

ARCHITECTURAL HISTORICAL PROGRAM

Pre-World War II

In response to growing world tensions, Congress approved funds in April 1941 for the construction of an additional Army chemical production facility to supplement the Chemical Weapons Service's only chemical manufacturing plant at the Edgewood Arsenal in Maryland. Huntsville was chosen as the location for the CWS arsenal over the other competitors because it possessed 33,000 "reasonably priced" acres, excellent transportation facilities, labor conditions, a power supply from the TVA, operating personnel and raw materials, fuel, water, a good climate and living conditions, and sewage disposal. It was responsible for producing a wide range of toxic chemicals, incendiaries, smoke munitions, and protective clothing. Ground was broken at the Huntsville facility on August 4, 1941 and the first production line began operating on February 28, 1942. Only two pre-World War II structures remain on Redstone:

Harris House, Building 8012

The Harris House is a Craftsman bungalow dating to the 1920s that was constructed around an older nineteenth-century structure associated with the adjacent Lee Mansion. Built in 1818, the Lee Mansion was a two-story, Federal style home that served as the Gulf Chemical Warfare Depot's headquarters on Redstone during WWII. The building was moved to another site in Huntsville and restored as a private residence in 1974.

In the 1920s, the Harris family purchased the 1,000-acre farm and all buildings and continued to farm. J.B. Harris occupied the "big house," the Lee Mansion, and Sam Harris, Sr. lived in the smaller home 100 yards to the east. Sam Harris, Jr., the son of the last private owner of the house, recalls that his father created the present bungalow by joining two existing old structures, one of them log. Beginning with the log structure, the Harris family converted the buildings to a six-room Craftsman bungalow.



Harris family in front of house in 1941

The farm also had a number of other dependencies and buildings, many of which were occupied by share croppers. On the property, the Harrises raised cotton, corn, and a number of truck crops, including cantaloupes. In fact, Sam Harris, Sr. was known as Madison County's "Cantaloupe King." The TVA purchased 200 acres of the farm in the 1930s for \$50.00 per acre, reducing some of the original property.



The Cedar Grove Church at Pond Beat

The Harris House was located in the rural Green Grove Community, which was a part of a larger area known as Pond Beat. This rural agricultural community was typical of those found throughout Madison County in the 1920s. The U.S. Army paid fair market value for the land (\$75.00 per acre).

During WWII, the Lee Mansion was used as office space and the Harris House was used as officers' quarters. After the war, it continued to serve as housing. By the end of the twentieth century, the Army had ceased using the building as housing because of its remote location and the fact that it did not meet the military's standards for modern housing. It did not have central air conditioning and heating, and would cost too much to renovate. The installation was unsure what it should do about the building since it appeared to have no use to the Army. Many people believed that leaving it vacant but preserving and maintaining it as a piece of Redstone Arsenal's history was "a bad trip from the taxpayer's standpoint."



Harris House in April 2012

To help them in their dilemma, the Army asked Harvie Jones of Jones & Herrin Architects, MA, to complete a brief examination of the house in 1984. Jones was a natural choice to inspect the structure since he was located in Huntsville, had a national reputation for his historic architectural work, and also had been associated closely with a large number of restoration projects in Huntsville. Jones made a number of observations and recommendations pertaining to the house. In a letter report of August 25, 1984, on his preliminary examination of the Harris House, he summed up his findings in the following paragraphs:

The most likely history of the house is that at least the S.E. Room (with the 19th century chimney) was there in the early days of the adjoining Lee house and most likely was an outbuilding of some sort for the large early 19th century rural planter's house. Since the south-center entry hall floor joists are modern, this may indicate that the hewn floor joists and sash-swan wall framing of the S.W. room was relocated here at some point, or it could only mean that the center-hall joists were replaced due to deterioration. A more thorough examination of the sills in that area could answer this (look for mortise cuts on the hall side of the sills under the hall partitions).

The best one-sentence description of the house would be that it is an early 20th century bungalow-style farmhouse built around the frame of what was probably a small, early 19th century outbuilding of the Lee house.

This house is too attractive, too interesting and too historically important to discard. The best use would be as a residence on its present site. Rather than abandon or demolish it, it would be better to move it as was done with the Lee house. If Redstone has no use for it, consideration should be given to sell to a family for relocation with appropriate restrictions as to its location, restoration and use. Particular care would have to be taken with chimneys since they could not economically be moved intact. Through documentation of the dimensions and appearance (with good close-up photos) and other steps would need to be taken for a good reconstruction of the chimneys and other masonry and concrete elements (as at the bungalow porch).

The house is quite similar to many other Craftsman bungalows in Huntsville. In the early twentieth century, the bungalow was one of the most popular house styles in America. They

typically feature a side gable roof with wide overhanging eaves and brackets. The roof usually slopes down in the front to keep the profile low. By the 1920s, the Craftsman bungalow had become the predominant house type in Huntsville and the influence of this style was also evident in large buildings such as Bison School and Green Street YMCA. Today, bungalows can be seen in Huntsville's historic districts. The Harris House is a good example of the style and was perhaps chosen by the owners because they wished to bring the latest urban style to the country. It was certainly quite different from its associated Lee House.

While it is not eligible under the World War II or Cold War contexts, its origins as an antebellum outbuilding are remarkable. The house is perhaps just as significant because it is the last remnant of a community which existed on Redstone property, before the military arrived. It represents the farms, plantations, and villages that dotted this curve in the Tennessee River prior to 1941. It is isolated in a remote section of the post surrounded by trees and open space which helps foster its rural association. Because it remains in situ, unaltered, and in good condition, it was recommended eligible for the National Register of Historic Places (NRHP) under Criteria A, C, and possibly Criterion D. The latter included in this case as there is an eligible archaeological site associated with the nineteenth-century occupation of the building and its later early twentieth-century transformation.¹ Currently, the residence is vacant and there are plans to use the structure for office space.

Goddard House, Building 7134

The Goddard House is presently located on Redstone Road, although it was moved to that site in 1956 and "renovated" as a VIP guest house. It originally was located just west of present Gate 9 (the northern end of Rideout Road), a site considered too remote for continued Army use. Built c. 1835 by James Manning, a wealthy merchant and planter, who owned 2,200 acres of land in Madison County partially on what is now Redstone Arsenal. It is not known if Manning lived in the structure. This house is considered to be one of the oldest buildings in the county. M.G. Chaney bought the house and land in 1924 and continued to farm the surrounding acreage.



Goddard House in 1955

According to Nellie McAnally, a former resident of the house whose father served as Chaney's overseer, the structure was originally covered in clapboards and featured a small front porch and a larger, screened back porch. A drive lined with cedar trees led to the front door. Each room in the house had its own fireplace serviced by massive chimneys. Originally, the first floor had large folding doors between the parlor and the dining room, decorative columns and a mirrored back wall creating an elegant entertainment area. The first floor was altered in the 1920s with the creation of a kitchen. The second floor was accessed by two sets of stairs a large set in the front hall and a smaller one in the

¹ Jennifer Langdale and Kelly Nolte, 2003 Redstone Arsenal World War II Resource Study.

Prepared for U.S. Army Corps of Engineers, Savannah District. Stone Mountain, GA: New South Associates. (Combination of two documents: Draft Architectural Assessment of the World War II Military and Civilian Works, U.S. Army Redstone Arsenal, Madison County, Alabama. April 1998. Prepared by Panamerican Consultants, Inc. and Redstone Arsenal World War II Resource Study. October 2000 by New South Associates. This report (2003 New South report) includes the same buildings as the October 19, 2000 Redstone Arsenal Resource Study.) SHPO concurred with the determinations of eligibility in the October 2000 report May 18, 2001. The SHPO said they did not need to concur with the 2003 Redstone Arsenal Resource Study, pages 128-131.



Goddard House in 1956

back. The attic could be reached by a third stairway located in the back of the upstairs hall. The original second story plan featured four rooms and two halls.

After the U.S. Army purchased it in 1941, the house was closed, but it was soon needed for barracks and the Army renovated it in 1942 for military families. This renovation apparently included covering the outside of the house with stucco. In 1953, it was closed again because of water problems and slated for demolition;

however, the need for guest housing was so great that a new use was found for the structure.

In 1956, it was moved eleven miles to its current site and underwent extensive changes including the addition of pink marble mantles, and exterior veneer of yellow brick, a classical roof balustrade and elegant new furnishings. Historic photographs show that the two-story portico is also an addition. The original porch was one story with a hip roof and extended across only the central bay. The windows have been drastically altered, particularly on the first floor where a large multi-pane, non-sash picture window has replaced a pair of double sash windows. The Army named the house in honor of Dr. Robert H. Goddard, this nation's premier rocket scientist, but Goddard never lived in this house and in fact, died in August 1945 before the installation was granted its rocket affiliation.²



Goddard House in September 2012

World War II

During the Second World War, what is now Redstone Arsenal was actually three separate installations, all of which were devoted to the production and storage of chemical warfare materials. The first of these three was Huntsville Arsenal, established in July of 1941, under the auspices of the Chemical Warfare Service. Also run by the Chemical Warfare Service was the Huntsville Depot, later called the Gulf Chemical Warfare Depot. The third installation, established in the fall of 1941, was originally known as the Redstone Ordnance Plant, and was later renamed "Redstone Arsenal." The Arsenal was operated by the Army Ordnance Department.



Workers at RSA in 1940s

At the close of the war, all the ordnance lines in Redstone Arsenal were shut down and all

² Jennifer Langdale, Harry M. Hays, and Emily Williams, 2005 Architectural and Historical Investigation of Selected Standing Structures Constructed Between 1946-1960 on Redstone Arsenal, Madison County, Alabama. Submitted to SpecPro, Inc., Huntsville, Alabama. Prepared for Department of Army, Directorate of Public Works, Environmental Management Division. Draft report submitted to SHPO in 2004. SHPO concurred with all determinations of eligibility and non-eligibility except for the OGMS/OMMCS/OMEMS buildings in a proposed OGMS Historic District, # 3301-3308 in a letter July 9, 2004. SHPO Control Number: AHC 1998-0992.

plants in Huntsville Arsenal were placed in “standby storage” in August 1945. The Gulf Chemical Warfare Depot was renamed Gulf Chemical Depot on August 2, 1946. It was then abolished on January 15, 1947, and its functions were transferred to Huntsville Arsenal.

In recent years, efforts have been made to preserve or at least document key physical elements of the World War II heritage remaining at Redstone Arsenal. This has been complicated by the use and modification of the facilities in the decades since the war. Only a few areas retain enough original integrity to be eligible for the NRHP. Five areas within Redstone Arsenal have been recommended eligible for the NRHP as historic districts.

1. Huntsville Arsenal Plant Area 2 H (Mustard Gas) Line
2. Huntsville Arsenal Plant Area 2 Carbonyl Iron Unit
3. Redstone Arsenal North Plant Line 2
4. Redstone Arsenal South Plant Line 3
5. Gulf Chemical Warfare Depot (GCWD) Igloo Area 2



WWII GCWD Igloo Area II Building 8940



WWII GCWD Igloo Area II

Cold War

Even though the official activation did not occur until June 1, 1949, the U.S. Army’s Chief of Ordnance designated the Redstone Arsenal as the Center for Ordnance Rocket Research and Development in October 1948. The Huntsville Arsenal ceased to exist as a separate installation on June 30, 1949 and it officially became part of the Chemical Division of Redstone Arsenal. Along with its rocket mission, the Redstone Arsenal also continued to produce chemical ammunition from July 1951 to July 1956.



Jupiter

During the 45 years of the Cold War, from roughly 1946 to the collapse of the Soviet Union in 1991, Redstone Arsenal had an important role to play in the development of the nation’s rocketry, both for defense and for space exploration. It was at Redstone that the Hermes missile was developed, as well as the later REDSTONE short-range missile and the JUPITER intermediate range ballistic missile (IRBM) that formed this country’s main missile deterrent until the deployment of intercontinental ballistic missiles (ICBM) in



Redstone

the early 1960s. Redstone was also the center of rocket research for space exploration in the days before NASA. Thus the period of greatest Cold War significance at Redstone Arsenal is from 1950 to the early 1960s.

In 1950, over 125 German scientists previously spirited out of Europe by Operation Paperclip arrived at Redstone Arsenal. Under the direction of Colonel Holger Toftoy, this team, led by Wernher von Braun, was put to work perfecting the Hermes missile based on designs from old V-2 rockets left over from World War II. In the early 1950s, the nerve center of this research was located in the administrative buildings of the Old Huntsville Arsenal.



Medaris, von Braun, Toftoy

An ordnance school was also established on post which opened in 1952. Originally designated the Provisional Redstone Ordnance School, it was later renamed the U.S. Army Ordnance Guided Missile School. Its mission was to train military and civilian personnel in the inspection, supply and maintenance of guided missiles, as well as missile propellants and equipment. In the 1950s, this school was the only missile training facility in the entire U.S. military complex.



OMMCS Area 1950s



OMMCS Area 1959



OMMCS Area 1956

The U.S. Army made its most valuable contributions to space research from January 1950 to August 1962. During this period, the Army placed four earth satellites into orbit; launched the free world's first lunar probe and first solar satellite; launched tree primates into space; initiated the effort on a 1.5 million-pound-thrust booster being designed for lunar exploration vehicle; and began work on the launch vehicle to carry the first men into space. When NASA was created in July 1958, the Army's role in space research gradually diminished. In 1960, the core of the rocket research facilities at Redstone was separated from the Army and given to NASA under the name "George C. Marshall Space Flight Center" (MSFC). MSFC was created in the center of Redstone Arsenal and is the only NASA center located within an Army post.

Redstone Arsenal had an important role to play in both the Cold War and the Space Race, primarily because of its involvement in missile research. The Cold War properties that have been recommended eligible for the NRHP as districts are:

1. Guided Missile Center Historic District
2. Ordnance Guided Missile School Historic District
3. Test Area 5 Static Test Stand and Control Building/Blockhouse Historic District

The Cold War properties that have been recommended individually eligible for the NRHP are:

1. 4381 – Manufacturing Plant
2. 4484 – Administration
3. 4488 – Army Ballistic Missile Agency Headquarters, Developmental Operations, Offices (Wernher von Braun and Major General John Medaris)
4. 4489 – Technical Photo and TV Laboratory
5. 4505 – Administration
6. 5400 – McMorrow Laboratory Complex; R&D Labs
7. 5475 – R&D Guided Missile Building
8. 7120 – Ordnance Missile Laboratories and Rocket Development Group/Rocket Auditorium
9. 7625 – Motor Propellant Casting/Patriot Missile Motor Casting Building
10. 7770 – Josiah Gorgas Laboratory
11. 8540 – Climatic Testing Facility
12. 8883 – Static Test Stand



Building 4505 in 1959



Building 4488 in 1959



Rocket Auditorium, Building 7120



Building 7770 in 2010



Building 5400