

RARITAN ARSENAL, ASSEMBLY PLANT K2
(Raritan Arsenal, Building 19A)
2890 Woodbridge Avenue
Bonhamton Vicinity
Middlesex County
New Jersey

HABS No. NJ-1061-J

HABS
NJ
12-BONTON,
1J-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY
National Park Service
Philadelphia Support Office
U.S. Custom House
200 Chestnut Street
Philadelphia, PA 19106

HISTORIC AMERICAN BUILDINGS SURVEY

RARITAN ARSENAL, ASSEMBLY PLANT K2

(Raritan Arsenal, Building 19A) HABS No. NJ-1061-J

HABS
NJ
12-Bonhamton, NJ
15-

Location: 2890 Woodbridge Avenue, Bonhamton vicinity, Middlesex County,
New Jersey

USGS Perth Amboy, New Jersey Quadrangle
Universal Transverse Mercator Coordinates: 18.554300.4484840

Present Owner: United States Environmental Protection Agency
26 Federal Plaza, New York, New York 10278

Present Occupant: United States Environmental Protection Agency

Present Use: Storage

Significance: Assembly Plant K2 is significant as a typical industrial building constructed at the Arsenal during World War I. The building is a core structure in the initial development of the manufacturing plant at the Arsenal and for its ongoing role in military manufacturing, primarily as a carpentry shop and as a vehicle rebuild shop.

PART I: HISTORICAL INFORMATION

A. HISTORY OF RARITAN ARSENAL

World War I was the first major military venture Americans had faced since entering the industrial era. Although the War Department planned to send one million American soldiers to France by the spring of 1918, Americans had no prior experience with training and transporting a large army overseas (Kennedy 1980:94). World War I “forced both government and business to think and act on an unprecedentedly large and integrated scale” (Kennedy 1980:94).

Raritan Arsenal was part of this integrated effort. In addition to serving as a storage and transshipment center for munitions, the base had two other missions during World War I. One of these missions was the assembly, repair, and shipment of artillery, tanks and automobiles. These activities were housed in Assembly Plant buildings J1 and K2 (HABS No. NJ-1061-J) (Raritan Arsenal History Vol. 1, Part 2). The other mission was to train troops at the base and at other Mid-Atlantic region installments. The Ordnance School of Instruction was established at the Arsenal for this purpose (Dames & Moore 1993:4-12). The Assembly Plant received up to 265 vehicles a day for inspection, assembly, repairs, painting, and delivery overseas.

Initially the Assembly Plant's mission was limited to tank and chain assembly. In response to a need for increased wartime production in 1918, the plant's mission was expanded to include the assembly of 75mm field artillery, the inspection and repair of trucks, vehicle and motorized weapon camouflage, electrical installation and vehicle painting. Plant operations were divided into two areas of activity: Plant Engineering, which was responsible for all aspects of vehicle, tank, and motorized artillery production and operated the plant's newly constructed and equipped machine shops, and Plant Administration. Operations at the Assembly Plant were divided into 13 areas of activity, each performed by a specifically assigned section. These sections were: tank assembly, chain assembly, transportation, repair, camouflage, truck repair, carpentry, plant machine shop, electrical, pump and hose, car painting, and motor vehicle tool box production (Dames & Moore 1993:4-5, 4-6).

B. HISTORY OF THE BUILDING

Assembly Plant K-2 was constructed in 1918 as permanent construction at a cost of \$73,922.72 (Labor \$29,124.82, Materials \$26,940.95, Overhead \$17,856.95) (Conard 1919: Appendix A). In 1918, the Arsenal manufacturing plant consisted of two machine shops, identical in construction: J-1, the Machine Assembly Shop, (HABS No. NJ-1061-D) and K-2, the Paint Assembly Shop (Conard 1919:53). The general contractor for construction of Raritan Arsenal's World War I buildings was Snare & Triest Company of New York. Much of the masonry work,

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presumably including this building, was done by a team of Italian laborers housed in the construction camp on site (See Raritan Arsenal overview (HABS No. NJ-1061)).

According to the "Historical Record" maintained for this building, in 1918 the building was used as a maintenance shop consisting of carpentry, tinsmith, plumbing and electrical shops with a battery charging room. The building also contained the reproduction room of the engineering section, a large electric air-compressor and the artillery automotive, blacksmith, and small machine shops ("Historical Record" n.p.). The carpentry shop produced stockroom benches, shelves, bins, tables, chairs, and special truck bodies (Dames & Moore 1993:4-13). A 1936 plan of the building demonstrates that the 1918 "Historical Record" activities remained, with the addition of an automotive repair section that had been moved from Assembly Plant J1, (Dames & Moore 1993:5-9) a tractor section, and a spray paint booth. Overhead cranes and an unenclosed canopy are visible in the 1936 section drawing; both have been removed ("Historical Record" n.p.). The Motor Repair Shop, which maintained and repaired small arms trucks, artillery repair trucks, and heavy shop trailers was moved during World War II to Building 241 (Dames & Moore 1993:5-9).

During World War II, the building received a new designation, Woodworking Shop S-4 ("Oversize Map" 1943), reflecting the shift in activities during this period. A 1943 photograph depicts workers in the carpentry shop, predominantly women, manufacturing target material and crates for small arms (Raritan Arsenal History, Vol. 106). This activity remained at least until 1947 when reference was made to the target and box shop in this building. This shop continued its earlier crate and target manufacturing, with the addition of battery pallet manufacturing and repair of wooden truck components (Dames & Moore 1993: Table 9).

After World War II, the building is referenced as the Vehicle Rebuild Shop, again reflecting a shift in activities. The first reference was made in 1950 with the conversion of 4-by-4 trucks into ambulances. References to this shop were also found for 1952 and 1954 (Dames & Moore 1993: Table 9).

In 1921 a heating plant containing four boilers was constructed at the south end of the canopy, using the canopy roof and concrete slab for the plant. The walls were constructed of brick and hollow tile and windows and a door removed from the main building were relocated to the plant (Green 1921). By 1943, the building's heating plant had been removed (Dames & Moore 1993:G-19). The Arsenal's Central Heating Plant, Building 234, was constructed in 1941, and presumably made the local plant redundant.

PART II: DESCRIPTIVE INFORMATION

A. PHYSICAL CHARACTER OF THE SITE

Assembly Plant K2 is located in the northern portion of the Arsenal site along the four-lane Woodbridge Avenue. This area contained the manufacturing and industrial core of the Arsenal. The building abuts Building 15A (HABS No. NJ-1061-E), Building 15B (HABS No. NJ-1061-F), Building 15C (HABS No. NJ-1061-G), Building 15D (HABS No. NJ-1061-H), and Building 19B (HABS No. NJ-1061-K). Most of the surrounding buildings have been demolished and only concrete foundation slabs and concrete loading docks remain.

B. PHYSICAL DESCRIPTION OF THE BUILDING

The common bond brick and hollow masonry tile building originally measured 67'x322' and had an area of 21,702 square feet and a volume of 508,695 cubic feet. The 35'x322' concrete loading platform was enclosed later to add 11,600 square feet. The shallow-pitched roof is encircled with a parapet capped with tile coping. The building sits on a poured concrete slab. A clearspan riveted steel Warren truss with vertical members supports the frame roof in the west section of the building. Steel beams support timber rafters beneath a concrete panel roof in the east section of the building.

The three west bays of the south elevation constitute the original portion of the building; the two west bays are a later addition when the loading dock along the west elevation was enclosed. The brick is a different shade and is less pitted and worn. The recessed bays are corbelled at the frieze. Copper downspouts pierce the parapet at the frieze and provide the only decorative feature of the building. The windows contain multi-light metal frame industrial windows that sit on hollow tile sills. The center bay contains a rolling metal door. The west elevation is similar in treatment to the south elevation, with eight bays of industrial windows and two bays of doors. The east elevation is sided with clapboard beneath a wood plank shed roof and above a poured concrete sill. A railroad spur originally ran alongside the east elevation.

There is little evidence on the interior of the building of the activities that occurred within. The building is divided into two sections: the west section is located beneath the truss; the east section is separated by a series of brick piers. The east bay was the loading platform with a canopy that extended the length of the building. The series of brick piers was originally the east exterior wall. The banks of windows within that wall and the sills below have been removed. The east wall is sheathed in metal sheets at the south four bays until it meets a hollow tile partition that separates

the east bay at the fourth bay. This partition contains a rolling vertical board door suspended from a track above the opening.

In the east bay in the northeast corner of the building, there is a shared wall between Assembly Plant K2 and the Lunch Room (HABS No. NJ-1061-K). The wall is constructed of hollow tile with frame construction at the clerestory level. The frame construction fills the space between Assembly Plant K2's roofline and the shed roof of the lunch room. A concrete block structure with steel doors is located on the north elevation of the east bay. Its use is unknown. At the location where the building meets adjoining buildings, the windows have been removed and infilled with hollow tile.

There is no evidence of the heating plant located in the southeast corner of the building, although there are wear marks in the floor where the compressor room was located, as depicted in the 1936 plan.

PART III: SOURCES OF INFORMATION

A. ORIGINAL ARCHITECTURAL DRAWINGS

No original architectural drawings have been located, although references to drawing numbers have been located in Conard, Report on the Construction of Raritan Arsenal, 1919. The sheet numbers for this building are "19-3-192, 193, 194, 196."

A 1936 plan and elevation of the building is located at the National Archives, Washington, D.C., "Historical Record of Ordnance Buildings," R.G. 77, Entry 393, Box 205.

B. HISTORIC VIEWS

Photographs of the Arsenal from 1919 and 1943 are available at the National Archives. All photographs listed below are also xerographically reproduced in the Dames & Moore report, 1993.

1919

"Report on the Construction of Raritan Arsenal Metuchen, New Jersey. C.K. Conard, Major, Ord. Dept., U.S.A. Constructing Quartermaster." October 15, 1919. National Archives, Washington, D.C. Record Group 77, Entry 391, Box 264.

Photographs labeled "Raritan Assembly Plant" and "Machine Shop Assembly Plant."

1943

"Raritan Arsenal History, Vol. 106, Photographs, Illustrations to Vol. IV [i.e. July-September 1943 Quarterly Reports]."

Photograph No. 17817 "Carpenter Shop, Manufacture of Crating and Target Material."

C. INTERVIEWS

No interviews were undertaken for the documentation of this building.

D. BIBLIOGRAPHY

1. Primary and unpublished sources

Conard, C.K., Major, Constructing Quartermaster. Report on the Construction of Raritan Arsenal Metuchen, New Jersey. Bound typescript, October 15, 1919. R.G. 77, Entry 391, Box 264, National Archives, Washington, D.C.

Green, H.L., Major, Constructing Quartermaster. Construction Completion Report on Construction of Heating Plant for Buildings J-1 and K-2. R.G. 77, Entry 391, Box 264, Book No. 1.

"Historical Record of Buildings." R.G. 77, Entry 393, Box 205, National Archives, Washington, D.C.

Oversize manuscript map "Raritan Arsenal Building Numbers, January 2, 1943." R.G. 156, Entry 646, Box 225, National Archives, College Park, Md.

Raritan Arsenal History, Vol. I, Part 2 History 1919-1942. R.G. 156, Entry 646, Box 225, National Archives, College Park, Md.

Raritan Arsenal History, Vol. VII 1 April 1944 thru 30 June 1944. R.G. 156, Entry 646, Box 229, National Archives, College Park, Md.

Raritan Arsenal History, Vol. XIII 1 October 1945 thru 31 December 1945. R.G. 156, Entry 646, Box 232, National Archives, College Park, Md.

Raritan Arsenal History, Vol. 106, Photographs, Illustrations to Vol. IV [i.e. July-September 1943]. R.G. 156, Entry 646, Box 232, National Archives, College Park, Md.

2. Secondary and published sources

Dames & Moore. Archival Search Report Former Raritan Arsenal, Edison, New Jersey, Volumes 1 and 2, Prepared for the Army Corps of Engineers, Kansas City District, Kansas City, Missouri, July 1993.

Relevant primary sources cited in Dames & Moore report:

Adamczyk, L.J. Captain, Ord. Corps. "Summarized History of Raritan Arsenal, Metuchen, N.J. from 2 September 1945 to 30 June 1953," n.d." SL-034

Kennedy, David M. Over Here: The First World War and American Society, Oxford University Press: New York, 1980.

Metcalf & Eddy. Archives Search Report for Raritan Center and the General Services Administration Area, Prepared for the Army Corps of Engineers, Huntsville Division, Huntsville, Alabama, December 1991.

United States Environmental Protection Agency Region II, Gannett Fleming, Inc., Ecolsciences, Inc., and Historic Sites Research. Stage I Cultural Resources Survey United States Environmental Protection Agency Edison Facility, Edison Township, Middlesex County, New Jersey, October 1990.

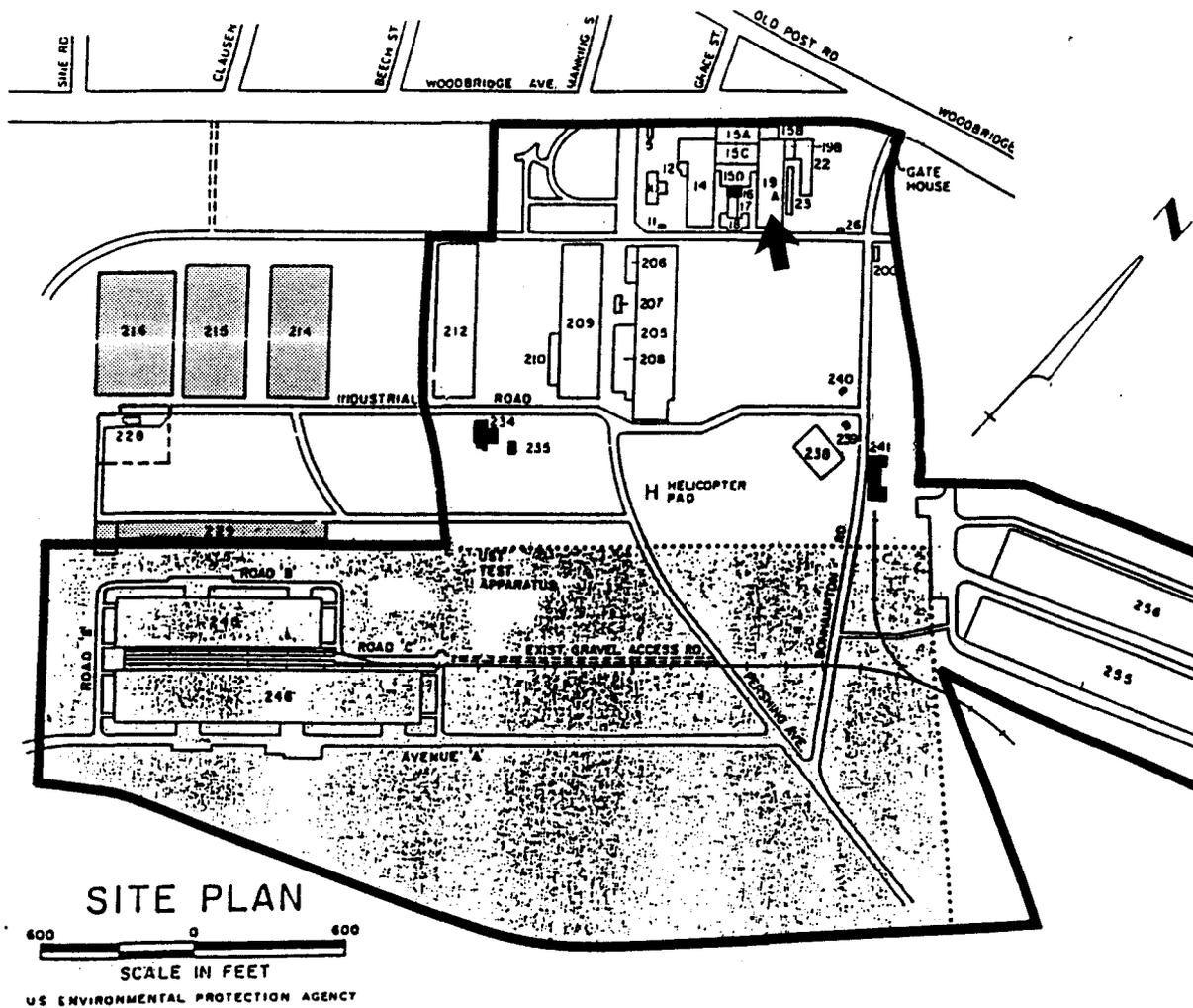
PART IV: PROJECT INFORMATION

This documentation was undertaken to fulfill a 1992 Memorandum of Agreement among the Advisory Council on Historic Preservation, the Environmental Protection Agency, and the New Jersey State Historic Preservation Office, in accordance with the Raritan Arsenal Management Plan prior to demolition of the structures.

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Marilyn Frasier, Historian
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Date: October 1996

PROPERTY PLOT PLAN

Map of the U.S.E.P.A.-owned property which includes part of the former Raritan Arsenal. Arrow points to subject building. Map altered from Figure 2 of the Stage 1 Cultural Resources Survey, United States Environmental Protection Agency Edison Facility, Edison Township, Middlesex County, 1990.



- KEY:**
- EPA BOUNDARY
 - BUILDINGS OWNED BY MIDDLESEX COUNTY COLLEGE
 - BUILDINGS RECENTLY DEMOLISHED

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SKETCH FLOORPLAN

