

HILL FIELD, EQUIPMENT REPAIR BUILDING
(HILL FIELD, BUILDING 214)
(HILL FIELD, BUILDING 106)
(HILL FIELD, MAINTENANCE BUILDING)
5909 Southgate Avenue
Layton Vicinity
Davis County
Utah

HAER No. UT-85-N

HAER
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6-LAY. V)
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

**Historic American Engineering Record
National Park Service
Department of the Interior
Denver, Colorado 80225-0287**

HISTORIC AMERICAN ENGINEERING RECORD

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HILL FIELD, EQUIPMENT REPAIR BUILDING
(HILL FIELD, BUILDING 214)
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HAER No. UT-85-N

Location: 5909 Southgate Avenue, Hill Air Force Base, Layton Vicinity, Davis County, Utah

UTM: 12-418080-4552000

Date of Construction: 1942

Architect: Construction Division—Office of the Quartermaster General

Builder: Unknown

Present Owner: Hill Air Force Base

Present Use: Maintenance

Significance: Building 214 housed repair facilities for various aircraft components, including navigational instruments, communication systems, and reconnaissance equipment during and after World War II. This building provides particularly vivid images of the processes involved in the repair and maintenance of aircraft, Hill Field's overall mission to support Pacific and European theaters of military operation during World War II. In addition, it contributes to a deeper understanding of the early development of the U.S. Army Air Corps, a branch of the Army which eventually became the U.S. Air Force. Hill Field was one of only two air depots established in the United States during the tumultuous years immediately preceding World War II.

History: Building 214 housed navigational, communications, and reconnaissance instrument repair activities. Auto-pilot and bombing units were manufactured and repaired in Building 214. These instruments were installed onto World War II era B-24 and B-17 Bombers and then tested over the Great Salt Lake. Old railroad tracks served as bombing targets. During flight, mechanics from Building 214 tested the planes for drift, wind, and other factors that would affect the stabilization and targeting abilities of bombing equipment.

Building 214 also contained a telegraph and cryptograph, and was designed for maximum security. Glass block windows and heavy concrete doors kept unauthorized persons from seeing inside the building. It was surrounded by a high fence with a remote-controlled gate that was operated by a guard who was on duty at all times. Anyone entering Building 214 had to be recognized by the guard, who looked through a peephole cut into the fence. Sensitive pieces of equipment that were serviced in Building 214 were brought into and out of the building in sealed containers that did not reveal the size or shape of their contents.

Building 214 was one of the first buildings on the Base which was air-conditioned. In addition to preventing unauthorized access, all openings were designed to keep out dirt and other foreign matter that could damage delicate navigational and communication equipment. Immobile glass block windows and secured doors were all specially sealed against sand and dust.

One project that was repaired and tested in Building 214, the "Nordon Bomb Site," was a highly classified navigational instrument that sited targets visually for airplane bombing runs. Aircraft equipped with the Nordon apparatus used automatic pilot and stabilization devices that aided in the accurate siting and aiming of targets. This flight control equipment was manufactured by Honeywell, and was used successfully by American pilots in Germany during World War II.

The outbreak of the Korean War in the early 1950s brought a demand for high-speed, low-altitude photographic airplanes capable of night photography. New photographic equipment that had been in experimental stages for several years was developed further by technicians in Building 214. This reconnaissance equipment was installed in the right front bomb bays of small fighter planes and tested on the Southern Pacific Railroad tracks near the Great Salt Lake. A control system was designed that integrated various control units under a single master control switch. Cameras were arranged in a split vertical manner, each fitted with an image motion calibration magazine. A cartridge containing a high intensity photo flash charge was ejected from the aircraft; when it bursted at a low altitude, it spread enough light to enable a successful photograph to be made.

Classified equipment was installed on aircraft in Buildings 217 and 219 (wooden hangars now demolished). After flight tests, the equipment was unloaded and placed in sealed containers that were covered with canvas. These sealed containers were immediately brought back to Building 214, where they were stored. If the equipment was left in the plane, an armed guard had to be present at all times.

General

Description: Building 214 has received several additions since its inception in 1942. A contemporary addition was built on the north and east sides of the original building. Loading and service spaces have been added to the south and east sides. Also, the interior has been altered to meet the changing needs of the Air Force. The original repair shop was built out of beige brick, laid in a six course American bond. The new additions match the color and detail of the original building.

The original portion, consisting of an "L"-shaped plan, was constructed with brick and glass block in order to meet the security requirements of the type of work completed inside the building. The exterior banding effect is created through the recessing and projection of brick coursing. There are no windows in the original building; glass blocks were used to let light in but keep prying eyes out.