

WATERTOWN ARSENAL, BUILDING NO. 292
(Bar Stock Storage Building)
Welch Avenue
Watertown
Middlesex County
Massachusetts

HAER No. MA-20-T

HAER
MASS
9-WATO,
ST-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
Northeast Field Area
Chesapeake/Allegheny System Support Office
National Park Service
U.S. Custom House
200 Chestnut Street
Philadelphia, PA 19106

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- Location:** Welch Avenue, Watertown, Middlesex County, Massachusetts.
- UTM: 19.321470.4692100
USGS QUAD: Newton, Massachusetts
- Engineer/Architect:** Unknown.
- Date of Construction:** 1920; major modifications in 1959.
- Present Owner:** U. S. Army Materials Technology Laboratories (AMTL)
Arsenal Street
Watertown, Massachusetts 02172
- Present Use:** Materials characterization laboratories, including x-ray diffraction, electron micrography, chromatography, and analytical chemistry.
- Significance:** The significance of Building No. 292 lies in the fact that its changing use from an industrial storehouse to a modern laboratory provides a physical illustration of the changing mission of Watertown Arsenal throughout the twentieth century. During World War I, the Arsenal's manufacturing capacity tripled, and the Bar Stock Storehouse - built shortly after the war in 1920 - served as an industrial support structure within a large manufacturing complex. Although materials research (particularly metals) was always being conducted at the Arsenal, the physical appearance of the Arsenal at that time was primarily determined by the manufacturing processes conducted there. In the years following World War II, large scale manufacturing was gradually eliminated and the Arsenal's primary mission became materials research. While some industrial buildings were razed, Building No. 292 was converted in 1959 to a materials testing laboratory associated with the Lester Nuclear Reactor, Building No. 100 (HAER No. MA-20-R) to which it is linked via Building No. 97 (HAER No. MA-20-S).
- Project Information:** This documentation was undertaken in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, prior to base realignment and closure.

Virginia H. Adams
assisted by Andrew Winters
The Public Archaeology Laboratory, Inc.
387 Lonsdale Avenue
Pawtucket, Rhode Island 02860

I. ARCHITECTURAL DESCRIPTION AND MODIFICATIONS

Located near the southwest edge of the present-day AMTL site with the main entrance on Welch Avenue (west), Building No. 292, originally the Bar Stock Storage Building, is surrounded by Wooley Avenue (north), North Beacon Street (south), and Building No. 97 (HAER No. MA-20-S) (east). Building No. 292 retains its original shape and size despite extensive alterations which were made in 1959 when the original one-story warehouse structure was converted into a two-story laboratory.

The 202 ft. by 67 ft. gable-roof building sits on a reinforced concrete foundation. Load bearing brick pilasters divide all four walls into 20-ft. wide bays. The gable roof is a riveted steel Fink truss system with 20 ft. bays. It is sheathed in corrugated cement asbestos and has two long rows of corrugated obscure glass skylights which are set flush to the roof and run the length of the north-south roofline. The original main entry facade, located on the building's north side, consisted of four bays: two narrow side bays with full-story multi-light windows with granite sills, and two wide central bays. One of these central bays (west side) had full-story multi-light windows interrupted only by a centrally located door, and the other (east side) had a narrow band of windows above a full width opening accessed by railroad tracks. The east and west elevations consisted of recessed, bricked in bays and the south elevation had three full-story multi-light window bays of equal size. Ornamentation is minimal on this one-story shed-type building, consisting of a circular window with four concrete perimeter keystones in each gable and brick corbelling under the roof eaves and between pilasters.

In 1959, the building was modified to contain two stories in its new function as a Materials Testing Laboratory for the new nuclear reactor, Building No. 100 (HAER No. MA-20-R). The structural system is steel and reinforced concrete, tied into the former crane rail columns and a new central row of steel columns. The original windows were replaced with the present system, consisting of three-light windows located between pilasters on both first and second story levels, with white stucco concrete panels separating the levels. The new front entrance in a central bay of the west facade has granite steps leading up to a double glass doorway with a cantilever aluminum overhang. This doorway serves as the main entry to the reactor complex (Buildings No. 97, 100, and 292). It opens onto a hallway which provides a direct access to the reactor through Building No. 97 and intersects the central spine hallways of Buildings No. 292 and 97. The interior of Building No. 292 has been divided into small laboratory/office spaces along a central hallway on both floors. The first floor laboratories are finished with painted concrete block walls, vinyl tile floors, and acoustical tile ceiling. The second floor offices are finished with plaster walls, vinyl tile floors, and acoustical tile ceilings.

II. HISTORICAL INFORMATION AND SIGNIFICANCE

Constructed in 1920 as a metal and Bar Stock Storehouse, Building No. 292 was built adjacent to the locomotive storehouse (Building No. 97) to facilitate the transfer of raw materials to industrial shops on the Arsenal property. This structure was also located with direct access to the Boston & Maine Railroad, located immediately to the north of Arsenal Street, for the receipt of iron and steel stock from outside suppliers.¹ In 1959, the building was converted to a research laboratory associated with the Lester Nuclear Reactor (Building No. 100) which began operating in 1960. As one of two reactor research buildings, No. 292 housed the reactor superintendent's office, and was outfitted with laboratories for physics, chemistry, radiation effects, pure materials, physical measurements, x-rays and others. The building still contains active laboratories engaged in materials characterization research, despite the close of the reactor in 1970.

III. ENDNOTES

1. Bahr.

IV. BIBLIOGRAPHY

AMTL, Facilities Engineering, Watertown, Massachusetts. Architectural and engineering plans and drawings.

AMTL, Office of Public Affairs, Watertown, Massachusetts. Foster Notebooks, files, and historic photographs (19th century to 1980s).

Army Corps of Engineers, New England Division, Waltham, Massachusetts. Photographs (5 volumes, 1944 to 1970).

Bahr, B. "Building No. 292, Barstock Storehouse/Reactor Laboratory, HABS/HAER Inventory Card." Washington, D.C.: Historic American Buildings Survey/Historic American Engineering Record, National Park Service, U.S. Department of the Interior, July 1982.

Burns, Libby Baylies and Betsey Bahr. Historic American Buildings Survey of the United States Army Materials and Mechanics Research Center, Watertown, Massachusetts. Washington, D.C.: Historic American Buildings Survey/Historic American Engineering Record, National Park Service, U.S. Department of the Interior, Summer 1982.

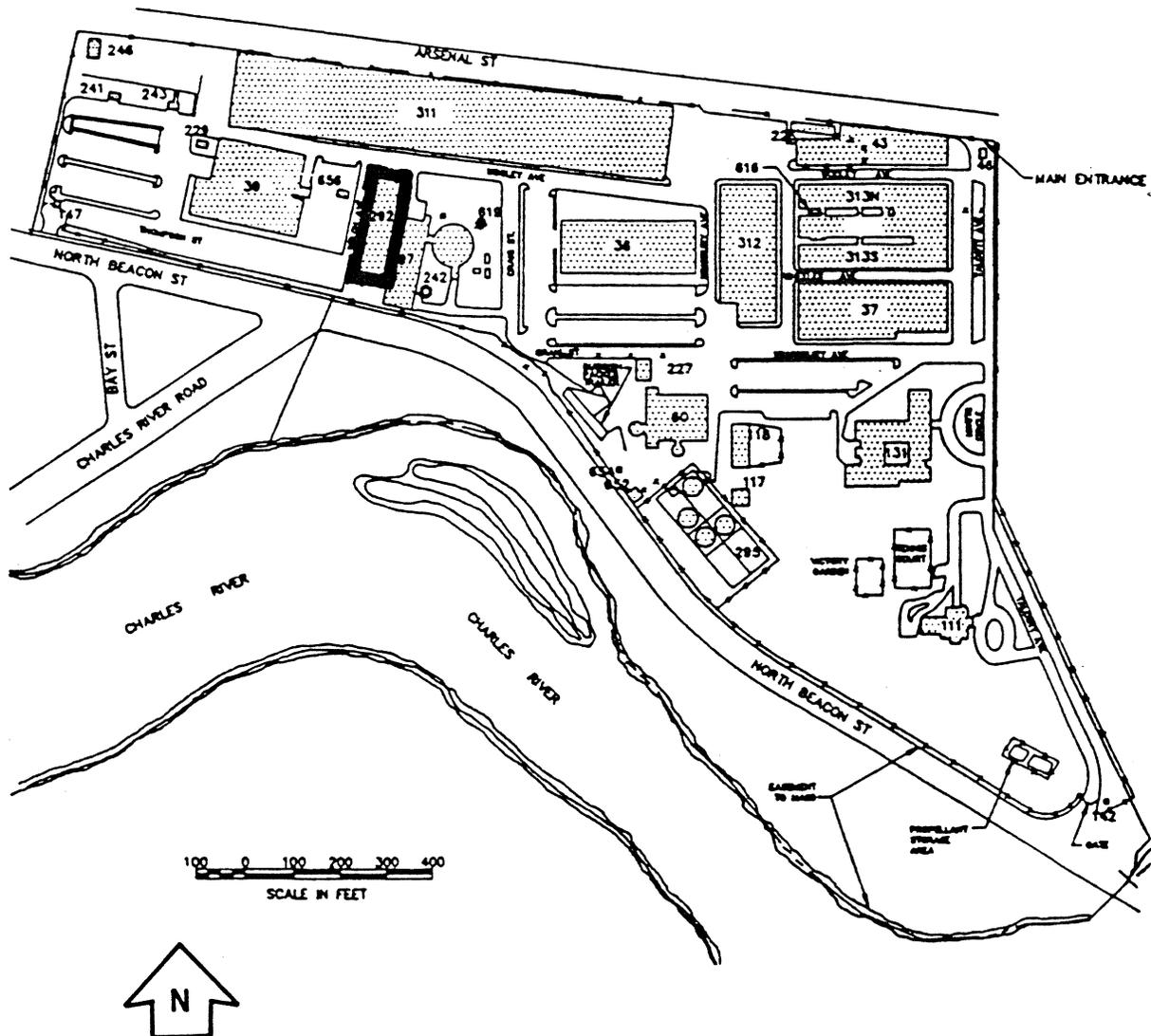
Dobbs, Judy. A History of the Watertown Arsenal 1816-1967. Watertown, Massachusetts: Army Materials and Mechanics Research Center, 1977.

E.G. & G. Idaho, Inc. USATHAMA (U.S. Army Toxic and Hazardous Materials Agency) Preliminary Assessment/Site Inspection for the Army Materials Technology Laboratory. Idaho Falls, Idaho: Idaho National Engineering Laboratory, March 1988.

For further sources, consult Burns and Bahr, 1982, previously submitted to the Library of Congress as HABS/HAER documentation for Watertown Arsenal, HAER No. MA-20.

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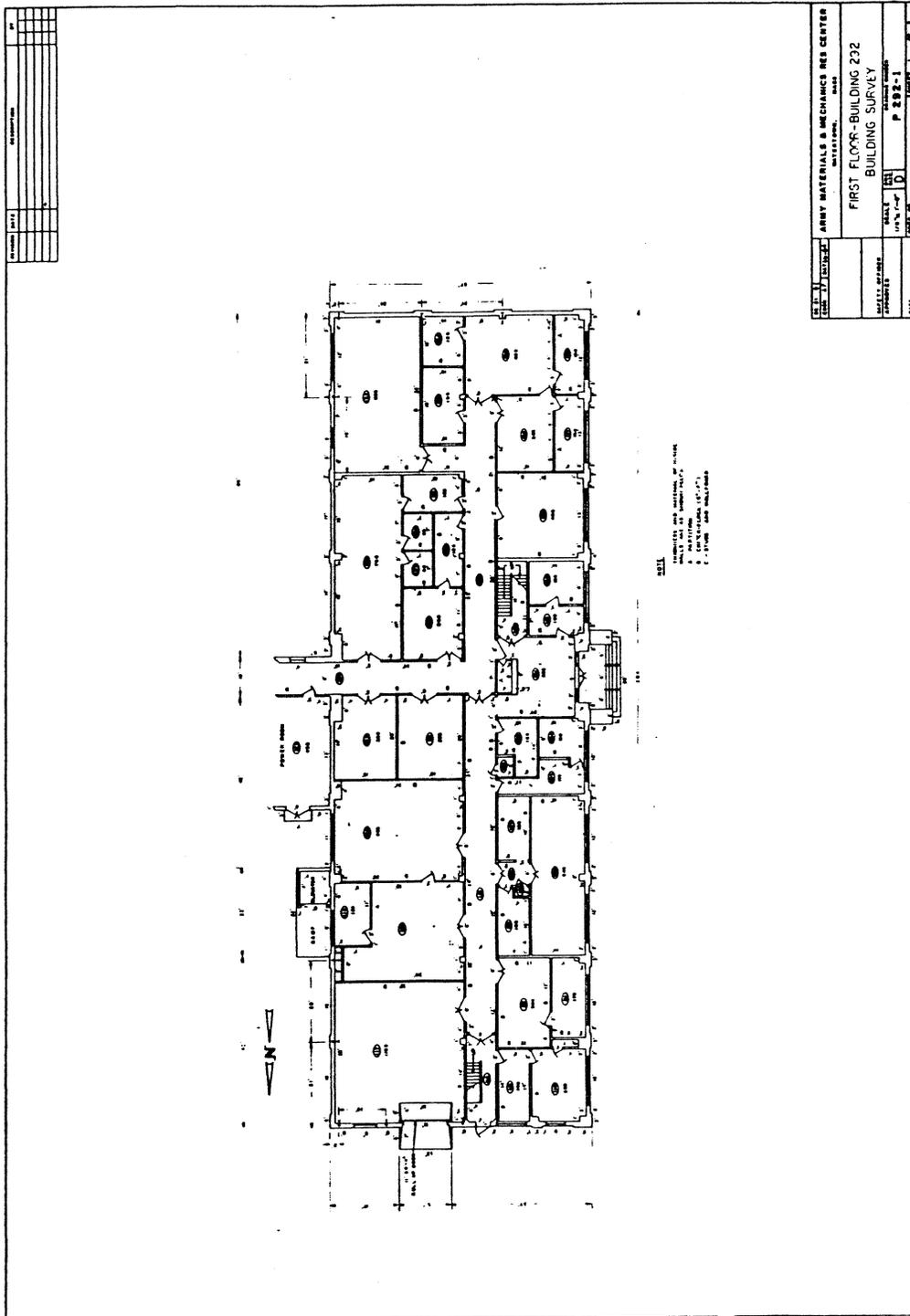
LOCATION MAP WITHIN WATERTOWN ARSENAL



Source: E. G. & G., USATHAMA report, 1988.

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1984 AMMRC BUILDING SURVEY FLOOR PLAN



Source: Engineering Division, AMTL, Watertown, 1984.