

Preservation/Restoration of Moton Field

Phase II



Tuskegee Airmen
National Historic Site
Tuskegee, Alabama

Historic Structure Report
Hangar Number Two

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Executive Summary

Tuskegee Institute (now Tuskegee University) was the only institution during World War II that provided primary military flight training for African-American pilot cadets in the United States Army Air Corps. Tuskegee Institute constructed Moton Field in Tuskegee, Macon County, Alabama, from 1941 to 1945 and used it as the principal facility of their contract primary flying school. The airfield was named for the second president of Tuskegee Institute, Robert Russa Moton. Most Tuskegee Airmen received their first military flight training at Moton Field.

The Tuskegee Airmen were the first African-American soldiers to complete their pilot training successfully and enter the Army Air Corps. Military leaders were at first hesitant to use the Tuskegee Airmen in combat. Eventually the airmen saw considerable action in Europe and North Africa. Their accomplishments in the air proved conclusively that African Americans could fly and maintain sophisticated combat aircraft and ultimately paved the way for full integration of the United States military.

The Southeast Regional Office of the National Park Service (NPS) prepared the *Moton Field/Tuskegee Airmen Special Resource Study* in October 1998 to evaluate the potential of adding Moton Field to the National Park System and to define the significance of the site with regard, specifically, to its association with the Tuskegee Airmen during World War II and, in general, to its role in the history of military aviation. The airfield complex at Moton Field was designated as the Tuskegee Airmen National Historic Site in November 1998 and was subsequently programmatically listed in the National Register of Historic Places.

MANAGEMENT SUMMARY

This Historic Structure Report (HSR) has been prepared as part of Phase II of the Moton Field Preservation/Restoration project. Phase II includes the production of a Cultural Landscape Report (CLR) and fifteen Historic Structure Reports for nine extant structures and six non-existing structures. The CLR addresses the Moton Field site as a whole and contains the complete historic context for the site; each HSR contains an abbreviated historic context that focuses on building history. Following is a list of the fifteen structures for which HSRs have been prepared.¹

EXTANT STRUCTURES

Hangar Number One
Skyway Club
Control Tower
Bath and Locker House
Warehouse/Vehicle Storage Building
Dope Storage Shed
Oil Storage Shed
Fire Protection Shed
Entrance Gate

NON-EXISTING STRUCTURES

Hangar Number Two
Cadet Class and Waiting Room
Army Supply Building
Physical Plant Warehouse
Vehicle Maintenance Shed
Guard Booth

A *Moton Field Structure Nomenclature* table clarifying the name of each structure for purposes of the CLR and HSRs follows the Executive Summary.

To prepare the Historic Structure Reports and the Cultural Landscape Report, research was done at a number of repositories and on site. Research included on-site field inspections; interviews of persons associated with the site before, during, and after the construction of Moton Field; and review of primary and secondary sources related to the social and physical history of Moton Field, including NPS files compiled during the preparation of the *Special Resource Study* and selected transcripts from the ongoing NPS Tuskegee Airmen Oral History Project. A list of repositories visited and the primary materials that were reviewed at each is located in the bibliography of the Cultural Landscape Report.

Major research findings resulting from the research phase of the project included the location of a number of primary sources yielding information about the construction and operation of Moton Field. This primary information included original architectural drawings and site plans for the airfield and its expansions throughout the war years; historic photographs of the airfield complex and the flight training activities that took place there; written histories chronicling the airfield's construction and day-to-day operations; information on the building contractor and landscape architect involved in the complex's design and construction; and the history of the site before and after its war-era use for primary flight training.

¹ The Phase II scope of work originally included a seventh non-existing structure, the Shed/Pump House, for which an HSR was to be prepared. After the research phase, however, no specific information had been found on the location or design of a shed/pump house on the Moton Field site. Because of this, the building was dropped from the list of non-existing structures.

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The period of significance for the interpretation of Moton Field has been established as 1941 to 1945, the period during which Moton Field was constructed and the Tuskegee Airmen were trained by the contract primary flying school. 1945 will be the date of restoration for the field's extant buildings and site features; the date of reconstruction for Hangar Number Two, the only non-existing building at the field that will be re-created; and the date of interpretation for the remaining non-existing buildings and site features. 1945 is the date by which all the buildings and site features at the airfield that were associated with the flying school had been constructed.

Built from the fall of 1942 through the spring of 1943, Hangar Number Two was the second hangar and the most significant building in the second phase of construction to be constructed at Moton Field. It was used during the World War II era to provide hangar space in addition to Hangar Number One for airplane repairs and maintenance and to house various functions associated with the primary flying school's operations and flight training. Based on historical research, an investigation of the building site and its relationship to the site as a whole, and the building's significance to the site's interpretation, the Ultimate Treatment and Use Recommendation for Hangar Number Two is **Reconstruction of the building's exterior and the interior floor plan and use of the interior as exhibit and on-site facilities space**. System requirements for reconstruction of the building will include a new HVAC system; modern plumbing and toilet facilities including a potable water source, hot water heater, and sanitary drainage system; a modern electrical system; replica lighting fixtures in the hangar space; modern lighting fixtures in the perimeter rooms; a wet-pipe sprinkler system and notification fire alarm system; a monitored security system; and a new communications system. The new building will also be required to be handicap accessible. Hangar Number Two is the most significant non-existing building at Moton Field, and its reconstruction will be a significant addition to the remaining airfield complex.

MOTON FIELD STRUCTURE NOMENCLATURE

EXTANT STRUCTURES

***Use Structure Name in Bold Italics*

<u>Original Name¹</u>	<u>Common/Later Name</u>	<u>NPS Name</u>
<i>Hangar Number One</i>		
Civilian Recreation Bldg.	<i>Skyway Club</i>	All Ranks Club
<i>Control Tower</i>		
<i>Bath and Locker House</i> Mechanics' Bath & Locker Bldg.		Administration/Locker Bldg.
Warehouse, Maintenance Bldg., Vehicle Storage		<i>Warehouse/Vehicle Storage Bldg.</i>
Dope Storage		<i>Dope Storage Shed</i>
Oil House		<i>Oil Storage Shed</i>
Fire Protection		<i>Fire Protection Shed</i>
<i>Entrance Gate</i>		Entrance Gate

NON-EXISTING STRUCTURES

<u>Original Name</u>	<u>Common/Later Name</u>	<u>NPS Name</u>
<i>Hangar Number Two</i>		
<i>Cadet Class & Waiting Room</i> (Cadet Waiting House)	Flight Command Office	Flight Command Office
Supply Building	Army Supply Building	<i>Army Supply Building</i>
<i>Physical Plant Warehouse</i>		Physical Plant Storage
Vehicle & Maintenance Shed		<i>Vehicle Maintenance Shed</i>
Guard House		<i>Guard Booth</i>

¹ Based on architectural drawings, written histories, or other original documentation.

Administrative Data

Locational Data

Building Name: Hangar Number Two (non-existing)

Building Location: Moton Field, Tuskegee Airmen National Historic Site, Chief Anderson Drive, Tuskegee, Macon County, Alabama.

Real Property Information

Acquisition Date: November 1998

Total Improvement/Modification Costs to Date: \$810,855 (total construction cost to date for stabilization at Moton Field)

Size Information

Total Floor Area: 19,076 SF (based on original drawings, including Control Tower)

First Floor Area: 18,065 SF (based on original drawings, including Control Tower)

Roof Area: unknown

Perimeter Length: 539 feet (based on original drawings)

Number of Stories: Hangar: One (1); Control Tower: Four (4)

Number of Rooms: Hangar: 10; Control Tower: 4 (based on original drawings)

Number of Bathrooms: Hangar: 2; Control Tower: 1 (based on original drawings)

MANAGEMENT SUMMARY

Building Code Information

Applicable Codes:

- Building /Dwelling Code: 1997 Standard Building Code
- Structural Code: 1997 Standard Building Code
- Plumbing Code: 1997 Standard Plumbing Code
- Mechanical Code: 1997 Standard Mechanical Code
- Electrical Code: 1996 National Electric Code
- Fire/Life Safety: 1994 Standard Fire Protection Code, 1997 NFPA 101

Seismic Hazard Exposure Group 8- No seismic requirements for architectural, mechanical and electrical systems. There are some minor structural requirements.

Analysis of Hangar Number Two is based on the proposed reconstruction of the building.

- Building area of Control Tower is approximately 428 sf
- Balance of Hangar Two will be approximately 14,000 SF
- Height of the control tower, after reconstruction, is expected to be approx. 50'

1997 Standard Building Code

- Assembly Occupancy - Group A2
- Construction Type VI unprotected
- Fire sprinklered

- Maximum allowable building height is 40'
- One Story is allowed
- Maximum allowable area 15,000 sf

The control tower will require approval from the authority having jurisdiction to exceed the allowable building height.

NFPA 101

- Assembly Occupancy - Group A

Proposed Treatment

Proposed Treatment for Hangar Number Two: Reconstruction of the exterior and the interior floor plan

Related Studies

Moton Field/Tuskegee Airmen Special Resource Study, National Park Service, Southeast Regional Office, Atlanta, Georgia, 1998.

MANAGEMENT SUMMARY

Cultural Resource Data

The site of Hangar Number Two is a component of the Moton Field complex which was programmatically listed in the National Register of Historic Places as a historic site unit of the National Park Service on November 6, 1998 with the approval by President Bill Clinton of Public Law 105-355 which established the Tuskegee Airmen National Historic Site.

The period of significance for Moton Field has been established as 1941 – 1945, the period during which Moton Field was constructed and served as the principal facility of the primary flying school for the training of the Tuskegee Airmen.

Moton Field is nationally significant for its association with the historic contexts of African-American History and Military/Aviation History. In both African-American and Military/Aviation history, the airfield complex is significant for its role as the only primary flight training facility for African-American pilot cadets in the Army Air Corps during the World War II era. The accomplishments of the Tuskegee Airmen in military air combat in both European and North African theaters of operation helped pave the way for the full integration of the United States military and future civil rights advancements.

Recommendations for Documentation, Cataloging, and Storage of HSR Materials

A copy of research materials specifically documenting Hangar Number Two is located within the body or in *Appendix A* of this HSR. A copy of research materials documenting Moton Field as a whole may be found with the Cultural Landscape Report. Pre-stabilization photographs and other photographs taken during and after stabilization work of the Moton Field structures and site will remain with the project architectural firm until the completion of final construction drawings and specifications required for the preservation/restoration work.

Part I – Developmental History

Historical
Background & Context

Chronology of
Development & Use

Physical Description

Historical Background & Context

Formally approved as Tuskegee Airmen National Historic Site on November 6, 1998, Moton Field is of national importance for its association with the training of the Tuskegee Airmen during World War II. Moton Field, constructed between June 1941 and March 1945, was the only primary military flight training facility for African-American pilot candidates in the United States Army Air Corps during the war. The field, named in honor of Robert Russa Moton, the second president of Tuskegee Institute (now known as Tuskegee University), symbolizes the entrance of African-American pilots into the Army Air Corps under a policy of segregation that was mandated by the military and institutionalized in the South. The buildings that remain at Moton Field have changed little over the years and the historic setting of the 1940s is still discernible.

Context

Opportunities for African-American participation in the United States military were always limited and controversial. Quotas, exclusion, and discrimination based on race reinforced the prevailing attitude in both the military and the general public that African Americans did not possess the intelligence or ability to be successful in the military. This perception carried into the 1940s when military officials still believed that African Americans could not become successful pilots in the Army Air Corps. The Air Corps decided to train a small number of African-American pilot candidates under segregated conditions and in January 1941, chose Tuskegee Institute as a civilian contractor to operate a primary flying school at a location in Tuskegee, Alabama, that would become known as Moton Field. This was the only primary

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military flight training facility for African-American pilot candidates in the U.S. Army Air Corps during World War II. The facility symbolizes the entrance of African-American pilots into the Air Corps, although on a segregated basis.

War-Era Construction at Moton Field

Building construction at Moton Field can be divided into three major phases of construction. These construction phases are modern descriptive terms and are not historic nomenclature. The justification for the three phases is based on actual dates of construction as well as the source of funding for each. The primary flying field was not officially known as Moton Field until its dedication in April 1943.

Phase One, beginning in June of 1941 and lasting through December of that same year, consisted of the initial establishment of the airfield (grading and clearing) as well as the construction of Hangar Number One and the Fire Protection Shed. Tuskegee Institute contributed \$20,000, but the major funding source was a \$130,000 loan from the Julius Rosenwald Fund.

Phase Two began in the summer of 1942 and lasted almost a year. Tuskegee Institute's Board of Trustees initially authorized \$15,000 for construction of the Cadet Class and Waiting Room and the Army Supply Building.² Hangar Number Two and the Control Tower, the Bath and Locker House, several small sheds for oil and dope storage, and an addition to Hangar Number One were completed with a \$150,000 loan from the institute's general funds.³

Phase Three began in early spring of 1944 and extended through the summer of the following year. It is believed that Tuskegee Institute funded this third phase of construction as well, but documentation has not been located to support or disprove this. During this phase the Vehicle Maintenance Shed and the Physical Plant Warehouse were constructed and the enlargement of the asphalt parking mat and paving of roadways in the building area were completed. The ground was graded south of Hangar Number One for a civilian recreation building, later known as the Skyway Club, that was not started until 1945.

Phase One Construction (June-December 1941)

Following the final contract negotiations with the Julius Rosenwald Fund, the United States Army, and Samuel Mizel (S.M.) Eich, the owner of the farm land on which the primary flying field would be built, construction of the airfield got underway in the early summer of 1941. "The History of the 66th AAF Flying Training Detachment, Moton Field, Tuskegee Institute, Alabama" states that the contract was signed on June 6, 1941 and construction of the airfield started about the same time.⁴ Archie A. Alexander, a prominent African-

² Julius Rosenwald Fund (JRF) Box 359, Folder 5. General Correspondence.

³ JRF Box 359, Folder 5. General Correspondence.

⁴ "The History of the 66th AAF Flying Training Detachment, Moton Field, Tuskegee Institute, Alabama: Section I," AFHRA, p.1.

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American contractor from Iowa, was recruited to supervise the initial phase of airfield construction.

By the end of 1941 the first phase of construction was complete. Hangar Number One was constructed for \$44,134, which was included in the total cost of \$148,506.98. The final construction costs were as follows:

Payment in full of contract	\$112,900.00
Extra work by contractors	1,389.50
Purchase of land	33,500.00
Cutting trees	500.00
Allowances for crop damages	217.48
	<u>\$148,506.98⁵</u>

Phase Two Construction (June 1942-May 1943)

The Tuskegee training program expanded per orders of the Army, and the facilities originally constructed for a smaller number of cadets soon became inadequate. By the end of May 1942 plans were underway to construct one new supply building and one cadet waiting house. Hangar space formerly used for supply was converted to a link trainer room and empty office space was nonexistent at the field.⁶ The Tuskegee Institute Board of Trustees authorized special expenditures of \$15,000 to finance these improvements, which were completed by late July 1942.

That fall, when it became necessary to expand the facilities at the field again because of another increased quota of students per class, financing once again was an issue. A request to the Julius Rosenwald Fund for an additional loan was rejected. In addition, they offered no leniency for loan repayment should Tuskegee be able to secure a loan from another source. Ultimately, \$150,000 was secured through a loan from the general funds of Tuskegee Institute to complete the second phase of construction.

In addition to the expansion work completed by July 1942, the following construction was completed during Phase Two. Hangar Number Two was built with lean-to space for a Cadet Ready Room, five link trainers, and space for parachute maintenance, issue, storage, and drying. The Control Tower, a pump house containing chlorination units, the Dope Storage Shed, the Oil Storage Shed, and Bath and Locker House were also part of this phase.⁷

Women began to apprentice as mechanics, due to the manpower shortage during the War that necessitated separate facilities for men and women. Although initial construction had failed to anticipate women workers at the primary flying field, toilet and locker facilities were incorporated into the plans of the Bath and Locker House to remedy the need for women's facilities.⁸

⁵ JRF Box 359, Folder 5. General Correspondence.

⁶ "The History of the 66th AAF Flying Training Detachment, Moton Field, Tuskegee Institute, Alabama: Section II," p. 4.

⁷ Ibid, p. 5.

⁸ George L. Washington, *The History of Military and Civilian Pilot Training of Negroes at Tuskegee, Alabama, 1939-1945* (Washington, D.C.: George L. Washington, 1972), pp. 306-307; 310-311.

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A School Facilities and Civilian Personnel Report dated October 27, 1942 details the status of the construction project with Hangar Number Two including the Control Tower at 7% complete; the Bath and Locker House at 25%; and the Oil Storage Shed at 90% complete. Progress to date on the main field was 20% complete.⁹

During construction it became difficult to obtain some building materials due to the shortage caused by the war. Even with a high priority rating obtained from the Air Force, locating materials often lengthened construction time. This was especially true with regard to the 100-foot span trusses and metal truss ties for Hangar Number Two. Ultimately, David A. Williston, the Landscape Architect at Tuskegee Institute who was responsible for the landscape design at the primary flying field, scoured the campus for suitable trees for cutting and milling the trusses. Construction on the hangar came to a virtual stopping point for two months until truss ties could be located.¹⁰

On November 10, 1942, 35% progress was reported on the main field. Construction on the Oil Storage Shed was complete and Hangar Number Two had reached 35% completion while the Bath and Locker House was 60% complete.¹¹ By November 25, the Hangar progressed to 60% completion and the Bath and Locker House to 75% complete.¹²

In December construction began on the Warehouse/Vehicle Storage Building and a Vehicle Maintenance Shed. The shed, which was located at the east extremity of the building complex, housed trucks and ambulances overnight as well as miscellaneous lumber used for maintenance. The warehouse was a concrete block building located east of where the Physical Plant Warehouse was soon completed.¹³ The December 10, 1942 report boosted the Hangar to 70% completion, the Bath and Locker House to 80%, and the Warehouse/Vehicle Storage Building was 20% complete. Although the main field had been in use over a year, it was only 45% completed as of this report.¹⁴

Despite being only 95% complete in March 1943, offices in Hangar Number Two were occupied in order to relieve office congestion in Hangar Number One. May 1943 marked the completion of the second building phase at the airfield. The Bath and Locker House, Warehouse/Vehicle Storage Building, improvements to the landing field and Hangar Number Two were finished. At this time the Intelligence Office was moved from Hangar Number One to Hangar Number Two, which allowed space for the Intelligence Library. As the Cadet Ready Room was also moved to the second hangar, it allowed trainees free access to the reading materials. The Intelligence Office was a military office that provided secure as well as general information about war activities. The office included an Intelligence Library

⁹ "The History of the 66th AAF Flying Training Detachment, Moton Field, Tuskegee Institute, Alabama: Section II," Appendix III.

¹⁰ Washington, pp. 301-303.

¹¹ "The History of the 66th AAF Flying Training Detachment, Moton Field, Tuskegee Institute, Alabama: Section II," Appendix IV.

¹² Ibid, Appendix V.

¹³ Washington, p. 312.

¹⁴ "The History of the 66th AAF Flying Training Detachment, Moton Field, Tuskegee Institute, Alabama: Section II," Appendix VI.

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with reading materials such as magazines, newspapers and intelligence summaries, and a War Room with additional reading materials, models of aircraft, ships, and tanks, and maps of various theaters of operations, all of which were kept updated as the war progressed. Aviation cadets were encouraged to spend a few minutes each day in the Library and War Room to keep themselves informed. The Parachute and Link Trainer Departments also moved into larger spaces in Hangar Number Two. This left more space in Hangar Number One for Engineering and Operations.¹⁵

The airfield was named Moton Field in honor of Tuskegee Institute's second president Robert Russa Moton. In preparation for the official dedication ceremony on April 4, 1943, a brick entrance gate was constructed along the main road to the west of the building complex. The south wall contained a niche that featured a bust of Robert Moton.¹⁶

In July of 1943, Tuskegee Institute made its final payment on the loan to the Julius Rosenwald Fund. Tuskegee Institute president Dr. Frederick D. Patterson summed up this special partnership with the following words:

I think it is safe to say that were it not for the wisdom and generosity of the Rosenwald Fund, in its willingness to make an exception to its stated policy, this favorable accomplishment probably would not be a matter of record today. I am sure also that the action of the Rosenwald Fund encouraged our own trustees to take the larger portion of our free funds to make possible the expansion and promotion of this development. We now have a total investment of approximately \$350,000, and aviation has been developed to the point where I am sure it will be a permanent feature of the work of Tuskegee Institute. When we consider the importance of aviation as a vocation today and what it will in all probability mean in the post-war world, we can see that a contribution of lasting importance has been made.¹⁷

Phase Three Construction (Spring 1944-Summer 1945)

During the first half of 1944, Moton Field experienced yet another program expansion. In March a new Physical Plant Warehouse was completed, which provided additional office and storage space used by the primary flying school contractor, Tuskegee Institute, to better oversee activities at the airfield.¹⁸

A year later construction finally got underway on the civilian recreation building, later known as the Skyway Club. This building was to serve as a recreational facility for employees who worked at Moton Field. Built as a cooperative project, Tuskegee Institute supplied the materials while the employees were expected to contribute most of the labor. "Solo," a

¹⁵ "The History of the 66th AAF Flying Training Detachment, Moton Field, Tuskegee Institute, Alabama: Section III," pp. 1-2; "History of the 2164th AAF Base Unit (CPS.P)(Formerly 66th AAFSTD), Tuskegee Institute, Alabama: Section IV," p. 39; *Solo*, 10 March 1945, p. 9.

¹⁶ Washington, p. 310.

¹⁷ JRF Box 359, Folder 5. General Correspondence.

¹⁸ "The History of the 66th AAF Flying Training Detachment, Moton Field, Tuskegee Institute, Alabama: Section IV," p. 1.

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locally distributed newsletter at Moton Field, suggested that an appropriate motto for the new building project was, “[t]he harder we work, the sooner we get to play.”¹⁹

The final installment of the History of the 2164th AAF Base Unit, Tuskegee Institute, Alabama covered September through November 1945. This period marked the final phase of primary flying training of African-American personnel at Moton Field. By the end of November all trainees had either graduated, been discharged, or transferred to Tuskegee Army Air Field.²⁰

Post War (1946-1998)

The close of the Army Air Corps contract flying school in November 1945 brought a change in the activity at Moton Field. Charles Alfred “Chief” Anderson, who was a flight instructor at the field for the Army Air Corps, continued to offer private flying lessons from Moton Field. Even though primary flight training operations had ceased at the airfield, the Skyway Club continued to operate as a night club open to the general public during this time. According to Bill Childs, who worked as a mechanic at Moton Field, a private business, Tuskegee Aviation Corporation, formed soon after the end of primary flight training. This corporation used the Moton Field facilities to repair and maintain planes and convert military planes for civilian use. In addition, the corporation operated a G. I. flight school through the G. I. College Bill, and Tuskegee Institute offered a degree in Aircraft Mechanics using the corporation and Moton Field for training. The corporation operated for approximately two years after the war ended.²¹ According to Mr. Childs, the City of Tuskegee attempted to levy Tuskegee Aviation Corporation for a total of four million dollars in taxes, the amount for which the Moton Field property was insured. Rather than pay the taxes, the corporation decided to shut down. The government’s first attempt to tax Tuskegee Institute for the property failed because the school was tax exempt and refused to pay the taxes.²²

After the corporation dissolved, Macon County used the hangars for storage of surplus food and as a distribution center for welfare recipients.²³ During this time, several of the support buildings were turned into housing for employees of Tuskegee Institute. The bare minimum was spent on upkeep of these “cottages” as they were known, and residents did general repairs on the buildings themselves. Bill Childs remembers the Skyway Club serving as a dormitory for male students shortly after the war. The G. I. Bill increased student enrollment, and, while campus dorms were being renovated, the Skyway Club’s original open space was subdivided into smaller sleeping quarters. The building may have been in use as a dormitory until the early 1950s.²⁴

¹⁹ *Solo*. 10 March 1945, p. 9.

²⁰ “The History of the 66th AAF Flying Training Detachment, Moton Field, Tuskegee Institute, Alabama: Section XII,” p. 2.

²¹ Telephone Interview with Bill Childs by Debbie Curtis Toole, December 2001.

²² *Ibid.*

²³ *Ibid.*

²⁴ *Ibid.*

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All activity, with the exception of housing Tuskegee Institute employees in the cottages, ceased by the mid-1950s, and Tuskegee Institute put little money into the maintenance and upkeep of the buildings and grounds at Moton Field. According to Ed Pryce, landscape architect and superintendent of grounds and maintenance from 1955-1969, the only official upkeep at the field was occasional mowing and maintaining the water and sewer lines. No official use was given to the hangars or sheds during this time. With this lack of maintenance, the buildings and landscape deteriorated.

In the 1960s, the Tuskegee Institute School of Veterinary Medicine began to use the airfield for animal research. The area to the east of the field's building complex contained numerous cattle pens. The school renovated Hangar Number Two into a large animal operating and research lab in the early 1970s, which involved subdividing the large hangar space into operating rooms while the original office and classroom areas were converted into laboratories.²⁵ A fire destroyed the hangar in 1989, and the remaining walls were leveled to the ground. Based on a 1964 floor plan of the Skyway Club, this building may also have been used by the Veterinary School. In the mid-1970s, the school renovated the Warehouse/Vehicle Storage Building into a Swine Research Center.

In 1972, a tract consisting of 325 acres of the original Moton Field was deeded to the City of Tuskegee for development of a municipal airport. Bids for the contract were opened in April of 1972, and construction began a year later by the Dubose Construction Corporation in March of 1973. The Municipal Airport was constructed to the north of the building complex. The new paved runways occupy the southern portion of cleared land where the original grass runways were located.

Creation of Tuskegee Airmen National Historic Site

President Bill Clinton approved Public Law 105-355 on November 6, 1998, which established the Tuskegee Airmen National Historic Site at Moton Field in Tuskegee, Alabama. The site was created to commemorate and interpret the heroic actions of the Tuskegee Airmen during World War II and was established as a unit of the National Park System. With this approval, Moton Field was also programmatically listed in the National Register of Historic Places. Establishment of the site included the acquisition by the National Park Service from Tuskegee University of approximately forty-four acres known as Moton Field.²⁶ This forty-four acre tract includes the nine extant historic structures as well as the former sites of the six non-existing structures. In addition, the tract includes an overlook area that might eventually be the site of a proposed interpretative center. NPS land does not include the grass runways, a portion of the historic taxiway, or a portion of the historic tarmac.

Because of its creation as a contract school, Moton Field facilities have not faced the adaptation or conversion typically experienced by other World War II pilot training facilities. Although deterioration has occurred to the historic fabric, the surviving buildings have not

²⁵ Interview with Booker Conley by The Jaeger Company, September 26, 2001.

²⁶ Public Law 105-335. 112 Stat. 3254-3258.

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undergone significant alterations. When considered in the larger historic setting, the buildings and surviving landscape features express the field's historic function as a flight training facility. Moton Field retains a high level of integrity for interpretation of the training and activities of the Tuskegee Airmen.

For a complete historical overview and developmental history of Moton Field see the Cultural Landscape Report (CLR) for Moton Field, Tuskegee, Alabama.

Chronology of Development & Use

Hangar Number Two (non-existing) at Moton Field was constructed from the fall of 1942 through the spring of 1943 as part of a second phase of construction at Tuskegee Institute's primary flying school airfield. Original architectural drawings for the hangar date from September 28, 1942.²⁷ (See *Figure 1*.) Based on the drawings, the building was designed by architect Edward C. Miller, head of Tuskegee Institute's architecture department, and engineer G. L. Washington, head of the Institute's Division of Aeronautics and General Manager of Moton Field. According to the 66th AAF Flying Training Detachment histories, Hangar Number Two was 70% complete by December 10, 1942 and had been completed by May 1943.²⁸ The Control Tower was constructed as part of Hangar Number Two and is included in the original architectural drawings for the hangar. However, a separate set of drawings specifically for the Tower was produced in November 1942.²⁹ A drawing of construction details for the hangar documents the structure of the masonry hangar walls and the frame construction of the majority of the perimeter rooms.³⁰ (See *Figure 2*.) Based on historic photographs and a field inspection, Hangar Number Two appears to have been constructed according to the original architectural drawings of September 1942.

²⁷ "Plan and Elevations of Hangar, 66th U.S. AAF Training School, Tuskegee, Alabama." September 28, 1942.

²⁸ "History of 66th AAF Flying Training Detachment, Moton Field, Tuskegee Institute, Alabama, Section II – 7 December 1941 to 31 December 1942 Inclusive," and "Section III – 1 January 1943 to 31 January 1944 Inclusive."

²⁹ "Plans and Elevations of Control Tower," November 7, 1942.

³⁰ "Construction Details, New Hangar for Airfield No. 2," October 15, 1942.

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A second design for the hangar and control tower was produced by Miller and Washington at the same time as the original drawings, but this second design was not built. (See *Figure 3*.) This second set provided a slightly different design for the hangar's construction. The proposed control tower was designed to look like a lighthouse, making necessary several modifications to the interior floor plan around the tower.³¹

The design of Hangar Number Two was similar to but larger than Hangar Number One. The second hangar's open hangar space measured 100 feet by 105 feet, compared to the first hangar's 75- by 98-foot hangar space. Hangar Number Two also had one-story perimeter rooms around its side and rear facades. Unlike the first hangar, however, the second hangar included a four-story Control Tower from which controllers monitored flight activity on the airfield.

Both hangars were used simultaneously for the maintenance and repair of airplanes used by aviation cadets in the primary flying school. The perimeter rooms in Hangar Number Two included a cadet ready room, instructor's ready room, parachute storage and repair area, class room, link trainer room, and toilet, mechanical, and storage facilities. The construction of the second hangar provided much needed space for the expanding flight training program. In particular, the cadet and instructor ready rooms and the parachute storage and repair area relieved overcrowded spaces in Hangar Number One.

Numerous historic photographs of Moton Field document Hangar Number Two as it was constructed.³² Two aerial photographs from c.1944 and post-March 1945 provide good views of the hangar.³³ (See *Figure 4*.) According to these photos and the original architectural drawings, the large hangar area was constructed of brick masonry. The dope room on the building's southwest corner, the boiler room on the rear east facade, and the control tower were also of brick construction for fire safety purposes. The remainder of the perimeter rooms around Hangar Number Two were of frame construction finished with novelty wood siding. (See *Figures 5, 6*.) The hangar's segmentally arched roof was covered with roll roofing rather than the corrugated metal used on the first hangar. (See *Figure 7*.) A number of historic interior photos of Hangar Number Two also exist, documenting some interior finishes and furnishings. (See *Figure 8* and *Appendix A*.)

During the 1960s and 1970s, plans were made to renovate Hangar Number Two to accommodate its use by Tuskegee University's School of Veterinary Medicine. As early as 1962, sketches of alterations were done by the Physical Plant. Based on Physical Plant records, the hangar area was divided in 1964 with new concrete block walls, celotex furred ceilings, and new finishes, and further renovation was done in 1970.³⁴ In 1974, architectural

³¹ "Plan and Elevations of Hangar," September 28, 1942. (not constructed)

³² Historic Photograph Collection, Howard University. Historic Photograph Collection, AFHRA, Maxwell AFB.

³³ Aerial Photograph, c. 1944, Historic Photograph Collection, Howard University. Aerial Photograph, c. 1945, Historic Photograph Collection, NPS Curatorial Storage Facility, Tuskegee Institute NHS.

³⁴ Booker Conley's Files, Physical Plant, Tuskegee University.

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drawings were prepared by the architectural and engineering firm Lockwood Greene for more alterations to the hangar for the Veterinary School.³⁵ The hangar was used for environmental labs for the school's large animal practice, which included cattle and swine. A very large door was reportedly put into the hangar to accommodate giraffes, but it is not known if any giraffes were actually brought there.³⁶ A large number of animal corrals and pens used by the school were located at the rear of Hangar Number Two. Photographs from the 1970s illustrate these alterations.³⁷ (See *Figure 9*.)

Hangar Number Two burned in 1989 and was subsequently demolished.³⁸ The building's foundations, concrete floors, and outlines of previous walls remain on the site and are largely visible. The brick exterior walls of the Control Tower remain intact but the interior and fourth-floor observation tower have been removed.

³⁵ "Plan, Elevations, Sections, and Notes for Alterations to Hangar No. 2," Lockwood Greene, September 6, 1974.

³⁶ Interview with Ed Pryce by Christine Trebellas.

³⁷ Booker Conley's Files.

³⁸ NPS Special Resource Study.

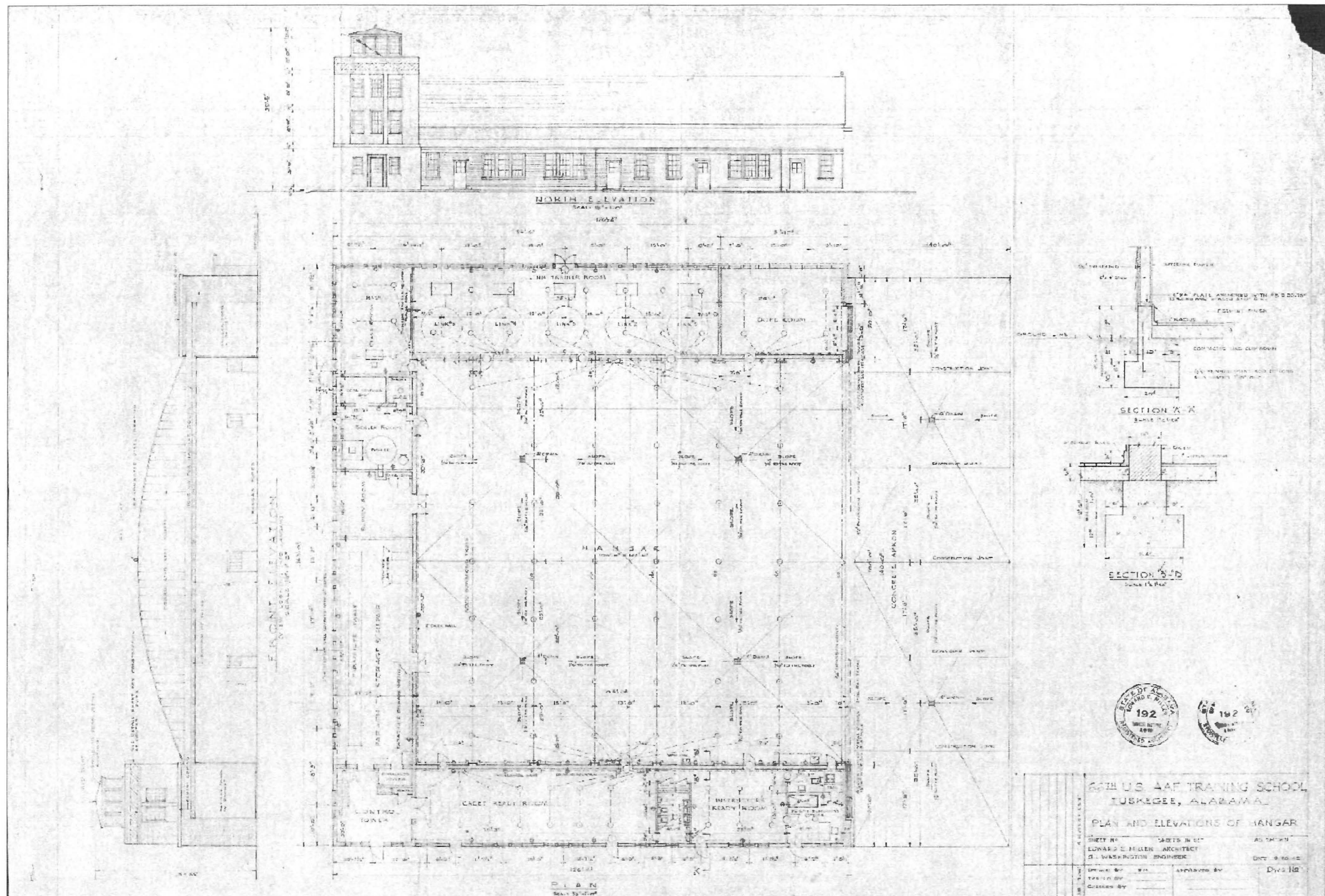
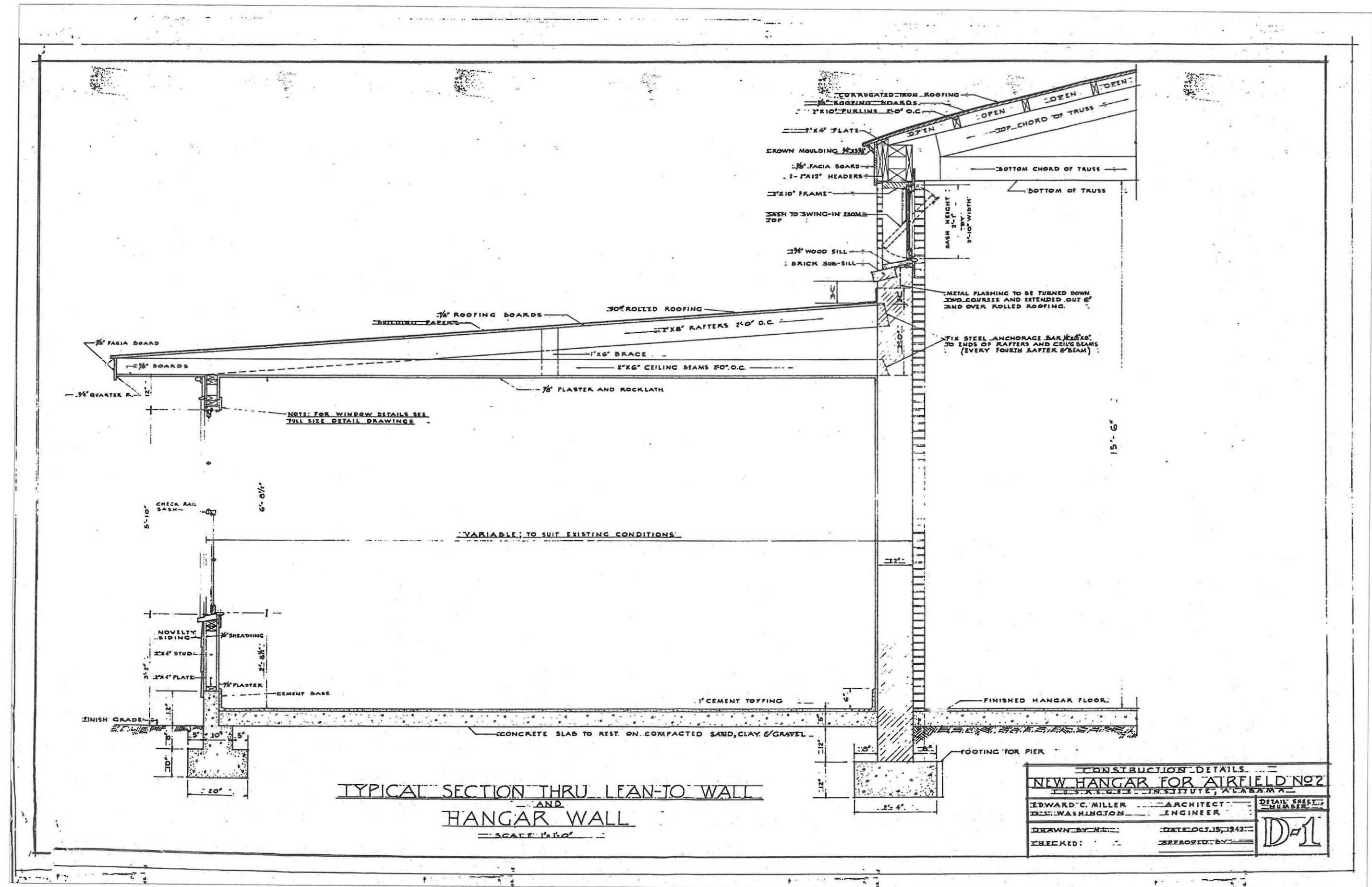


Figure 1: Original architectural drawing for Hangar Number Two as constructed, dated September 28, 1942. Physical Plant, Tuskegee University.



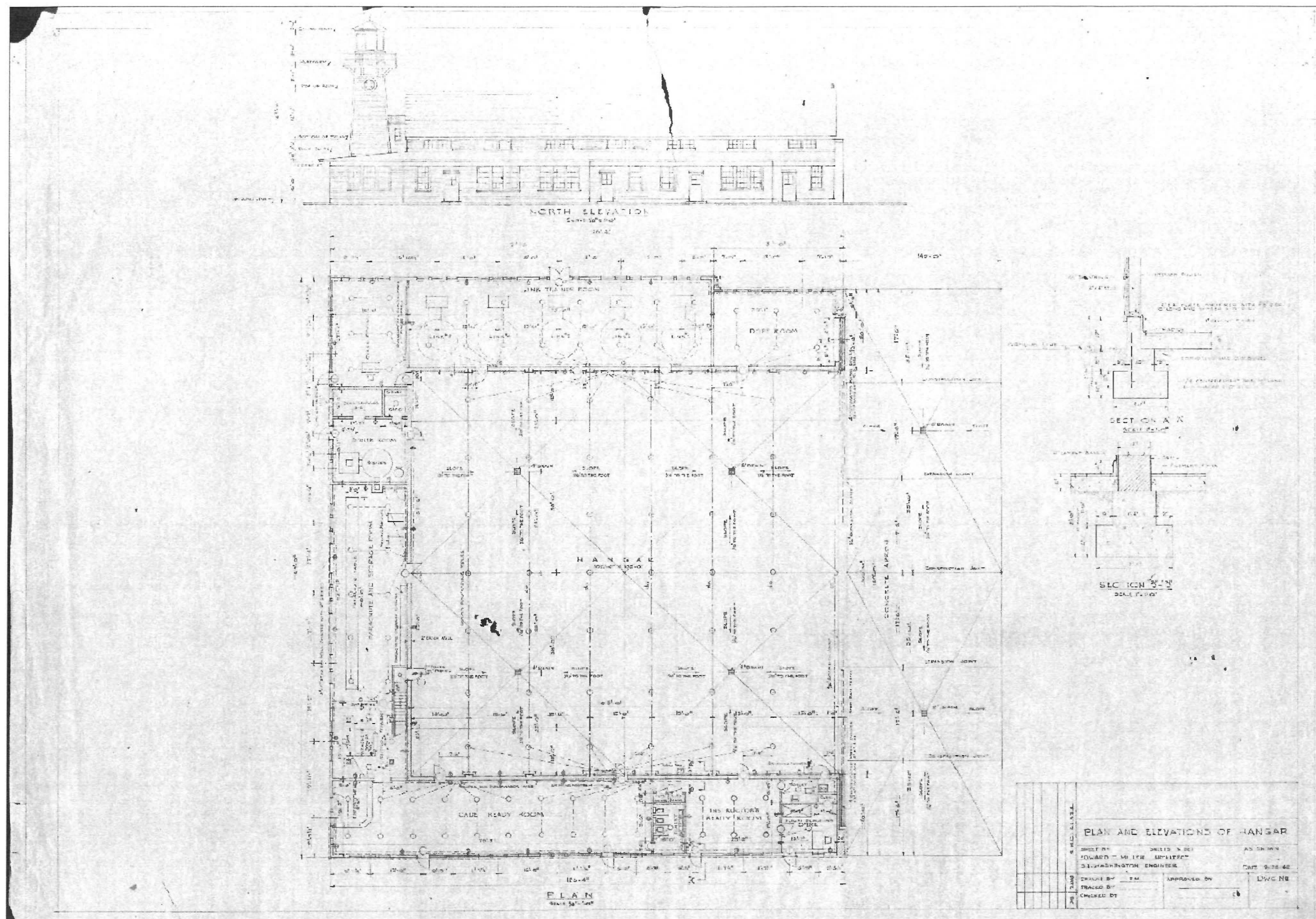


Figure 3: Alternate design for Hangar Number Two and Control Tower not constructed, dated September 28, 1942. Physical Plant, Tuskegee University.



Figure 4: Circa 1945 aerial photograph of Moton Field showing Hangar Number Two. Historic Photograph Collection, National Park Service Curatorial Storage Facility, Tuskegee Institute NHS.

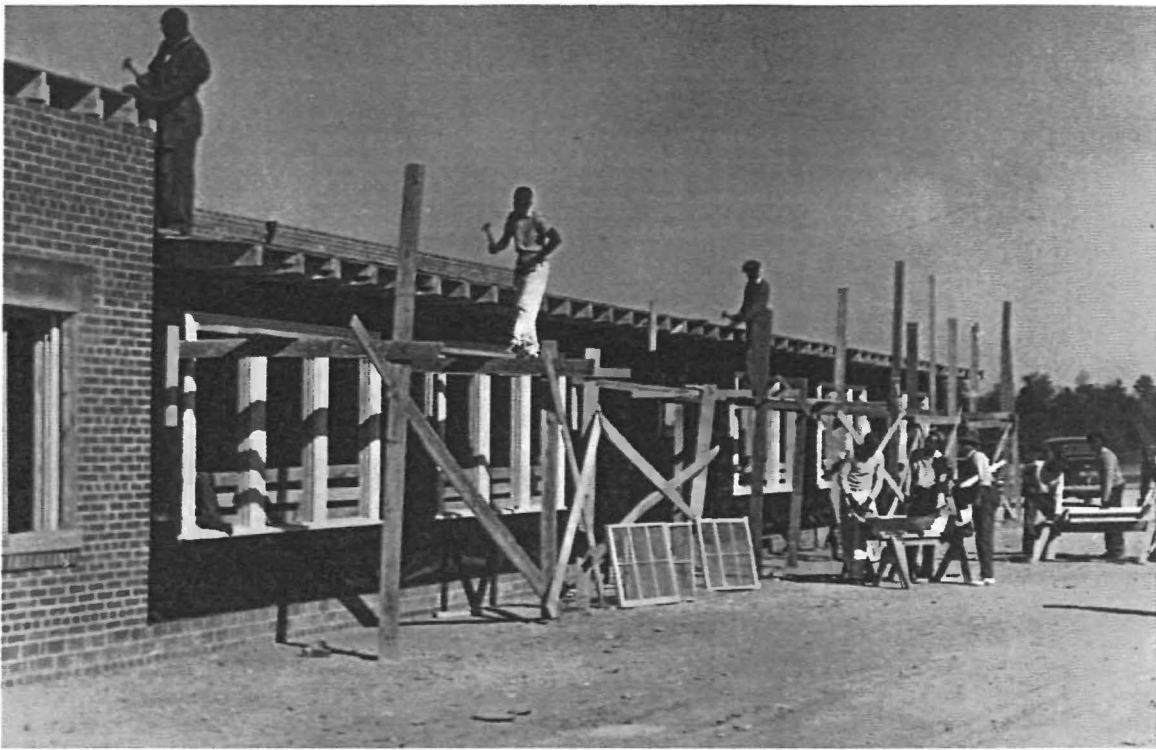


Figure 5: Historic photograph of Hangar Number Two perimeter rooms under construction. Historic Photograph Collection, Howard University.



Figure 6: Historic photograph of cadets and visitors outside the north facade of Hangar Number Two. Historic Photograph Collection, AFHRA, Maxwell AFB.



Figure 7: Historic photograph documenting the roof of Hangar Number Two. Historic Photograph Collection, Howard University.

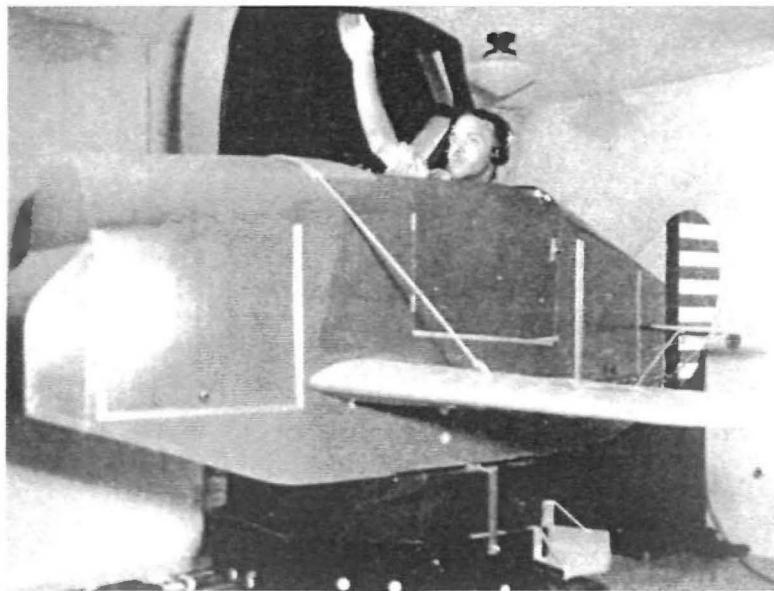


Figure 8: Historic photograph of a cadet in the Link Trainer Room in Hangar Number Two. Historic Photograph Collection, AFHRA, Maxwell AFB.



Figure 9: 1977 photograph of Hangar Number Two showing alterations made by the Tuskegee University Veterinary School. Booker Conley's Files, Physical Plant, Tuskegee University.

Physical Description

Hangar Number Two, constructed in 1942-1943 as the second hangar at the primary flying school airfield, burned in 1989, and its brick walls were subsequently demolished. The footprint of the building can still be seen on the site today, and the exterior brick walls of the Control Tower remain standing. The hangar's foundations, concrete floors, and outlines of its exterior and interior walls remain largely intact on the ground.

Based on a field inspection of these remains and on historic photographs, the hangar appears to have been constructed as originally designed in the September 1942 plans. According to the original architectural drawings, the building measured 143 feet by 126 feet 4 inches. Its perimeter length was 539 feet, and its square footage (including the first floor of the Control Tower) was 18,065 square feet. The large, central hangar space was built of brick masonry walls with a segmentally arched roof supported with trusses and covered with roll roofing. According to G. L. Washington's history of the primary flying school, the roof trusses were constructed of wood from trees taken from the site and were joined with metal truss ties.³⁹ The arched ends of the roof were covered with a horizontal siding. One-story perimeter rooms with shed roofs encircled the hangar space on three sides. Sections of the perimeter rooms were constructed of brick masonry for fire safety purposes but the remainder of these rooms were of frame construction finished with novelty wood siding. The four-story, brick masonry Control Tower stood at the building's northeast corner.

³⁹ Washington, pp. 301-303.

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Alterations to the hangar's floor plan made by the School of Veterinary Medicine during the 1960s and 1970s appear to have taken place only within the large hangar space. According to various plans and sketches, the area was divided into a number of laboratory, surgical, and office spaces. Based on photographs, the open front facade with sliding hangar doors was infilled with a solid wall punctuated by doors and windows.⁴⁰

The hangar's existing footprint provides evidence of the original foundations, floor materials, floor plan, and wall materials. The building's entire original concrete floor appears to be intact although in some areas it is covered with dirt and overgrown with grass. In the large hangar space, two of the four original floor drains can still be seen. Dirt and grass cover the remaining two drains. The metal tracks on which the large hangar space doors slid open and closed remain embedded in the concrete floor along the hangar's west side. Many areas of the concrete floors in the perimeter rooms are now covered with dirt and grass. Some areas of the concrete floors have become cracked and uneven. An area of floor in the south side perimeter rooms sounds hollow underneath.

Although the building's foundations cannot be seen above ground, the original foundations probably remain intact. Careful excavation of the foundations could be done to confirm their existence and establish their existing condition.

The remains of the brick masonry walls of the three sides of the hangar space are visible on the ground. The locations of the majority of door openings shown on the original architectural drawings leading from the hangar space into the perimeter rooms can also still be seen as visible concrete thresholds. Along the south side of perimeter rooms, the east wall of the link trainer room and the east masonry wall of the dope room are currently visible on the ground. Along the east side of perimeter rooms, the interior masonry walls of the boiler room are visible. Along the north side of perimeter rooms, the walls of the toilets, instructor's ready room, and flight surgeon's office can be seen. The remaining masonry walls of the Control Tower still stand at the hangar's northeast corner.

Original walls that are not visible are the exterior frame and masonry walls of the perimeter rooms. These have been covered with dirt and overgrown with grass over the years. Careful excavation would uncover the remnants of these remaining walls and their door openings.

Some evidence exists on the building footprint that minor alterations to the floor plan as designed may have been made when the building was constructed. These include the possible use of one of two closets adjacent to the toilet in the north side perimeter rooms as the entrance to the toilet rather than as a closet; the relocation of the doorway into the flight surgeon's office by approximately two to three feet; and the evidence of only one large closet space rather than two small closets in the southwest corner of the parachute storage and repair room.

The large hangar space was subdivided during the 1960s and 1970s by Tuskegee Institute's School of Veterinary Medicine. Evidence of the nonhistoric partitions that were added

⁴⁰ Booker Conley's Files. Lockwood Greene, September 6, 1974.

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during this period can be seen on the hangar space's existing concrete floor. Remnants of nonhistoric floor coverings also remain on the concrete floor in some areas in both the hangar space and the perimeter rooms.

Other existing evidence of the building's plan and layout can be found in and around the footprint, including drain holes in the toilet areas and remnants of concrete sidewalks at exterior doorways.

Historic photographs also provide a great deal of evidence about Hangar Number Two as it was constructed. The c.1944 aerial photograph provides a view of the hangar from the south and east sides. Visible in the photo are the hangar space's segmentally arched roof and its east end; the shed roofs of the perimeter rooms, showing the slightly raised roofs of the masonry sections used for the boiler room and the dope room; the frame walls and door and window openings of portions of the south and east perimeter rooms; and the abutment of the east perimeter rooms against the south wall of the Control Tower. This photograph confirms that the window and door openings, frame and masonry walls, shed roofs, and other details that can be seen on the south and east perimeter room facades match those of the 1942 architectural drawings.

The c.1945 aerial photograph provides a view of the south and west sides of the hangar. (See *Figure 4*.) The entire south side of the hangar space and the perimeter rooms is visible. Also, the west side of the large hangar space with sliding hangar doors can be seen. This photograph confirms that the window and door openings, frame and masonry walls, shed roofs, and other details that can be seen of the south perimeter room facade match those of the 1942 architectural drawings.

A photograph of the south side perimeter rooms under construction clearly shows the masonry wall of the dope room, the frame wall of the link trainer room and class room, the shed roof structure, and window and door openings. (See *Figure 5*.) Another historic photograph from April 1945 shows cadets and visitors sitting on benches outside the north wall of the north side perimeter rooms. (See *Figure 6*.) This photo shows details of the six-over-six double-hung windows, window screens, window moldings, novelty wood siding, a door with a frame canopy above it, and boxed eave overhangs with vents there were part of the frame portion of the north side perimeter rooms. The window and door arrangement and other details shown in the photo match the window and door arrangement and details for the north side perimeter rooms indicated on the original 1942 architectural drawings. A third photograph also shows the north side perimeter rooms with cadets sitting in front of it. (See *Appendix A*.) As in the previous photo, the window and door arrangement and details match those of the original architectural drawings. A fourth photograph shows a portion of the north side perimeter rooms from an angle looking toward the Control Tower. (See *Appendix A*.) This photo documents the evidence of frame canopies above the door openings along the north side of the perimeter rooms. Also, two light fixtures on the hangar's northwest corner are visible. A fifth historic photograph documents the roof of Hangar Number Two. (See *Figure 7*.) The roll roofing on both the hangar space and the perimeter rooms, the horizontal siding, window openings, and vent of the east roof end, and the brick chimney on the north side of the boiler room are all visible. A sixth photograph

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shows a view of the hangar complex from the hillside south of Hangar Number One. (See *Appendix A*.) A portion of the west front and south side of Hangar Number Two are visible. The sliding hangar doors, pent roof, and west roof end of the hangar space can be seen. Other historic photographs show details of various portions of the hangar's exterior. (See *Appendix A*.)

A number of historic interior photographs also exist that show details and finishes of interior rooms within Hangar Number Two. It is not certain at this time that all of these interior photos are actually of Hangar Number Two's interior. Copies of these photographs can be found in *Appendix A*. A photograph identified as the war room at Moton Field shows smooth wall and ceiling finishes (material unknown) with plain, unpainted door and wall moldings, a door with six-pane divided upper glass section and horizontal paneled lower wood section, and globe ceiling lights (very similar to those seen in the historic photos of the Skyway Club). The war room is known to have been located in Hangar Number Two, although its specific location is not known at this time. One photograph shows cadets in a room that may be the cadet ready room or instructor's ready room on the north side of the hangar, or the class room in the southeast corner. The six-over-six windows appear to be similar to those in the perimeter rooms of Hangar Number Two. Two other photographs show instructors pointing at chalk boards and talking with cadets. Again, the windows and doors and their arrangement appear to match the cadet ready room in the hangar. Four photographs of the link trainer room show smooth interior wall and ceiling finishes (material unknown) with the same globe ceiling fixtures as seen in the war room photo. The photos also provide details of the furnishings within the link trainer room. Two photographs of the parachute rigging department may have been taken within the parachute storage and repair room in the hangar. These photos show details of parachute equipment and long tables used but little of the room's finishes and details.

The original September 1942 architectural drawings indicate that the hangar space was constructed with 12-inch brick masonry walls set on a concrete footing. The concrete floor of the hangar space was a 6-inch slab, the top inch of which was a cement finish. The frame walls of the perimeter rooms were constructed with 2x4 studs finished on the exterior with a 7/8-inch sheathing and novelty wood siding. The interior finish is not specified. The perimeter room floors were a 6-inch concrete slab with the top inch being a cement finish. The cement finish continued up the walls to form a baseboard. The stud walls were set on 2x4 plates anchored to a concrete footing with 5/8-inch bolts. A portion of the concrete footing was above grade to allow the wood siding clearance above the ground. The dope room, boiler room, and Control Tower were constructed with brick masonry walls.

A north elevation and west front elevation are illustrated on the architectural drawings. The north elevation indicates wood siding as the finish wall material, six-over-six double-hung windows, and single doors. The placement and arrangement of the door and window openings correspond to photographs of the north facade. The only discrepancy may be in the door design. The drawing shows doors with a four-pane glass upper section and a flush lower section. Photographs seem to indicate that these doors may have had a six-pane upper section and lower section with horizontal panels.

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The west front elevation indicates that the roof was to be covered with corrugated metal roofing and the roof end walls were to be covered with vertical corrugated metal sheets. Historic photographs show that the roofs of both the hangar space and the perimeter rooms were actually covered with roll roofing. The end walls were covered with a horizontal siding that appears to be metal but its exact material is not known. The design of the brick wing walls and hangar doors appear to match photographs of what was actually constructed.

A construction details drawing from October 1942 provides further details of the construction of the perimeter rooms and the hangar space. This drawing notes an interior wall and ceiling finish of plaster in the perimeter rooms. The drawing also shows small single-sash windows in the upper portions of the hangar space walls. The presence of these windows has not been substantiated in historic photographs.

Although the hangar has been demolished, evidence exists as to how the building was originally constructed and what alterations were made to it through the years. The existing building footprint on the site, architectural drawings, and historic photographs together provide a fairly accurate picture of the exterior of Hangar Number Two. The hangar's interior is partially documented by historic photographs, the architectural drawings, and physical evidence.

Part II - Treatment & Use

Ultimate Treatment & Use
Requirements for Treatment -
Alternatives for Treatment

Ultimate Treatment & Use

Three potential treatments derived from the standard historic preservation treatments defined in *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* have been considered for Hangar Number Two. These three treatments are (1) Reconstruction, (2) Preservation of the existing footprint, and (3) Creation of a ghost structure. The Ultimate Treatment and Use Recommendation for Hangar Number Two is **Reconstruction of the exterior and the interior floor plan**. This recommendation is evaluated based on the Criteria for Determining Treatment. The evaluation is followed by a summary of the steps needed to realize the treatment and a summary recommendation based on the practical feasibility of the treatment, the treatment's impact on historic materials, and its effect on the historic character of Moton Field as a whole.

The **Period of Significance** for interpreting the history of Moton Field is 1941-1945, the period during which the buildings and landscape at Moton Field were constructed and the Tuskegee Airmen were being trained in the primary flying school. 1945 is the restoration date identified for restoration of extant buildings and will be the **Reconstruction Date** for Hangar Number Two. 1945 is the date by which the entire complex at Moton Field associated with the training of the Tuskegee Airmen and the operation of the flying school had been constructed.

ULTIMATE TREATMENT AND USE RECOMMENDATION

The Ultimate Treatment and Use Recommendation for Hangar Number Two is **Reconstruction of the exterior and the interior floor plan and utilization of the interior for exhibit space.**

Reconstruction of the hangar's exterior will restore the historic central activity area of Moton Field during the heyday of its use by the primary flying school. The relationship between Hangar Number One and Hangar Number Two will be re-established and the hangar complex's feeling and characteristics will be restored. The reconstructed exterior and interior floor plan of the building will illustrate to visitors the design and construction of the second hangar and its relationship to the site. A modern interior compatible with historic documentation for the original interior can be created and serve as the main museum and interpretive space at the site. Complete reconstruction of the interior with accurate interior features and finishes would be difficult to accomplish at this time due to lack of complete documentation.

Criteria for Determining Treatment

Following are the criteria that have been used in determining the recommendation for the ultimate treatment of the non-existing historic structures at Moton Field. An explanation of how Hangar Number Two meets each criterion for the treatment of reconstruction is provided.

• Significance and Value to the Site's Interpretation

Hangar Number Two is of immense importance to the interpretation of how the hangar complex functioned as part of the airfield. It is the most significant non-existing structure at Moton Field. The second hangar constructed at the airfield represents better than any other structure the success of Tuskegee Institute's primary flying school program and the necessary expansion of the airfield facilities to accommodate this success.

The absence of Hangar Number Two from the hangar complex leaves only one-half of the complex intact and hinders the ability to interpret the site's operation during the war era. Reconstruction of Hangar Number Two, in concert with the restoration of Hangar Number One and the Control Tower, will re-establish the hangar complex setting which is so important to interpreting the training of the Tuskegee Airmen at the airfield.

• Existing Condition and Material Evidence

The standing structure of Hangar Number Two has been demolished, but the footprint of the building remains on the site. Much information can be obtained from the existing footprint that will assist in the building's reconstruction. The hangar's floor plan and materials are evident in the concrete floors, in remnants of both exterior and interior walls, and in other portions of the building that remain intact on and in the ground. The slope of the perimeter room roofs can be seen on the standing walls of the Control Tower.

• Archival Documentation

Historic documentation for Hangar Number Two exists in the form of original architectural drawings and site plans, historic photographs, and written histories. Architectural drawings found to date document the building's floor plan, elevations, and materials. Historic site plans also document the building's construction and relationship to other buildings at the site.

Numerous historic photographs document the building's as-built construction and its use during primary flight training. These photographs include interior views that document some of the interior features, finishes, furnishings, and uses in portions of the building. Written accounts of the airfield's history also provide valuable information about the construction of and historic activities associated with the hangar.

Original architectural drawings and historic site plans, historic photographs, and existing physical evidence will all have to be used together to reconstruct the exterior and the interior floor plan of Hangar Number Two. The degree of reconstruction of the interior will be determined by the information that can be obtained from existing documentation and the interior's ultimate use. Conjecture about many of the hangar's interior features and finishes would be necessary for a complete interior restoration.

Reconstruction of Hangar Number Two's Exterior and Interior Floor Plan

The reconstruction of the exterior and the interior floor plan of Hangar Number Two will seek to return the building to the site and its relationship to the hangar complex and the airfield as it existed in 1945. This will allow visitors to view and experience the building's exterior and interior arrangement as it was constructed, as it functioned as part of the hangar complex in concert with Hangar Number One, and as it related to the surrounding site.

Reconstruction of the exterior and the interior floor plan of Hangar Number Two will involve rebuilding the hangar's exterior walls and roof and reconstructing interior partition walls based on historic documentation and existing physical evidence. Due to a lack of complete documentation of interior features and finishes, the building's interior can be rebuilt as a modern exhibit space that will be compatible with the building's original interior based on existing documentation. For example, the interior of the hangar space can be reconstructed to its original size to convey the feeling and association of a large, open hangar space. The roof might be supported with wood trusses that suggest the design of the original roof supports. The remaining finishes could be modern. New systems that will accommodate the needs of exhibit spaces will be included, and the building will be handicap accessible (excluding the upper floors of the Control Tower).

Following are steps that will be required to accomplish the treatment of reconstruction. These items are not listed in order of importance or how they should be accomplished.

PART II – TREATMENT & USE

Detailed construction drawings, a work plan, and detailed specifications should be developed to establish an appropriate order for accomplishing the reconstruction work.

Foundations and Floors

- Remove all dirt and grassed areas from the existing building footprint, being careful not to disturb remaining materials and features.
- Excavate around concrete foundations to confirm their existing conditions and to determine any repair work that needs to be done; make needed repairs to foundations using in-kind materials and methods so that foundations will be able to carry the loads of the reconstructed building.
- Remove all remnants of nonhistoric floor coverings from existing concrete floors.
- Make needed repairs to concrete floors to provide a strong and smooth floor surface that will hold up to visitor traffic.

Masonry and Frame Walls

- Remove existing wall fragments from the footprint to allow new walls to rest directly on the concrete foundations.
- Rebuild masonry walls of the hangar space in their original locations based on the existing footprint.
- Rebuild masonry walls of the dope room and boiler room; rebuild brick chimney on the north wall of the boiler room.
- Rebuild exterior and interior frame walls of the perimeter rooms based on the existing footprint.

Roof

- Rebuild the trussed roof of the hangar space; cover the roof with roll roofing; duplicate fascias and moldings.
- Rebuild the frame pent roof across the west front facade over the hangar doors; cover with roll roofing.
- Rebuild the shed roofs of the perimeter rooms; make sure these roofs follow the slopes indicated on the south and west walls of the Control Tower; cover these roofs with roll roofing; duplicate eaves and moldings; raise the shed roofs of the dope room and boiler room as indicated in historic photos.
- Replace the altitude sign on the northeast corner of the east side perimeter room roof eave adjacent to the Control Tower as documented in a historic photo; sign should read "ALT 269".

Hangar Doors

- Repair existing metal tracks for sliding hangar doors.
- Rebuild sliding hangar doors; cover with vertical corrugated metal sheets.

Windows

- Rebuild six-over-six double-hung wood windows in the exterior walls of the perimeter rooms; windows in frame walls to have wood moldings and sills; windows in masonry walls to have concrete lintels and brick sills.
- Rebuild window screens for double-hung windows.

PART II – TREATMENT & USE

- Rebuild windows in the east end arched wall of the hangar space.

Exterior Doors

- Rebuild exterior wood doors with six-pane glass upper sections and horizontal-paneled lower sections; duplicate door hardware seen in historic photos.

Exterior Lighting

- Replace exterior lighting fixtures on the northwest and southwest front corners of the brick wing walls on either side of the hangar doors as documented in historic photos.

Interior Finishes

- Finish the interior of the hangar space as closely as possible to its original finish and appearance based on existing documentation.
- To allow the perimeter rooms to be used as exhibit space while at the same time creating an appearance compatible with the reconstructed building, finish interior walls and ceilings with materials that approximate historic finishes documented in historic photos; use a smooth wall and ceiling finish such as painted gypsum board; door, window, and ceiling moldings should be plain wood moldings.
- Replace light fixtures with globe fixtures that duplicate those seen in historic photos.

Interior Doors

- Replace interior doors with wood doors similar to the six-pane glass upper section and horizontal-paneled lower section doors seen in historic photos.

Additional Documentation Required for Reconstruction

Documentation to allow for a complete exterior and interior reconstruction of Hangar Number Two as originally constructed is still lacking in some areas. The exterior of the hangar is well-documented with historic photographs, original architectural drawings, and existing physical evidence, so that the large majority of the exterior's features and details can be reproduced. Documentation of many of the three-dimensional proportions of the building will have to be taken from architectural drawings and historic photographs.

The interior floor plan of the hangar is visible on and can be interpreted from the existing building footprint in conjunction with existing architectural drawings. The interior features and finishes of the building are only partially documented with historic photographs. Existing physical evidence on the site provides some additional information about the interior spaces. Because of this lack of documentation of the building's interior finishes, only the interior floor plan should be reconstructed. Interior spaces should be finished for use as exhibit space with finishes that are compatible with and approximate original finishes.

Following is a list of items for which documentation is lacking in order to complete a reconstruction of the hangar.

- Three-dimensional heights of the hangar space roof and the raised shed roofs of the dope room and boiler room as built; these dimensions can be obtained from

PART II – TREATMENT & USE

architectural drawings; the height of the main perimeter room roofs can be obtained from the remaining evidence on the Control Tower's south and west walls.

- Three-dimensional heights of doors and windows as built; these dimensions can be obtained from architectural drawings.
- Existence of small single-pane windows in the north and south sides of the hangar space above the perimeter room roofs; these windows are shown on the construction details drawing of October 1942 but are not on the architectural drawings of September 1942 or in historic photographs.
- Type and style of windows in the east end wall of the hangar space; these windows are not shown on architectural drawings and are difficult to see in historic photographs.
- Many of the interior features, finishes, and furnishings; much of this information would be conjectural.

Interior Space and Use Recommendations

Following are recommendations for use of the building's interior based on hierarchy of interior spaces and requirements for proposed uses.

Hierarchy of Interior Spaces

- The large open hangar space of Hangar Number Two should be reconstructed to its original size and height to allow visitors to experience the feeling and association of the hangar space at its original dimensions. Interior finishes may be modern. The hangar space is the most significant space in the building, and it should remain open and undivided. If the space is used for exhibits, only low, moveable partitions should be introduced.
- The perimeter rooms surrounding the hangar space are less significant. Their original floor plan can be recreated based on the existing footprint. Interior finishes should be modern while also compatible with original finishes. Within the rooms, exhibits and interpretive displays can illustrate to visitors the original use and appearance of the perimeter rooms based on available documentation.

Interpretation and Use of the Building

- The large, reconstructed hangar space should be used as the park's main exhibit space where exhibits tell the story of the entire Tuskegee Experience. Exhibits and interpretive displays in the reconstructed perimeter rooms could focus on the design, construction, and historic use of Hangar Number Two. Portions of the perimeter rooms could be used for modern facilities such as toilets, offices, and storage spaces.
- An interpretive display placed outside the reconstructed hangar should clearly explain the building as a reconstruction. Hangar Number One should be clearly identified as an original historic building to distinguish it from the reconstructed Hangar Number Two.

Systems Requirements Based on Use

(Systems requirements for the reconstructed hangar will be based on its use as a modern exhibit space with modern facilities.)

PART II – TREATMENT & USE

HVAC System

- A modern HVAC system should be installed to provide climate-controlled spaces for exhibits and visitors. Air conditioning would be provided using two split system heat pumps with supplemental natural gas heat. Cooling capacity of each unit would be approximately 10 tons. Gas heat capacity would be about 350 MBH total. The outdoor units could be concealed behind screens or roof mounted to preserve the exterior appearance.

Plumbing/Toilet Facilities

- Modern plumbing and toilet facilities should be provided for visitors. These should be located in the perimeter rooms, preferably in the locations of the original toilets. Restrooms would require a potable water source, hot water heater and sanitary drainage system.

Electrical Power

- A new, modern electrical system should be installed as needed for the new construction of Hangar Number Two. The new system should consist of a typical commercial 208Y/120 volt, 3 phase service to a new service entrance rated distribution panelboard. The new service should be derived from the new exterior overhead electric power poles and a new pole mounted transformer. The new service feeders should be placed in PVC conduit underground to the new electrical service. All new wiring and electrical devices should be provided to serve all the building loads as needed. New wiring installed should be THHN/THWN copper conductors. The electrical devices installed in the main hangar space should be provided to best match the items installed in Hangar Number One. The conduits in this area should be surface mounted RGS. The construction in the perimeter rooms of Hangar Number Two should be concealed raceways and modern devices. Floor mounted power and data outlets should be provided in the main hangar room to provide power and communications to the display units to be provided in this space.

Lighting

- The overhead pendant lights in the main hangar space of Hangar Number Two should be replicated to match the fixtures in historic photos. The perimeter rooms' lighting should be provided with modern fixtures that best serve the space they are installed in. The exterior fixtures should be replicated to match the fixtures from the historic photos. Battery back-up exit lights should be provided in all areas as required by NFPA 101 for exit marking. Emergency egress lighting should be provided by battery back-up fixtures in the perimeter rooms. Battery back-up power should be provided for the fixtures in the main hangar space.

Fire Protection

- A wet-pipe sprinkler system will be provided to protect the building. A fire alarm system should be provided to notify fire department/park personnel of a fire condition in the building. The fire alarm system should be a complete system consisting of manual pull stations at all exit doors, tamper and flow switches at the new sprinkler riser, notification devices (horns and strobes) that comply with NFPA 72 and ADA

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requirements and duct mounted smoke detectors in large air handling equipment as required by NFPA 90A.

Security System

- A monitored security system should be installed to provide notification of an intruder during closed hours. The security system should consist of motion detectors to be placed as inconspicuously as possible in the main hangar space. Monitored doors and windows should also be provided in this facility. Provide battery back-up power for the security system.

Communications

- A new telephone and data network should be provided in this facility. This network can serve the offices to be provided in the facility as well as a central point of service for the other buildings to receive telephone outlets. The service entrance for these items should be installed in a dedicated communications room. The communications room should contain a telephone service entrance including protector blocks and 66 block horizontal distribution for telephone and a wall mounted data rack including category 5e patch panels for data. New telephone outlets should be typical category 3, RJ11 outlets with category 3 wiring. New data jacks outlets should be category 5e, RJ45 jacks with category 5e wiring routed back to the main network rack. New communication wiring should also be installed for fire alarm and security devices and monitoring circuits.

ADAAG Accessibility

- This facility will be built as a new facility and will be required to be designed to accommodate handicapped users and visitors per current code requirements. The existing Control Tower will not have full handicap accessibility provided due to the historic nature of the structure. While it is desirable to accommodate handicapped individuals, certain areas, due to their historic configuration, will not be accessible. It should be noted that a combined effort between the NPS and the Architectural firm will be undertaken to establish a route in the facility to maximize accessibility to as many areas as possible. Areas that are beyond the accessible route should have an interpretive display and/or viewing equipment illustrating these areas. Additionally, it is not recommended to install an elevator or lift system to provide handicap accessibility to the upper levels of the Control Tower due to the negative impact this will have on the historic nature of the structure.

Summary Recommendation

Reconstruction of Hangar Number Two's exterior and interior floor plan can be largely accomplished using existing historic documentation and the building's remaining footprint. The building's two-dimensional size, location, and floor plan, as well as some of its three-dimensional details such as the slope of the perimeter room roofs, can be found in existing physical evidence. Other three-dimensional proportions will have to be taken from drawings and photographs. The building's interior is only partially documented and can not be completely reconstructed as built. Reconstruction of Hangar Number Two's exterior will recreate the missing half of the most significant building complex at the airfield and allow for

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appropriate interpretation of how this complex operated. Reconstruction of the interior floor plan will allow visitors to understand the construction and use of the hangar. The interior of the hangar and the perimeter rooms can be used for needed exhibit space as well as modern facilities to accommodate visitors on site. Therefore, reconstruction of Hangar Number Two's exterior and interior floor plan and use of its interior for exhibit space is the Recommended Ultimate Treatment.

Requirements for Treatment

Legal mandates and policy directives restrict treatment of Hangar Number Two. The NPS's Cultural Resources Management Guideline (DO-28) requires planning for the protection of cultural resources "whether or not they relate to the specific authorizing legislation or interpretive programs of the parks in which they lie."

Section 106 of the National Historic Preservation Act (NHPA) mandates that federal agencies, including the NPS, take into account the effects of their actions on properties listed or eligible for listing in the National Register of Historic Places and give the Advisory Council on Historic Preservation a reasonable opportunity to comment.

To help guide compliance with the statutes and regulations noted above, the Secretary of the Interior's *Standards for the Treatment of Historic Properties* have been issued along with guidelines for applying those standards.

Issues of human safety, fire protection, and handicap accessibility are addressed in the Administrative Data and Ultimate Treatment and Use sections. Proper abatement of any hazardous material will be addressed in the construction phase of the project.

Alternatives for Treatment

Two alternatives for treatment have been considered for Hangar Number Two and are presented here. They are (1) **Preservation of the existing footprint** and (2) **Creation of a ghost structure**. These alternatives are evaluated based on the Criteria for Determining Treatment. This evaluation is followed by a summary of the steps needed to realize the treatment and a summary recommendation based on the practical feasibility of the alternative, the alternative treatment's impact on historic materials, and its effect on the historic character of Moton Field as a whole.

The **Period of Significance** for interpreting the history of Moton Field is 1941-1945, the period during which the buildings and landscape at Moton Field were constructed and the Tuskegee Airmen were being trained in the primary flying school. 1945 is the date identified during the period of significance by which the entire complex at Moton Field associated with the training of the Tuskegee Airmen and the operation of the flying school had been constructed.

ALTERNATIVE FOR TREATMENT: PRESERVATION OF EXISTING FOOTPRINT

An alternative for treatment of Hangar Number Two is **Preservation of the hangar's existing footprint**. The hangar's footprint could be interpreted as an exhibit to allow visitors to understand the building's role in the Moton Field complex.

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Preservation of the existing original footprint of Hangar Number Two would allow visitors to better understand the historic hangar complex of Moton Field during the heyday of its use by the primary flying school. The relationship between Hangar Number One and Hangar Number Two would be interpreted, and visitors would get a sense of the complex's original feeling and characteristics. The original building footprint and accompanying interpretive displays would serve as a museum exhibit to illustrate the design and construction of the second hangar, its relationship to the site, and its historic role in the operation of Moton Field.

The remaining Control Tower which was originally part of Hangar Number Two is recommended for restoration. (See the *Historic Structure Report* for the Control Tower.)

Criteria for Determining Treatment

Following are the criteria that have been used in determining the alternatives for treatment of the non-existing historic structures at Moton Field. An explanation of how Hangar Number Two meets each criterion for the treatment of preservation of the existing footprint is provided.

• Significance and Value to the Site's Interpretation

Hangar Number Two is of immense importance to the interpretation of how the hangar complex functioned as part of the airfield. It is the most significant non-existing structure at Moton Field today. The second hangar constructed at the airfield represents better than any other structure the success of Tuskegee Institute's primary flying school program and the necessary expansion of the airfield facilities to accommodate this success.

Preservation and interpretation of the existing footprint of Hangar Number Two, in concert with the restoration of Hangar Number One and the Control Tower, would assist in understanding the hangar complex setting so critical to interpreting the training of the Tuskegee Airmen at Moton Field.

• Existing Condition and Material Evidence

The standing structure of Hangar Number Two has been demolished, but the building's foundations, concrete floor slabs, and remnants of both exterior and interior walls remain intact on the site, providing a historic footprint of the building. The hangar's floor plan and many of its original materials are still evident in the portions of the building that remain on and in the ground. Much information can be obtained from the existing footprint that would assist in the building's interpretation.

• Archival Documentation

Historic documentation for Hangar Number Two exists in the form of original architectural drawings and site plans, historic photographs, written histories, and physical evidence remaining in the building's footprint. Architectural drawings found to date document the

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building's floor plan, elevations, and materials. Historic site plans also document the building's construction and relationship to other buildings at the site.

Numerous historic photographs document the building's construction and its use during primary flight training. These photographs include interior views that document some of the interior finishes, furnishings, and uses in various parts of the building. Written accounts of the airfield's history also provide valuable information about the construction and historic activities associated with the hangar.

With the combination of original architectural drawings and historic site plans, historic photographs, and the existing building remnants, preservation of the existing footprint and interpretation of Hangar Number Two and its role at Moton Field could be accomplished to an extent that visitors would understand the building and its significant role at the site.

Preserving the Existing Footprint of Hangar Number Two

Preserving the existing footprint of Hangar Number Two would seek to provide a physical and visual representation of the hangar that would assist visitors in understanding the building's role and relationship to other buildings within the airfield complex. With the addition of interpretive displays, visitors would be able to obtain a good understanding of the hangar.

Preserving the hangar's existing footprint would involve uncovering, repairing, and preserving the existing remnants on the building's site. Following are items that should be addressed in preserving and interpreting the building's footprint. These items are not in order of importance or how they should be accomplished. A detailed work plan should be developed to establish an appropriate order for accomplishing the work.

Concrete Floor Slabs and Foundations

- Remove all vegetation in and around the concrete floor slabs.
- Remove nonhistoric floor tile that has been added over the concrete slabs; remove asbestos floor tile using appropriate abatement procedures.
- Check the slabs for areas where the foundations may have settled or shifted; repair the concrete foundations in these areas to insure a firm base; in particular, repair the hollowed out area under the concrete slab near the hangar's south wall.
- Repair cracks and uneven areas in the concrete slabs to provide a smooth surface.

Exterior and Interior Wall Remnants

- Remove all vegetation and dirt from around the exterior and interior wall remnants so that the remnants are visible.
- Reset any loose bricks and repair any deteriorated concrete portions of the walls.
- Cover the exterior and interior wall remnants with a sealant that will protect the remnants from deterioration caused by weather and visitor use.

Metal Door Rails

- Remove all debris and vegetation from around the hangar door rails.

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- Clean the rails of rust and dirt; cover the rails with a sealant that will protect them from deterioration caused by weather and visitor use.

Interpretation and Use Recommendations

- Visitors should be allowed to walk throughout the concrete footprint of the hangar to get a sense of the size and spaces of the structure.
- Interpretive display boards should be created at various locations on the concrete floor slabs; display original architectural drawings and historic photographs to illustrate to visitors the building's design and construction; display historic photographs and written text explaining how each space was historically used and how the building related to the Control Tower and fit into the overall Moton Field complex.

Summary Recommendation

Hangar Number Two was a very significant structure in the airfield complex and its interpretation is extremely important to a complete understanding of the site. Hangar Number Two is the only non-existing building at Moton Field with such an extensive remaining building footprint, and preservation of this historic fabric is important. However, reconstruction of the hangar's exterior and interior floor plan can be accomplished using existing documentation and would re-create the hangar complex. The reconstructed interior could also be used for needed exhibit and on-site facilities space. For these reasons, preservation of the existing footprint is not the Recommended Ultimate Treatment.

ALTERNATIVE FOR TREATMENT: CREATION OF A GHOST STRUCTURE

A second alternative for treatment of Hangar Number Two is **Creation of a ghost structure** by constructing a skeletal frame of the building. A ghost structure would convey the three dimensional proportions of the hangar at the original building site. The ghost structure would accurately represent the size and location of the building but not its full presence.

Criteria for Determining Treatment

Following are the criteria that have been used in determining the alternatives for treatment of the non-existing historic structures at Moton Field. An explanation of how Hangar Number Two meets each criterion for the treatment of creation of a ghost structure is provided.

• Significance and Value to the Site's Interpretation

Hangar Number Two is the most significant non-existing structure at Moton Field today. The second hangar constructed at the airfield represents better than any other structure the success of Tuskegee Institute's primary flying school program and the necessary expansion of the airfield facilities to accommodate this success.

Hangar Number Two is of immense importance to the interpretation of how the hangar complex functioned as part of the airfield. The absence of Hangar Number Two from the hangar complex hinders the ability to interpret the site's history throughout the war era. Creating a ghost structure of Hangar Number Two, in concert with the restoration of Hangar Number One and the Control Tower, would partially re-establish the hangar complex setting. Ghosting of the hangar would allow visitors to visually understand the size and placement of the hangar in relation to surrounding structures and the airfield. The skeletal frame should be interpreted with displays to illustrate to visitors the hangar's design, construction, and use.

• Existing Condition and Material Evidence

The standing structure of Hangar Number Two has been demolished but the building's foundations, concrete floor slabs, and remnants of both exterior and interior walls remain intact on the site, providing a historic footprint of the building. The hangar's floor plan and two dimensional size and location could be easily interpreted from these physical remains.

Existing roof shadows of the perimeter room roofs on the Control Tower provide evidence of the slope of these roofs.

• Archival Documentation

Historic documentation for Hangar Number Two exists in the form of original architectural drawings and site plans, historic photographs, written histories, and physical evidence remaining at the building's original site. Architectural drawings found to date document the building's floor plan, elevations, and materials. Historic site plans also document the building's construction and relationship to other buildings at the site.

Numerous historic photographs document the building's construction and its use during primary flight training. These photographs include interior views that document interior finishes, furnishings, and uses in portions of the building. Written accounts of the airfield's history also provide valuable information about the construction and historic activities associated with the hangar.

Original architectural drawings, historic photographs, and the existing building shadows remaining on the Control Tower would have to be used to re-create a three-dimensional ghost structure of the hangar.

Creation of a Ghost Structure of Hangar Number Two

Creating a ghost structure of Hangar Number Two would seek to provide a physical and visual representation of the hangar that would assist visitors in understanding the building's role and relationship to other buildings within the airfield complex. With the addition of interpretive displays, visitors would be able to obtain a good understanding of this significant building.

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Ghosting of the hangar would involve uncovering, repairing, and preserving the existing building footprint on the building's site and constructing a skeletal frame over that footprint that would provide an outline of the original hangar. Following are steps that would be required to accomplish this alternative treatment.

- Uncover and repair the original materials of the existing building footprint so that the skeletal frame can be constructed on top of it; retain the existing footprint material intact.
- Documentation of many of the three-dimensional proportions of the building, such as the height and roof configuration of the hangar space, would have to be taken from architectural drawings and historic photographs and may not be completely accurate to what was originally constructed. Additional documentation such as as-built drawings may be needed.
- Construct a metal skeletal frame in the form of the outline of the hangar; outline the exterior walls, roofs, and the interior dimensions of the hangar space.

Interpretation and Use Recommendations

- Visitors should be allowed to walk throughout the skeletal frame of the hangar to get a sense of the size and spaces of the structure. Interpretative displays should provide information on the building's construction and use.
- Create interpretive display boards at various locations in and around the skeletal frame; display original architectural drawings and historic photographs to illustrate to visitors the building's design and construction; display historic photographs and written text explaining how each space was historically used and how the building related to the Control Tower and fit into the overall Moton Field complex.

Summary Recommendation

Numerous non-existing buildings need to be interpreted at Moton Field. Creating ghost structures for non-existing buildings could potentially detract from the surviving historic fabric of the airfield complex. In particular, creating a ghost structure of Hangar Number Two could significantly detract from the authentic historic structure of Hangar Number One. For this reason, creating a ghost structure of Hangar Number Two is not the Recommended Ultimate Treatment.

Appendices

A p p e n d i x A

**Appendix A is located in a separate notebook that contains the supplemental archival documents, photographs, and architectural drawings for all Historic Structure Reports and the Cultural Landscape Report.

- Archival Documents
- Photographs
- Architectural Drawings

A p p e n d i x B

- Bibliography

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APPENDICES

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