unquestionably cheaper and more convenient.

Perhaps the most that can be said is that junior air technicians (who get vacations regardless) bachelors with local girls or young married couples enjoy the present system, and that for the older married men, with a wife and two or three children at home, and a good chunk of vacation tied up with the Guard, those two weeks working and fishing at Gulfport, or the train ride to Alpena, look better and better looking back.

November of 1968 was a sad time for at least some of the 190th. Good old 42-93173, the KANG "Gooney Bird," was handed over to the Georgia Air National Guard. Colonel Boggs (then Major) had himself accepted it from the Navy in March of 1947, and flew it from 1947 to 1956. He lost it then with his transfer to the 117th, but the faithful bird followed along, coming to the 190th by 1966. By the time the 190th was due up for more modern equipment; it had logged 10,199 hours, and gone through at least 10 pair of engines.

In November of 1949, the Kansas Air Guard received its first F-84, and Major Boggs flew the pilots from McConnell to Tinker AFB, Okla. One of them was Second Lt. Donald McEachern. On 7 November, Major McEachern took 42-93173 on its last flight for the 190th. "It's kinda like Roy Rogers selling Trigger," as Colonel Boggs put it.

The Planes that Almost Were

In the spring of 1971, big things were in the air for the 190th. The Pentagon announced that the Squadron was to be reequipped, this time to be with RF-4 "Phantom" jets. The new equipment was scheduled to begin arriving in the following spring, and both the unit and the newspapers reflected on this at various intervals, the mechanics no doubt considering the F-4s notoriously difficult maintenance, and the pilots blithely soaring above such difficulties.

Conversion from RB-57s to RF-4s would not be a mere matter of landing new planes at the base, though. Not only would many of the personnel require retraining -- both pilots and maintenance personnel -- but the Aircraft Ground Equipment (AGE), which was essentially the same for any model of the Canberra , would have to be almost totally replaced to maintain the RF-4.

Fortunately, if there is one thing the Air National Guard has experience at, it is acquiring hand-me-downs from the regular Air Force. The AGE for the new planes was mostly in Vietnam , so in August of 1971, nine members of the 190th, under the command of LtCol Anthony Leis were dispatched to Tan Son Nhut AFB, RVN.

The team, consisting of both officers and enlisted men, left Topeka on 9 Aug 1971 , and arrived at Tan Son Nhut

on the 14th. From that afternoon to the morning of the 19th, the team was almost continuously at work, identifying, locating and inspecting equipment with a total value estimated at almost five million dollars.

Several procedures may be noted. First, the team arrived while the losing unit (the 460th TRG) was still operational, thus letting the men of the 190th see the equipment in use, and speak with the men who used it. Second, by being on the spot, the 190th was able to look for particular items needed, in this case BAK-12 barriers. Third, the team was able to oversee packing, and see that TO's, forms, diagrams and other time-saving devices were packed with test benches and related equipment.

On the morning of Aug 29, the team began leaving Tan Son Nhut, and the last elements (delayed by booked-up flights in Honolulu) arrived at Topeka at 0925, 2 Sept 1971 . Behind them, in 10 Sea Land vans, came much of the more than 4,000 types of items needed to maintain the RF-4. The entire unit needed now was training and the aircraft themselves.

A Bomb Group Again

In January of 1972, though, a different announcement was made. Instead of the RF-4s, the 190th was to have the B-57Gs being withdrawn from Vietnam . There were 14 left of the original 16. It was something of a blow, but the Pentagon's reasoning was sound enough. The G models were to remain in the inventory and in use, so that the equipment could be studied and used elsewhere if needed. Someone had to fly the planes, and the regular Air Force was already losing units. It would have to be a reserve or guard unit, and what unit in the country knew more about the B-57 than the 190th TRG, whose A models were due to be replaced in any event? By late spring, 1972, Vietnam vets (actually from Udorn AFB, Thailand) were appearing at Forbes Field.

In May of 1972, the RB-57s, which the unit had flown for almost 14 years, began their last flight. Ten of them went to Aberdeen Proving Ground for a destruction-testing program. The remainder of the unit went to Davis-Monthan AFB, where they sit on a runway yet. It was a sad day for many of the men of the 190th, especially the pilots. As LtCol Render put it, "I've had this bird for quite a few years. I'm proud of it." There was work to be done, men to train, even a new unit insignia to go up everywhere, but the predominant tone was set by one of the pilots: "You know, you feel a little sad."

On 12 June 1972 , the unit began a new mission under a new name. The 190th TRG became the 190th Bomb Group (Tactical). It became a night bombardment force, armed with the only B-57Gs in the world.

The greatest burden in the change fell on armament, maintenance and aircrew elements. Navigators were changed to weapons systems officers, new weapons had to be learned and maintained, and complex new electronic equipment had to be mastered. This included forward-looking radar and infrared detection systems, low light level television, and a weapons delivery computer. Much of this equipment is now in widespread use, but in 1972 it was first generation and experimental -- that is, heavy, bulky and complex. Much sympathy should go to the pilots, though. Where the RB-57As had been a dream to fly, and long-range aircraft, the G's carried much more weight (about three tons) and carried it very poorly. Of necessity, most of it was concentrated in the nose, so the controls had to be fought every moment to keep the aircraft on course. Nor were the missions anything to compensate for this. They consisted of endless runs over the same nearby bombing range where, so the pilots claim, the weapons systems officers had all the fun.

Nonetheless, it was a new mission and a necessary one, and the men of the 190th learned their new tasks quickly and well.

On 21 Dec 1972 , Captain Armour, pilot and 1st Lt Chapman were taking off as the second aircraft in a four-ship flight when the right engine exploded. Both crewmen ejected safely from the crippled aircraft, but the crash marred the end of over eight years of accident-free flying for the 190th and 117th. Details, again, are available on

a need to know basis.

While the unit was still adapting to a new aircraft and unit mission, the Air Force complicated life by deactivating Forbes AFB. By October 1973, the men and women of the 190th were moving about the abandoned buildings of Forbes like the last few inhabitants of a budding ghost town. Wildlife began to make a comeback (as opposed to wildlife, which never entirely left any base with service personnel).

Forbes AFB was only briefly Forbes ANGB, though. Soon the bulk of the old SAC installation was sold to the city of Topeka , and the 190th began its retreat into the north end of the base, which continues as of this writing. By late 1978 or early 1979, the entire unit will be in a compound of its own, and all functions will be in walking distance of one another. Being the host unit of Forbes, though, imposed numerous responsibilities on the men of the 190th through two changes in equipment.

The drive to make the ANG section of Forbes a compact, self-sufficient base had involved the largest construction program thus far in the history of the unit. An estimated 5.7 million dollars are being spent to put up new buildings or renovate existing ones. (No doubt the construction of a two-story structure for maintenance, supply and dispensary within Hangar 662 fits one or the other of the categories). Not only will these structures make the 190th more efficient by providing better facilities, they will greatly reduce the wasted time spent going from one section to another. At the same time, concentrating the unit functions will make it possible to establish an effective perimeter guard and limit access to the base. It was not clear, when the projects first go underway, how important this ability would soon become.

Some of the construction, it is worth noting, has been in the planning stage longer than other parts. When the 190th was stationed at Hutchinson , plans were made for certain new buildings, and some blueprints were actually drawn up, only to be shelved when the unit was redeployed to Forbes AFB. Six years later, when the 190th once more the only flying unit assigned to its home field, the plans were dusted off and the buildings constructed accordingly.

The New Mission -- Sparring Partners

Long before the building program got underway, though, the 190th had more changes to face. In April 1974, less than two years after the conversion from reconnaissance to bombing, the 190th changes mission and name again. From the interdiction of hostile supply lines, the 190th converted to the penetration of the friendly air defenses. It was actually a reversion to operation "Eye-opener." By skillful flying and the use of electronic counter-measures (ECM) the 190th and the 158th (Vermont ANG) together with a squadron of regulars, were to find out how tough American air defenses were. Accordingly, on 6 April, the 190th Bomb Group became the 190th Defense Systems Evaluation Group. Clearly this was not a mission for the B-57s, with their three tons of special bombardment equipment. It also required ECM equipment not present on "stock" B-57s. What was used was yet another variation on the Canberra theme -- the EB-57B, earlier production models with ECM gear installed in place of bomb load. This new mission, then, might well have been the return of some of the B models the squadron had in 1958. Certainly, after the G models, it was a relief to fly something with the weight a bit better distributed, and the whole load reduced to something like the original burden. At any rate, off to Davis-Monthan went the G models, and the EB-57B's began to come in from Westover AFB, Mass. , and Malstrom AFB, Montana .

Under the general heading of "defense systems evaluation," there were a number of distinct types of missions conducted by the men and machines of the 190th. Five were fairly common. One was COLLEGE DROPOUT, a test of Nite-Hawks radar and computers. Another was SAGA, which was a test of a Fighter-Interceptor Squadron. VIGILANT OVERVIEW was a multi-region test of Air Defense Command, and MUTE was an evaluation of a single Air Defense Region. The BRAVE SERIES exercises were non-evaluation practice exercises.

On the 29th of November 1975 , the 190th met with the third major accident in its eighteen years. A B-57C, containing Lieutenant Gary Keller and Captain Wiley Nolan, flew from Forbes ANGB to Sawyer AFB, Mich. , where they picked up an EB-57B that had been snowbound and left there earlier. On their return flight, bad

weather caught up with them. Forbes was inaccessible. A stopover and refueling at Offutt AFB would be necessary. In the meantime, the radio on Keller's B-57C malfunctioned, so all communications had to be through Captain Nolan's set. Besides, the weather at Offutt was tolerable only in comparison with that of Forbes. There was a 5,000-foot overcast, and broken clouds at 700 feet, a general four-mile visibility, and fog. Evidently, the two aircrafts collided four miles northwest of Offutt. They must have only brushed one another, for both pilots were able to eject safely, though Lt Keller suffered a broken leg. Both aircrafts crashed and burned.

Again, the findings of the investigators were not made available to the public.

May of 1976 saw the biggest single change in the unit's history. After 34 years of service, and 17 years on his current job, Col Boggs retired. He was, after all, going to turn 60 on the 26th of May. He had served with the Kansas Air Guard since its post-war formations and participated in three wars. It was as well to retire while he still had the health to enjoy it, and let someone else have a turn with the 190th.

The formal Change of Command took place on the 23rd day of May, the Sunday of UTA, and was climaxed by the presentation to Col Bogs of the Legion of Merit Award. It was a smoothly run ceremony, but perhaps more emotions were tied up in the previous night's "Boggs Roast," in which the 190th assembled for an evening of festivities in honor of their old commander. The featured activity, of course, was the roast itself, with Captain Walter Grant of the Supply Squadron appearing as Col Boggs' instructor pilot, providing details concerning the career of Col. Boggs that somehow escaped the official records.

As is customary on retirement, someone had to ask Col. Boggs what he would do now, but everyone knew the answer before he said it: "Anything I damn well please."

Colonel Boggs' successor and the second commander of the 190th was LtCol William S. Mahler. Col Mahler received his commission through the AFROTC, being commissioned on 5 June 1954 , with his graduation from the University of North Dakota. In September 1954, he went on extended active duty, and reported to Laredo , Texas for pilot training. In the next 20 years, he held a variety of positions in the active Air Force, and flew F-84s, F-101s and F-102s, in addition to various trainer aircraft. He served for one year in Vietnam as a forward air controller, flying O-1s.

After Vietnam came his association with the Air National Guard. First, he was commander of Detachment 1, 445th FIS, Alpena , Mich. , then worked with the Plans and Operations Division of the National Guard Bureau. In July 1974, he became Deputy Commander for Operations of the 190th, and transitioned into EB-57. By Sunday, May 23, 1976 , when he assumed command of the unit, he had 3,500 flying hours. His decorations included the Distinguished Flying Cross, the Bronze Star and the Air Medal with eight Oak Leaf Clusters.

Among the many missions of the 190th as a "friendly enemy" as GALLANT CREW 77, conducted in March of 1977. GALLANT CREW was a small war between the Republic of Bando -- the good guys -- and the imperialist aggressors of Alton . Bando was represented on the ground by the Second Armored Division, and Alton by the First Calvary Division. Combat, in order to spare the local civilians, was localized at Fort Hood , Texas . Of course, both armies needed air support, and Col. Walter J. Sobosley, Deputy Commander (Operations) of the 301 Tac Ftr Wing, USAFR, was given a temporary position as Commander of the Altonian Air Force. After so many years of trying to infiltrate the US defenses, the 190th just naturally gravitated toward the Altonians. For the rest, another Air Guard unit provided O-2s, the regulars sent in F-111s (27TFW) and RF-4s (67TRW) but the muscle of the Altonian Air Force came from the Air Reserve, 18 F-108s of the 301st TFW.

On Monday, 21 March, the 190th's contingent arrived at Altonian Air Force HQ, Carlswell AFB, Texas : three EB-57s and one C-131 carrying equipment and ground support personnel. Tuesday morning the flight crew and ground support personnel were instructed concerning the operation, and three sorties were flown for practice. The rest of the week was spent waiting. Thursday and Friday the weather was bad, and Saturday it was worse. Sunday, with some breaks in the cloud cover for encouragement, Altonian F-105s attempted to make simulated strikes on the Bondoian 2nd Armored. They were stopped by Army Nike Hawk anti-aircraft systems. That was

where the 190th came in. From Sunday to Wednesday the three EB-57s made one mission after another, trying to jam Army radar so the F-105s could penetrate the defenses. (Alton lost anyway, but that was in the plan. The Opposition, or Aggressor, always loses in such exercises.)

By Thursday the 31st, the units were back at their home bases, including the 190th at Forbes, being blamed or praised for their performance. For 10 days, the 190th had carried on operations "with a bare minimum of tools and nearly no support from the Air Force."

The fourth serious accident (and second fatal one) in the 21 years of the 117th/190th came on April 5th, 1977 . At 10:00 that morning, a flight of two EB-57s left Forbes Field to practice formation flying. After reaching Richards-Gebaur AFB, Mo. , they turned back toward Forbes and split up, intending to complete separately any remaining training requirements. One, with Major Kenneth Simpson and Captain Butler, continued on normally. The other, with 1stLt Carl D. Camp III and 2ndLt Ross C. Keller, disappeared from the Kansas City radar screens at 11:03 .

The remains of the aircraft were found about 30 miles from Forbes Field, in a crater about 10 feet deep and ten feet in diameter. The cockpit canopy was about 125 feet away, and the body of one of the crewmen was outside the main area of wreckage, suggesting a belated attempt to bail out.

Beyond that, no one but those with "need to know" can even speculate. The plane should have been 1,000 feet above the ground at that point if visibility was good. There was some mild turbulence, but not enough to affect a light civilian aircraft flying in the same area.

Most mysterious of all, there was no radio communication from the doomed aircraft. Standard operating procedure, in event of an in-flight emergency, would have been to radio Forbes Field explaining the emergency and then, if necessary, to eject. No word was ever received.

Whatever the cause, we may be sure that it was not the inexperience of the crew. Lt. Keller, 28 years old, had been an Air Guardsman for three years, and had been flying EB-57s for a living for the last two. He had 475 hours as a military pilot. Lt. Camp, the Electronic Warfare Officer, had been at his job full time for the past three years. The EB-57C was also a veteran. It had been accepted by the USAF on 10 Jan 1955 , and had logged 6,624 hours since that time. If its average airspeed was 328 knots, it had flown two and a half million miles.

In the first 15 years of its stay in Kansas , the117th had lost only a single plane and pilot. From 1972-1977 the unit lost four aircrafts and two crewmembers. Certainly the suspicion arises that this was partly due to the advanced age of the Canberras. By 1977 many of them were 25 years old – older than some of the pilots and many of the mechanics. It was time for a change.

The New Mission

On 22 August 1977 , Major General Edward Fry announced that the 190th Defense Systems Evaluation Group was to become the 190th Air Refueling Group, converting from EB-57s to KC-135s. The official date of conversion was to be 1 Apr 1978 . The announcement could scarcely be called a surprise: There had been rumors circulating – and fairly accurate ones at that – for almost a year. Now, though, retraining, reorganization and re-equipment could begin.

Conversion to Aerial refueling meant a change in gaining command from Air Defense Command. It meant the phasing out of Electronic Warfare Officers and the ECM shop, and the training of in-flight refueling operators. It also meant increases in the size of the engine shop and the security police department. All told, it meant the raising of the unit strength of 850. Col Mahler frankly regarded recruiting 200 additional Air Guardsmen as the most difficult task in conversion.

If it was so, it wasn't by default. Conversion to the Stratotankers meant the retraining of all pilots and EWO's and virtually the whole of the maintenance squadron. It also meant practically a new inventory for the base supply.

From the 12th to the 19th of April, the 190th flew its last mission as a Defense Systems Evaluation Group. Like many before, it was an Air Defense exercise for the Alaskan Air Command. From the 12th to the 18th of April, the Canberras of the 190th tested the alertness of the Alaskan Air Command for the last time. On the same day that the exercise ended, that last Canberra left Forbes Field, bound for testing, for museums, and for the remaining DSE units. It was 20 years to the day from the arrival of the first B-57 at Hutchinson .

Four days later -- 22 April 1978 -- the first KC-135 arrived at Forbes (for training purposes, not one of those assigned to the unit.) The history of the 190th Defense Systems Evaluation Group had come to an end. The history of the 190th Air Refueling Group was about to begin.

Conclusion

There was a tradition in China , enduring over man centuries, which neither biographies nor histories were to be written in the lifetime of the subject. This principal had much to recommend it. There is little as embarrassing as writing an analysis of the character of a man or unit, only to be contradicted by the next day's headlines.

Nonetheless, it is impermissible to study something for half a year and not arrive at some sort of conclusion. As I write these lines, the unit is its 20th year of operation. In those 20 years, it has carried out a wide range of missions in Fighter-Interceptor, photoreconnaissance, tactical bombardment, and electronic warfare. It has never in those years been put to the ultimate test, combat performance. This, after all, is the ideal summarized to the world by the work "deterrence" -- to be so strong, and so obviously strong, that one is never required to use that strength.

To say that the ultimate test has not yet come, though, is not to say that there have been no tests. Every year, the 117th/190th has been evaluated according to the standards of the finest Air Force in history, and has never failed to measure up. Disregarding ORI's, there have been practical tests as well: re-equipment and retraining for four missions as far removed from one another as is readily imaginable; movement without any active duty support, of the base of operations in a two-week period; and always the ultimate test: performance of the unit mission. Especially since the conversion to EB-57s, the 190th has been continually operating in support of the active duty air elements, and Army and Navy anti-aircraft forces, providing a "sparring partner" to show up weaknesses before they become fatal ones.

Its efficient performance of that mission, with high operational readiness rates and few accidents in aging aircraft is a reflection of the high standards maintained by every section of the unit.

It has also endured. The 117th left Pennsylvania because the unit could not find and keep enough men, even in a draft environment, to keep it functioning. By the time this history is published, the last of the men who volunteered under the threat of the draft will either have separated from the unit, or reenlisted voluntarily. Nonetheless, the 190th remains strong enough to perform the unit mission. For this accomplishment, credit is very widespread indeed. Every man who spoke highly of the 190th to his friends, every guardsman who served his fellows a good meal on a UTA, or saw to it that they weren't overwhelmed by paperwork, and above all, every guardsman who brought in a recruit, may claim some of the credit.

THE END?? NOT ON YOUR LIFE!!

Upon the arrival of the first KC-135, Kansas Adjutant General Edward R. Fry remarked, "This is what we've been looking for. I think it's time the unit goes to a new mission." With the aircraft came a USAF team headed by LtCol Larry Jones, Senior Enlisted Advisor, to aid the 190th in conversion. A local newspaper reported, "Topekans can be proud that the Air Guard unit here was chosen as one of several to be trained in this vital

work."

Tempo 01 accomplished the unit's first refueling mission on 25 May delivering 10,000 pounds of fuel to Tinker AFB's Edgy 13, an E-3A weather reconnaissance craft. The crew for this historic flight included Col Mahler, Capt. Sweeny, 2ndLt Murray, TSgt Madden, TSgt Merklotz and LtCols Jones and Brink of the Air Force Advisors Staff.

The Canberra Log described the action:

> *After two and a half hours in flight, the Navy leg completed and flying around several thunderstorms, the crew prepared for the rendez-vous/ refueling portion of the mission….*
>
> *Edgy 13 flew to the air refueling initial point (ARIP) with Tempo 01 flew to the air refueling control point (ARCP) and made several turns in orbit. When the two aircrafts were a approximately 70 miles apart the tanker turned and headed toward the receiver, slightly to the right of course. When the separation between the planes dropped to 20 miles the tanker began a left turn in order to roll out in front of the receiver by a couple of miles. Moments after we rolled out the boomers had a positive visual contact. And, within minutes Edgy 13 was about 50 feet behind us and requested permission to close in, hook up and refuel.*
>
> *Coupled together, Tempo 01 and Edgy 13, while deviating around thunder-storms, flew east across Kansas. The refueling training lasted for about 30 minutes, terminating when the planes pass (sic) just north of Topeka …*
>
> *Six hours after take-off, Tempo 01 landed and parked with its mission completed successfully.*

In the midst of all the excitement, Army and Air Guard recruiters plunged into a massive effort to pull in 377 new Guardsmen, the number needed to bring unit strength up to 100 percent. Their game plan, Operation 377, offered prizes ranging from pen-and-pencil sets to a Hawaiian vacation, to members who could persuade newcomers to enlist or old hands to reenlist. Operation 377 concluded on 30 June, having brought in 51 new recruits to the 190th.

For both new and old Guardsmen, training was called for. Ten aircrew members were sent to Castle AFB for this purpose: five (Maj Butler, Maj Reynolds, Capt McCoy, MSgt Cox and TSgt Pierson) were selected as outstanding or distinguished graduates. The rest of the aircrew received instruction at home during 3-17 June. A KC-135 simulator from McConnel AFB arrived 21 June for a two-month training period. Pilots and co-pilots

were required to complete seven "Missions," including practice for emergency situations, with the simulator before proceeding to actual aircraft.

And new facilities sprang up, giving Forbes Field a face-lift to accompany its new mission. The dining hall, under the leadership of MSgt. Buford "Matt" Dillon, opened its doors during the May UTA, and customers declared it a success. The consensus pronounced the first meal, which featured baked ham, mashed potatoes, creamed corn and cherry cobbler, "really good."

The unit's new name became official on 8 July, with Special Order G-6 (AIR). Now the 190th belonged to the Strategic Air Command (SAC).

Security Police Flight underwent a number of changes as a result. No longer was the Flight's primary concern law enforcement; with the KC-135's on base, the watchword was now security. In conjunction with this, the flight line was roped off and only persons with Restricted Area badges were permitted to enter; gates were locked after 10:00 p.m.; nearly 20 full-time policemen were added; personnel cross-trained into security from law enforcement and attended a two-week Base Defense School Superintendent of Security Police, SMSgt Nusser commented, "The workload has increased a lot. We run three shifts a day, seven days a week, weekends and holidays. Four people have to be on duty at any given time."

By the end of September the 190th had received a total of eight KC-135s and its compliment was filled. Unit pilots had flown more than a hundred sorties with the new birds. A thirteen-man Field Training Detachment from Wurtsmith AFB taught 171 maintenance personnel how to handle the KC-135s that were more advanced than the B-57s they had been servicing.

Now came the work of shaping up. During October a disaster preparedness exercise was held with results that were at once unsatisfactory, but beneficial in pointing out weaknesses in communications. A month later a practice generation met with success. As to be expected maintenance experienced some difficulties through the period, in such areas as lack of parts, weather and prompt completion of paperwork.

Meanwhile, recruiters were reaping a well-deserved harvest, ripened by the economic situation. Admitted to the ranks in the final quarter were 48 newcomers, for a grand total of 178 for 1978.

The new year brought a major test of the Group's capabilities in the form of REFORGER XI. The unit was called upon to support the transportation of Army troops from Ft. Riley , Kan. to Europe . To meet this challenge, an extra 130 people were needed to keep the airfield in constant operation from 13-19 January. Aiding in the transportation of 7,000 soldiers, some in the unit worked 14-hour days in rain and snow with the chill factor reaching 41 degrees below zero on the ramp. Ten days after REFORGER, the Group was honored with the Air Force Outstanding Unit Award for 15 Apr 1977-14 Apr 1978, "the final fruit of the 190th service with ADCOM, and of our long years with the B-57." The award was presented in an official ceremony in May.

A Management Effectiveness Inspection by the SAC Inspection General's Silver Team in May was less glowing than hoped for, but the word from SAC was that the group was "fully capable of performing its assigned mission."

Conversion to the 190th ARFG meant assuming strategic alert as part of SAC's deterrent. Such alerts have meant readiness in SAC since 1957. Each of the 13 Air Refueling Group ANG bases are linked directly with SAC headquarters at Offutt AFB, Neb. On alert duty, Guard aircraft and crews and ground support specialists were thoroughly briefed on their SAC plan. Practice exercises became somewhat frequent and were known only by the Group Commander and SAC in Omaha .

The 190th crew usually pulled 48-hour tours, but did not exceed four full days. They conditioned themselves to expect the unexpected and hoped they were not in the "wrong place at the wrong time." That could mean being in the shower or the chow hall when the klaxon sounded. Standing alert demanded some unusual personal adjustments for the crews and their families. There was a TV room, reading room and a game room provided and

the families of the men sometimes joined them for picnic suppers outside in the summer months.

Two important exercises marked the third quarter of 1979. The first, a 1 July strategic Alert, brought about the official end of the conversion. The second, GLOBAL SHIELD '79, proved that the 190th AREFG was a full-fledged component of SAC.

The Alpha Alert, supporting the Single Integrated Operational Plan, stood as a "milestone to the 190th's long and illustrious history." A tanker and a crew headed by Captain Charles M. Palmer assumed alert status. It was a proud day for Col Mahler and the unit.

Beginning 14 July with GLOBAL SHIELD 79, the unit's ability to respond to an attack was tested and the 190th was not found lacking as it answered three Emergency War Orders and successfully refueled B-52's in the midst of simulated attacks. Commented Air Force Col G.E. Wheeler, in his liaison visit report, "SOME unit – we need more like them!"

September brought another first – the first Operational Readiness Inspection for the 190th AREFG, a strenuous appraisal of unit capabilities. As the October Kansas Coyote Log remarked, "the 35 officer and enlisted from SAC looked over the shoulders of almost every individual in the unit. The inspectors thoroughly checked for compliance with directives, safety and performance, as well as personal appearance, bearing and military courtesy. Stacked up against the other Guard bases the 190th placed third – "an indication of superb efforts," wrote Col. Mahler.

By 1980, the 190th had been in Topeka for 13 years. Several of the men who had joined the unit in Hutchinson as young men, now had sons who were members of the group. Many of the men who had moved to Topeka in 1967 are retiring or planning for it. The ranks of the original group (or the "Hutch Bunch" as they referred to themselves) were dwindling. In January the name of LtCol David Render, Air Operations Officer for the 190th was added to the list of Original Hutch Bunch that had retired.

Col Render had joined the 190th as a weekender in April 1957 when the unit was in Hutchinson . Initially flying the F-80s assigned to the unit, he then transitioned to the B-57 aircraft that the unit flew for the next 20 years.

He became a full time Air Technician in 1964 and flew with the standardization-evaluation team, flight training and became the Operations Officer in 1976.

Col. Render, at the time of his retirement, had amassed a total of at least 7,260 flying hours, all in military aircraft and had seen the 190th go from F-80 to the KC-135. He was one of the "Hutch Bunch," an integral part of the 190th, and the 190th a part of him, and there was many a tear brushed aside when he raised his glass at his retirement party an gave his toast – "To the Guard!

"Global Shield 81, SAC's annual, no notice, readiness exercise started the New Year off. It involved more than 100,000 people at locations throughout the U.S. and GUAM and the 190th was a part of the 100,000. During the exercise SAC forces responded to a simulated nuclear attack of the U.S. by dispersing more than 120 bombers and tankers to more than 30 secured locations.

While some dispersed, other unarmed SAC bombers flew airborne alert missions over predetermined orbit areas, a forward position from where they could strike enemy targets if directed by the National Command Authorities.

Just prior to the simulated attack on the U.S. approximately 40 bomber and tanker aircraft conducted a positive control launch from about 70 locations across the country. A positive control launch is a minimum interval take-off, wherein all aircraft at each location using the same runway depart within a 12 to 30 interval.

In an all-important part of the exercise two Minuteman III Intercontinental Ballistic Missiles were taken to Vandenberg from operation missile sites in North Dakota . The first missile was launched by an airborne missile

crew.

Global Shield provided commanders at all levels with an opportunity to participate in a realistic wartime scenario, which allowed aircrews and missile crews to maintain proficiency. All other supporting activities – maintenance, security, communications and intelligence were tested as well.

It was with a great deal of pride that the 190th AREFG received the news from the National Guard Bureau in March that they were to represent the Air National Guard in the 1980 Daedalian Maintenance Award competition. Being selected as the Guard representative in the competition meant the unit was picked as being the best of the 92 ANG flying units. The 190th had submitted a sheaf of paperwork supporting its maintenance excellence. The number of aircraft rated as fully mission capable reflected that the assigned KC-135 aircraft had a higher mission ready rate than any other Guard tanker unit for nine of the 12 months.

"That's a super accomplishment," Col Wortham, Deputy Commander for Maintenance, said. "We were scheduled as the last unit to convert to the KC-135 mission. We were the new kid on the block and less than two years we were at the top!"

Col. Mahler in his congratulations said, "The fact that we achieved the best aircraft maintenance record in the Air National Guard in 1980 is testimony to the overall professionalism and teamwork between Operations, Maintenance and Supply. We will now compete with 12 other nominees representing their respective Major Air Command. I'm confident we will represent the Air National Guard with distinction."

On the 19th of May, Major Charles M. (Mick) Baier Jr. was designated commander of the 117th Air Refueling Squadron by Col Mahler. Prior to assuming his duties as commander of the 117th, Baier served as Commander, "A" Flight, of the 117th. Major Baier had joined the 190th on Nov. 16, 1963 , and went on flying with the unit in the spring of 1966.

On June 9 and 10, three members of the 190th traveled to Washington D. C. to attend the Kansas memorial ceremony at the tomb of the Unknown Soldier in the Arlington National Cemetery .

Making the presentation of a memorial wreath and the State of Kansas Medal of Honor was Kansas Governor John Carlin, assisted by State Adjutant General, Major General Edward R. Fry.

Kansas was the 16th state to present the Medal of Honor to Arlington National Cemetery and Governor Carlin was the first governor to personally present the honorarium.

In August, Col. Mahler announced that the unit had completed the ORI flying requirements and had formally received the rating of Outstanding in Mission Effectiveness with an overall ORI rating of Outstanding.

On Sep. 11 the 190th Air Guard Combat Pistol team won the annual Winston P. Wilson combat match at Camp Robinson near Little Rock , Ark. With a total aggregate score of 2,846 of a possible 3,060 points, beating National Guard shooters from 49 states and Puerto Rico. It was a new match record and the second straight year the unit's shooters won the National event. They also won the Army FORSCOM regional shoot at Ft. Riley for two years running and the All Army Competition in May at Fort Benning , Ga. This is the first time any team had won all three events and they were ranked third overall in the nation after the May meet.

The 190th team had been Bullseye and Combat State Champions every year since 1968 with the exception of one year.

The eight-man team that made history consists of SSgt. Glenn Herrman, SSgt. Claude Crumley, SSgt. Robert Crapser, SRA Steven Arnold, MSgt William Higgs, SSgt. William Beightel, SSgt. Robert Bryant and MSgt. James Glotz.

The 190th Marksmanship program began in 1974 and was organized by CMSgt. Donald L. Teal. At that time they used rim fire rifles. They began getting allotments of .45 ball ammo so they decided they might as well use it. The unit did not have any .45s so in 1975 they borrowed eight pistols from the State Marksmanship Coordinator on a hand receipt. The following year they went to the State Guard shoot in Salina and shot 1142 of a possible 1200 and won. That spring at the FORSCOM at Ft. Riley they were the top among Reserve components. They went to the All Army in May that year and placed fourth overall in the nation.

There were 31 men enrolled in the 190th pistol marksmanship program in 1980. To maintain a place on the team they must have 100 percent attendance for drill weekends and summer training. The team practices two and a half to three hours every Wednesday and two weeks before a major match the practice is stepped up to three times a week. The men all jog regularly to keep fit, especially for the George S. Patton Jr. Competition which consists of a timed, two mile run in combat dress, including steel helmet, web gear with pistol, first aid kit, canteen and poncho. Maximum time allowed for the run is 25 minutes with target firing beginning 29 minutes after the start of the run. This Air National Guard team beats the Army at their own game. The 190th has much to be proud of.

LtCol. Jerold F. Johnson became the third Commander in the history of the 190th Air Refueling Group on October 3, 1981 . LtCol. Johnson assumed command from Col. William S. Mahler, who became the Chief of Staff of the Kansas Air National Guard at State Headquarters.

Speaking at the Change of Command ceremony, Major General Ralph T. Tice, Adjutant General of Kansas, said of Johnson, "As the new commander, I've selected one of the outstanding pilots and leaders who has widespread experience at all levels of the command. I'm sure that all officers and airmen of the unit will support him in the months ahead."

Johnson began his military career in the Kansas Air National Guard, enlisting on Nov. 1, 1960 at Hutchinson . He served in the photo lab of the 117th Tactical Reconnaissance Squadron. Commissioned a Second Lieutenant in 1962, he entered pilot training at Webb AFB, Texas in January 1963.

He served as 190th Group Air Operations Officer (Life Support) and was Flight Commander of the 117th Defense Systems Evaluation Squadron. He became Squadron Operations Officer in 1978. In May 1980, LtCol. Johnson became Assistant Chief of Maintenance and in March 1981 the Executive Staff Support Officer at Kansas Air National Guard Headquarters.

One of the most colorful chapters of the 190th began with the formation of the Patriots of Old Glory. This flag team was started in 1974. The first members of the team were Paul Hurt, Tom Dearing, Gus Parsel, Caroll Summerville, James McGlown, Jim Kornelson, Richard McIver, Joe Ramirez, Joe Bushong and Steve Mercer.

The inspiring and impressive ceremony presented by the Patriots utilized five generations of American flags. A narration of the history of each flag was presented in the ceremony. During the Bicentennial year the Patriots dressed in the colorful uniforms of 1776.

The Patriots have presented the flag ceremony on numerous occasions since 1974. They have performed in many locales and at distinctively different events. They have led the parade at fairs, open rodeos, football games and performed for the Veterans Administration. They have been on both local and national television and in 1982 opened the Karate World Championships and were televised for worldwide TV. Among their many presentations is the opening of the Kansas Legislature, the University of Kansas verses Kansas State University football game, the National Women's Basketball Tournament and the State Convention of National Guard Association of Kansas. In 1974 they opened the State Convention of the National Guard Association of Missouri with a presentation of every flag that had ever flown over the state or Missouri .

If ending Summer Field Training had been discouraging to morale then the mission of the KC-135s had the opposite effect. In 1981 alone the men of the 190th went to Hawaii six times. They averaged three trips a year to England and in addition the KC-135s have flown to Panama , Spain , Bermuda , Puerto Rico and Alaska , as well

APPENDIX C: CORRESPONDENCE

APPENDIX D: GPS LOCATION OF BUILDINGS, STRUCTURES, AND OBJECTS.

Table of Building UTM Coordinates			
Building Number	**Zone**	**Easting**	**Northing**
636	15	267563	4313249
648	15	267906	4315697
662	15	267899	4315451
663	15	267798	4315464
664	15	267817	4315451
665	15	267787	4315640
666	15	267848	4315625
668	15	267772	4315725
670	15	267785	4315735
673	15	267705	4315830
679	15	267535	4316024
680	15	267785	4313495
681	15	267710	4313409
682	15	267635	4313324
750	15	268026	4315512
760	15	268020	4315463
770	15	267946	4315394
775	15	267811	4315411
780	15	267680	4315779
783	15	267451	4316196
2279	15	266609	4313700
55099	15	267303	4315577
57000	15	267322	4316241
57005	15	267341	4316208
57007	15	267539	4316403
57008	15	267849	4315664