

U.S. NAVAL BASE, PEARL HARBOR, AUXILIARY SHIPFITTERS  
SHOP  
(U.S. Naval Base, Pearl Harbor, Naval Shipyard, Facility No. 215)  
Avenue G near Fifth Street intersection  
Pearl Harbor  
Honolulu County  
Hawaii

HABS HI-500  
HI-500

HABS  
HI-500

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY  
PACIFIC GREAT BASIN SUPPORT OFFICE  
National Park Service  
U.S. Department of the Interior  
1111 Jackson Street  
Oakland, CA 94607

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(U.S. Naval Base, Pearl Harbor, Naval Shipyard)  
(Facility No. 215)  
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**HISTORIC AMERICAN BUILDINGS SURVEY**

**U.S. NAVAL BASE, PEARL HARBOR, AUXILIARY SHIPFITTERS SHOP**  
(U.S. Naval Base, Pearl Harbor, Naval Shipyard)  
(Facility No. 215)

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**Location:** Avenue G near Fifth Street intersection  
Pearl Harbor Naval Base  
City and County of Honolulu, Hawaii

This building falls within the UTM coordinates of the Pearl Harbor Naval Shipyard as defined in the location section of the overview report HABS No. HI-483. This building's UTM coordinates are: Zone 4 607780E 2361120N.

**Significance:** Facility 215 is located within the Pearl Harbor National Historic Landmark. It is associated with the expansion of facilities at Pearl Harbor during the World War II period, as part of the Contractors Pacific Naval Airbases (CPNAB) contract, in response to the need for more essential repair facilities in the Pearl Harbor Area.

**Description:** Facility 215 is a permanent one- and two-story slab on grade, poured-in-place reinforced concrete shop structure. The building is rectangular in plan, having an overall dimension of 121'-0" x 553'-0". It is three bays wide (61'-0" central section with two 30'-0" flanking sections) and twenty-four bays long (each bay having a span of 24'-0"). This building has a tripartite roof structure with a higher central section. The central section is a double height space open to the roof structure with a ceiling height of 50'-0". The two side bays are two stories high with a total height of 38'-0". There are a total of 66,913 square feet on the first floor and 34,286 square feet on the second floor. A third balcony level is located at the north end of the building within the men's restroom that measures a total of 2570 square feet. The third level is a rooftop fan room, accessed via a steel ladder from the restroom's balcony. A tool shop is located in the far northeast corner of the building under the mezzanine floor.

The exterior walls are 1'-0" thick reinforced concrete while the interior walls are constructed primarily of concrete masonry block. The walls of the fan rooms located on the mezzanine roof are also constructed of concrete masonry block. The mezzanine floors are 1'-0" thick concrete with concrete beams having a 200 lb/sf capacity.

The central roof section is a low-pitch ( $\frac{1}{2}$  to 12 slope) concrete slab over 1" shiplap sheathing structure supported by wood and steel trusses. The wood trusses run in the longitudinal direction and the steel trusses run in the shorter transverse direction. These trusses

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are supported by 2'-0" x 2'-0" concrete columns that sit on concrete footings. The roofs of the flanking mezzanine sections are poured-in-place concrete shed roofs that are supported by concrete beams. All roof sections are covered with bituminous built-up roofing material and are enclosed with parapet walls. Fan rooms, measuring 14'-0" x 14'-6" are located on the mezzanine roofs at every third bay. The fan rooms butt up against the exterior walls of the central section clerestory roof wall. At these bays the window design changes and we see that the windows become fixed multi-light metal windows of a smaller overall dimension, redesigned in order to accommodate the fan room wall.

The floor system of the first floor is a notable architectural element. It has a woodblock floor, also called Nicolson pavement, over a 4" thick asphalt concrete floor slab (except in offices and toilet rooms). The wood blocks are 3½" wide x 7½" long x 4" high. Wood block is an absorbent material; especially beneficial in areas where oil and other types of lubricant can spill and leak, which may be the reason for its use. Today, only portions of the original floor remain. As the wood blocks started chipping and failing due to age, they were taken up and replaced with concrete.

Other floor types can be found in this multi-functional building. The west side mezzanine floor was built as a wood plank over sleepers on top of the concrete slab floor. On the first floor, there is a section approximately 70' long x 16' wide called a Balancing and Erecting Table. This table is part of the foundation floor and is a level area used for securing machines and calibration instruments. It is comprised of multiple metal planks measuring 12" wide x 14" long x 1-½" deep, separated by a 1-¾" space. A large square (10'-1" x 10'-1") metal slab with a circular groove sits on top of the Balancing and Erecting Table. Several other areas not finished with concrete in the foundation are used to repair special instruments. Train tracks run down the middle of the central bay, approximately five bays into the building, for easy loading and unloading of materials. Although the tracks are still in place they are no longer in use.

Fenestration is symmetrical and utilitarian. Typically they are multi-light steel windows with a movable awning pivot window within the assembly. These are located along the upper walls of the central section, and along both the first and second levels of the side bays. Although they are uniform and simplistic in design the large number and great expanses that they cover create a balanced and pleasing building facade. Smaller 6-light and 4-light steel sash awning windows are located at the men and women's bathroom exterior walls.

Interior facing fenestration also exists on the mezzanine floor bathroom walls. These windows have a wood sash with obscured glass. They were installed for the functional purpose of allowing for ventilation of the bathroom spaces. Awning windows open inward into

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the bathroom space and are held in place with a chain. The men's toilet and locker room has two levels of these windows, at both the main bathroom floor and the balcony floor. The women's toilet and locker room has only one row of this type of window.

Vertical circulation to the mezzanine level is through several sets of open concrete stairs that are located on both the east and west sides of the structure.

Several other elements worthy of note can be found in this building. There are a total of 10 bridge cranes in this facility. Two main central cranes with a capacity of 60,000lbs span the width of the central bay and two cranes on each level at each of the side bays having 6000lb capacities. The I-flange, J-shaped track supports used for the bridge cranes on the side flanking bays are interesting architectural elements.

The double door large entry doors at the front and back ends of the building are also noteworthy. The pair of sliding doors is constructed of double-wall wood planks (5" shiplap) placed in a diagonal orientation surrounded by steel members. The door dimensions are 20'-0" wide (40'-0" wide opening) x 50'-0" high and 1'-0" in width.

The six circular washbasins (54" diameter) located in the men's toilet and locker rooms are noteworthy due to their size and shape. The basin is made of a solid moldable material similar to that of Corian and the base is surrounded by a rounded steel plate with three striations that carry through the circular design motif. Water is brought to the basins via an overhead piping system that is attached to the underside of the balcony overhead. Four of these washbasins were originally located in the women's toilet and locker room but when it was renovated and made smaller in later years (and replaced with a Controlled Nuclear Information Area 215-4), these were removed.

The following list describes the alterations made to the building over the years. Most were made without record drawings so that the years of these alterations are not clear.

- The mezzanine on the west side has been enclosed and is used for classroom instruction and office spaces. Mezzanine office spaces have an open office plan with cubicle partitions, drop ceilings with flush fluorescent lighting panels, and vinyl tile flooring. Six mezzanine bays in the center portion of the building were enclosed with pre-cast concrete with steel trim panels attached to posts of steel angles. The wood plank floor was removed and the concrete under it left bare. This was probably done sometime in the 1980s.
- The men's toilet and locker room was renovated in 1983.
- New windows replaced the original steel windows on the east side mezzanine in two time periods – a steel casement type was installed sometime in the 1960s and a fixed aluminum

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frame window that has a profile similar to that of the original windows was installed sometime in the 1990s.

- The Tool Room was enlarged to match the edge of the mezzanine balcony above, date unknown.

**Historical Context:**

Facility 215 was originally constructed as an Auxiliary Shipfitters Shop for the Fourteenth Naval District, Pearl Harbor. The Bureau of Yards and Docks prepared the drawings for the building. These original drawings are dated April 3, 1943 and construction was completed in the same year.

This additional shipfitters shop was constructed at the opposite end of Shipyard, from Facility 4, the original shipfitters shop. It was intended that Facility 215 would "provide protection against bomb splinters, utilizing reinforced concrete of 12" minimum thickness for walls, and providing concrete roof slabs and special doors to afford adequate protection for personnel and equipment," (Furlong, 1942). It is located across the street from Facility 214 and is of similar design and size. The current name of the building is the Outside Machine Shop. It is used as the Maintenance-Ships/Spare Storage for the Pearl Harbor Shipyard.

For an overview of the Naval Shipyard see HABS No. HI-483.

**Sources:**

The original drawings for this building are on microfilm at NAVFAC PAC Plan Files. Historic photos can also be found at the National Archives II Photo Collection (RG71CB), Box 102, Folder "Aux. Machine and Electric Shop."

A copy of the 1949 Property Record Card for Facility 215 can be obtained from the Naval Shipyard Facilities Files.

The historic photograph is located at the National Archives II Photo Collection, College Park, RG 71 CB, Box 102, Folder "Auxiliary Machine & Electric Shop."

Furlong, William R. Memo from the Commandant, 14<sup>th</sup> Naval District to the Chief of the Bureau of Ships regarding the Navy Yard, Pearl Harbor Extension of Essential Repair Facilities dated January 16, 1942. In National Archives, San Bruno, RG 181, 14<sup>th</sup> ND, District Staff Hdqtrs., General Correspondence [Formerly Classified] 1936-1944, Box 1, Folder A1-1 (7) Developments.

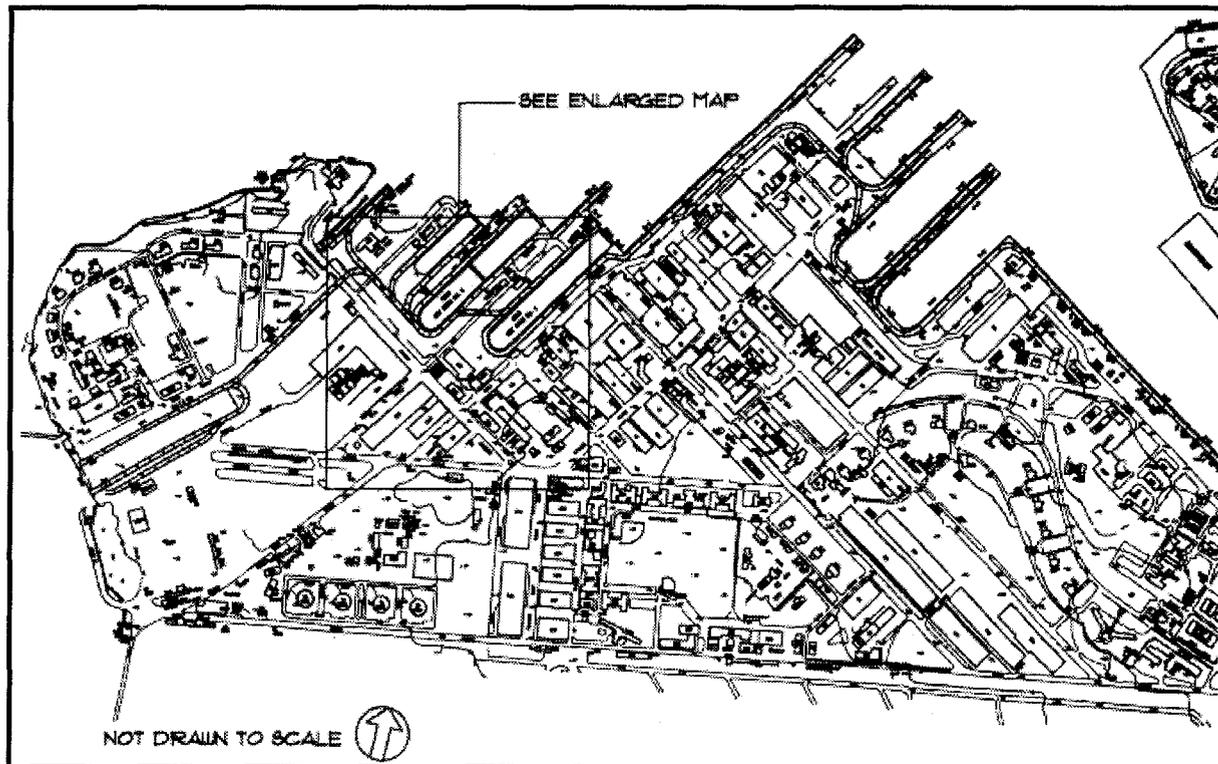
Nakahara, Kenneth. Historic Resources Inventory Form for Bldg. #215, 1980. Prepared by Pearl Harbor Naval Shipyard, Facilities Planning & Programming for State Historic Preservation Office.

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**Project Information:** Photo documentation and recordation of this facility by the Navy has been done in anticipation of future alterations or potential demolition of the structure. Photo documentation of historic facilities by the Navy assists in expediting planned undertakings by having the documentation prepared prior to taking actions. Also, photo documentation assists the Navy in gaining more information about its historic facilities to assist in making proactive management decisions. This project is being supervised by Jeffrey Dodge, Historical Architect, NAVFAC Hawaii. The photographic documentation was undertaken by David Franzen, photographer. Lorraine Minatoishi Palumbo, Architectural Historian, of Mason Architects, Inc. prepared the written documentation. The field work and research for this report was conducted between the dates of July 2001 and December 2001.

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Shipyard Map





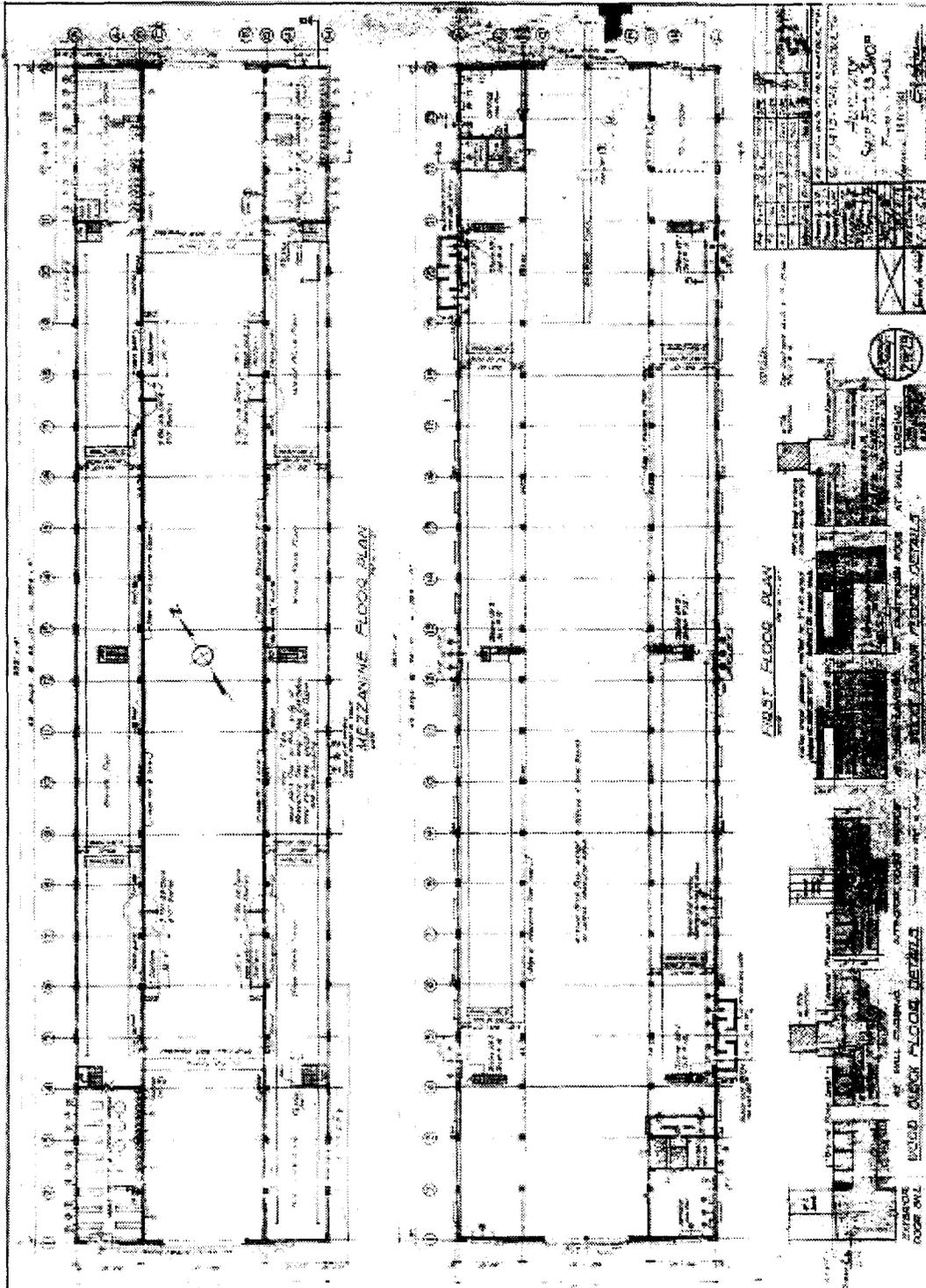
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Facility 215, Front View of Auxiliary Machine & Electric Shop (Dated 3/23/43)



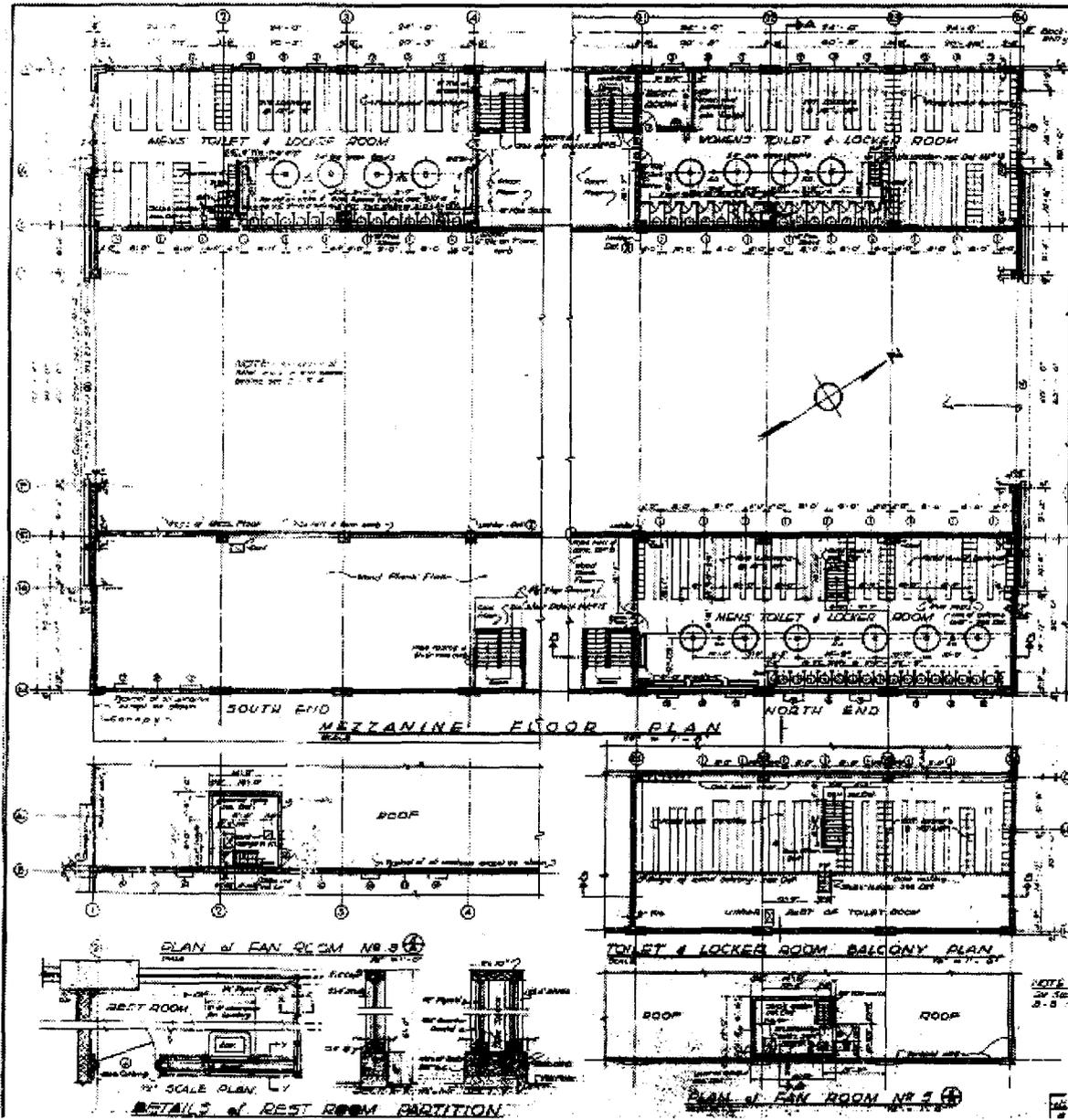
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Floor Plans of First Floor and Mezzanine Level (Drawing No. I-N05-674,  
dated 2/19/1943) (reduced, not to scale)



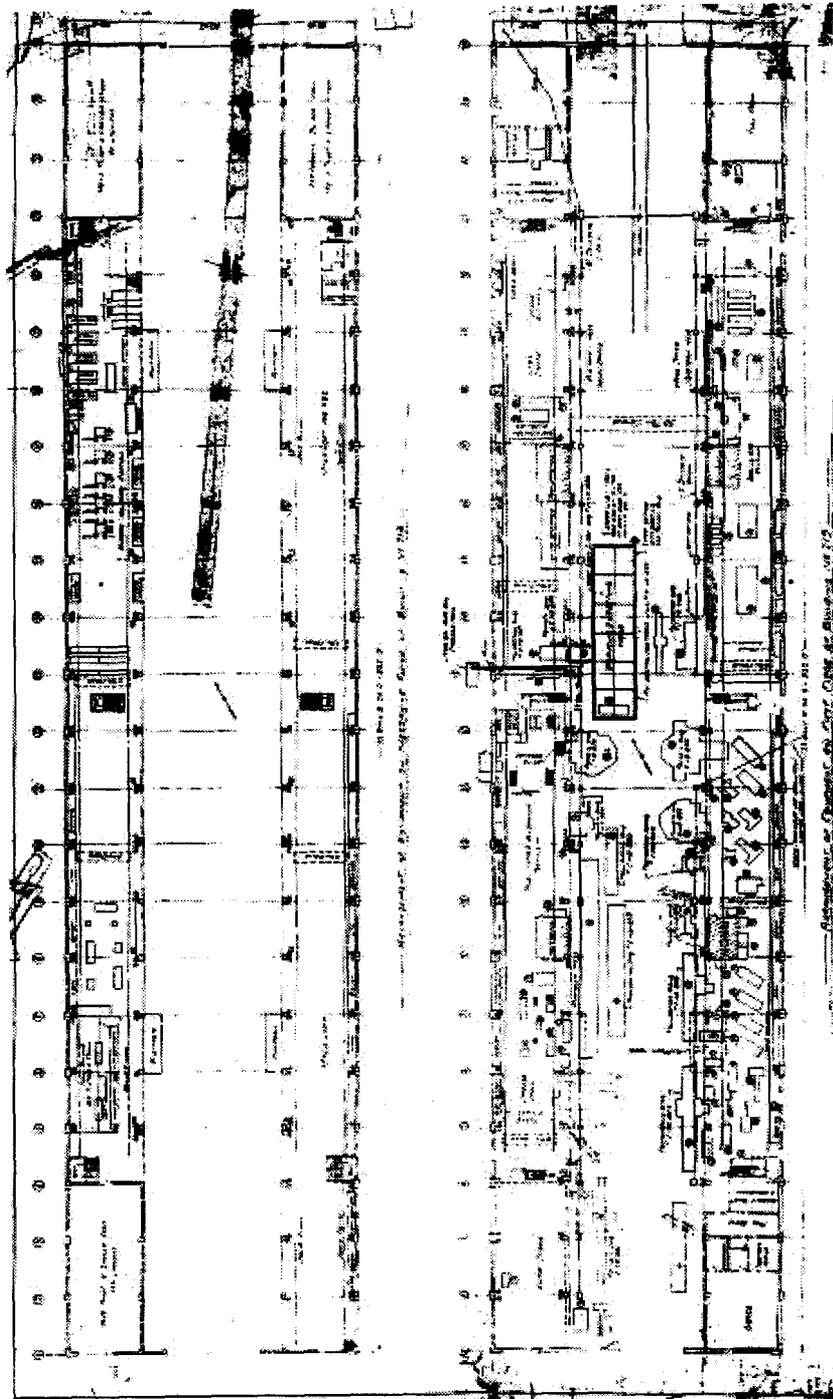
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**Office and Locker Room Floor Plans (Drawing No. I-N05-677, dated 1/24/1943)**  
 (reduced, not to scale)



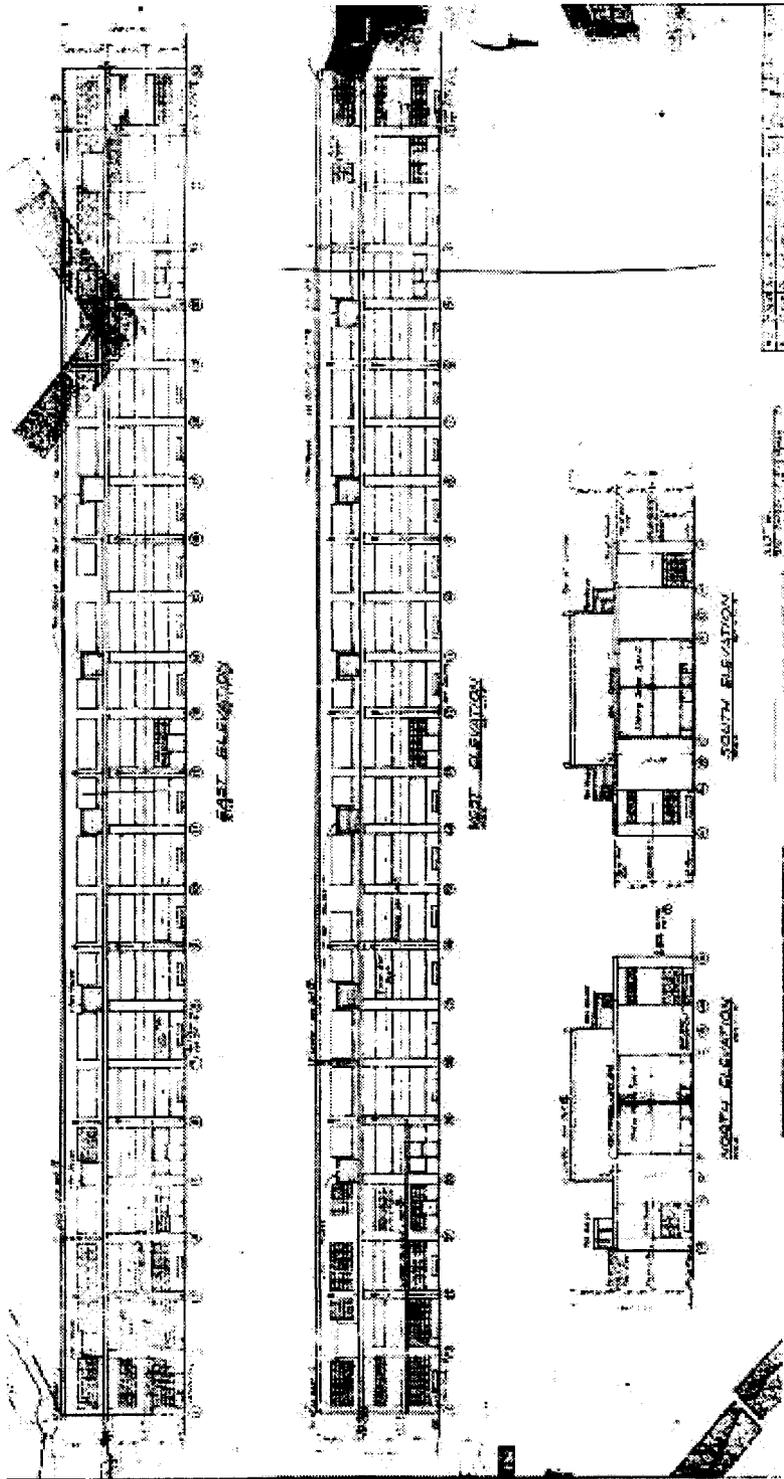
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Floor Plans with Arrangement of Equipment at First Floor and Mezzanine Level  
(Drawing No. I-N05-848, dated 1943) (reduced, not to scale)



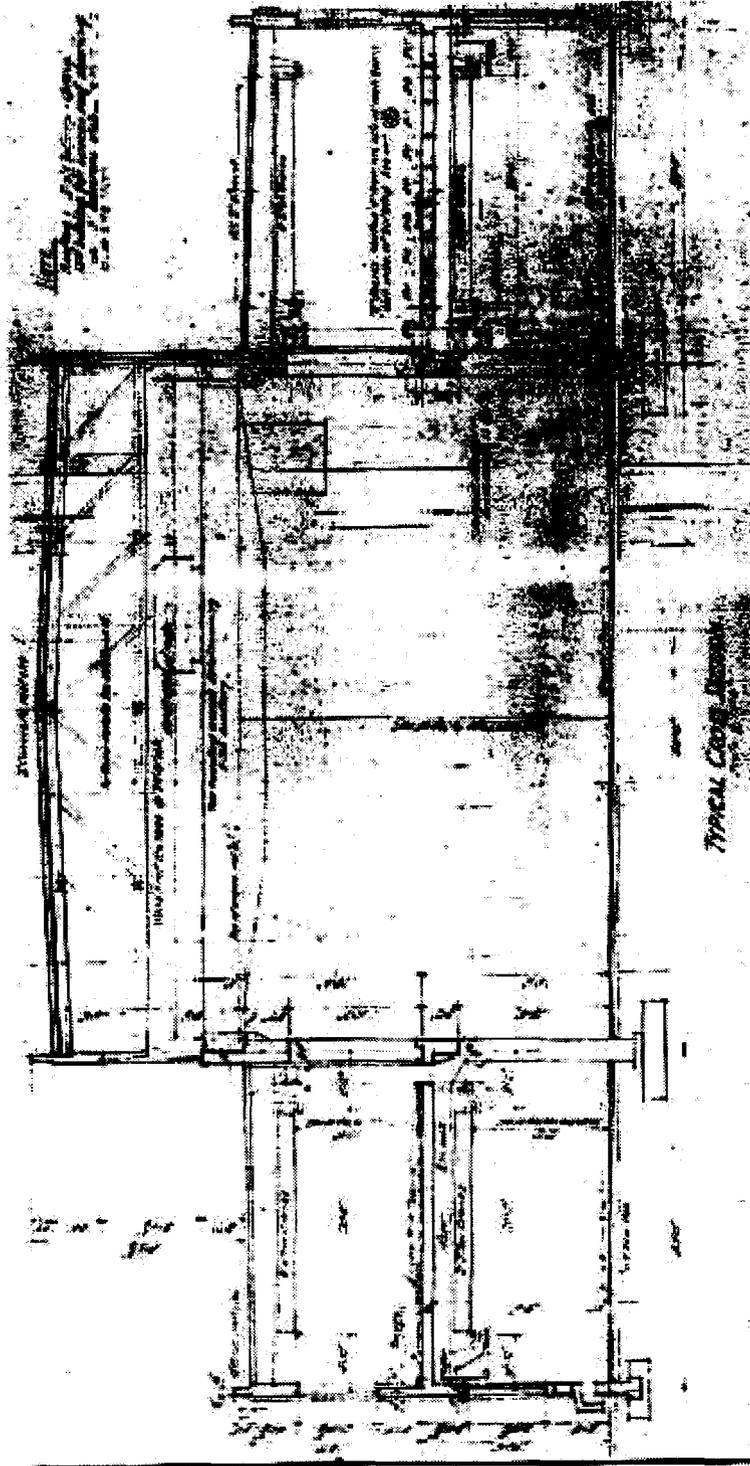
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Exterior Elevations (Drawing No. I-N05-673, dated 2/26/1943) (reduced, not to scale)



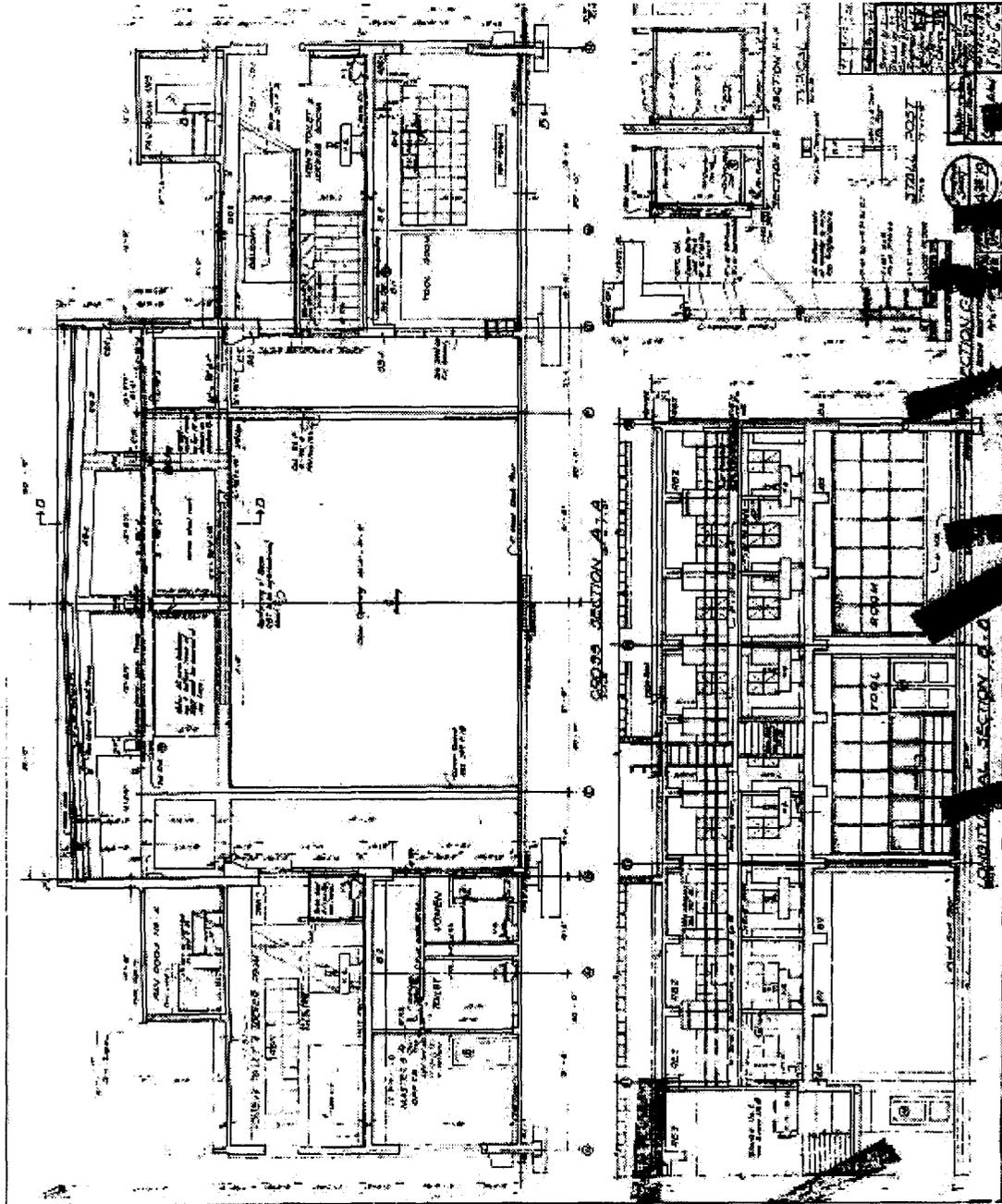
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Typical Cross Section (Drawing No. I-N05-675, dated 4/8/1943) (reduced, not to scale)



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Cross Section, Longitudinal Section, through Offices and Locker Rooms  
(Drawing No. I-N05-676, dated 1/24/1943) (reduced, not to scale)



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Roof Framing Plan and Trusses (Drawing No. I-N05-684, dated 1/24/1943) (reduced, not to scale)

