

March Air Force Base, Strategic Air Command
Cooling Tower for Utility Building No. 2606
5220 Riverside Drive
Moreno Valley
Riverside County
California

HABS No. CA-2788-C

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Buildings Survey
National Park Service
Department of the Interior
Oakland, California

**HISTORIC AMERICAN BUILDINGS SURVEY
MARCH AIR FORCE BASE, STRATEGIC AIR COMMAND
COOLING TOWER FOR UTILITY BUILDING NO. 2606**

HABS No. CA-2788-C

Location: Located within March Air Force Base, 5220 Riverside Drive, Moreno Valley, Riverside County, California

U.S.G.S.: Riverside East and Sunnymead, CA, 7.5' Topographic Quadrangle, 1967, photoinspected 1973, photorevised 1980.
UTM Coordinates (NAD 27): Zone 11 477384 E, 3752253 N

Present Owner: United States Department of the Air Force, AFBCA/DB March, 3430 Bundy Avenue, Building 3408, March Air Force Base, CA 92518-1504

Present Occupant: United States Department of the Army, United States Army Reserve 63D Regional Readiness Command, 4235 Yorktown Avenue, Los Alamitos, CA 90720-5002

Present Use: 63D Regional Readiness Command (RRC) Army Reserve Training Facility (administrative offices and classrooms)

Significance: The Cooling Tower for Utility Building 2606 was constructed as a support facility to Building 2605 (HABS No. CA-2788-A). Building 2605 was determined eligible for inclusion in the National Register of Historic Places on November 27, 1995 under Criterion Consideration G as a significant Cold War-era structure. The Combat Operations Center building has strong associations with the Cold War-era Strategic Air Command (SAC) operations as the command center for 10 SAC bases and controller of assets constituting 80 percent of the nation's Intercontinental Ballistic Missile (ICBM) force. In addition, the Center also controlled all of SAC's reconnaissance aircraft (U-2, RC-15, SR-71) and 30 percent of the SAC's bombers and tankers. Building 2605's architecture reflects the designer's intention to provide a secure environment against attack or surveillance from the nation's Cold War-era enemies and is literally "self-contained" with its own supplies of water and air purification systems housed in adjacent facility Building 2606 (HABS No. CA-2788-B). The Cooling Tower worked in tandem with Building 2606 to maintain the primary Combat Operations Center.

PART I. HISTORICAL INFORMATION

A. Physical History:

1. *Date of erection:* Date Unknown, post 1964
2. *Architect:* United States Army Corps of Engineers, Los Angeles District/Moffatt & Nichol, Engineers, Long Beach, CA.
3. *Original and subsequent owners:* United States Department of the Air Force
4. *Builder, contractor, suppliers:* Unknown
5. *Original plans and construction:* US Army Corps of Engineers
6. *Alterations and additions:* None

B. Historical Context:

March Air Force Base was established in 1918 as a World War I army airfield. The base was substantially expanded after the war under the United States Air Corps Act of 1926, becoming the key air base in California. Between 1928 and 1943, the base became the primary aviation post on the West Coast. The base more than doubled in size during this period with the acquisition of 920 acres of land and the construction of major runways and numerous buildings. It became the largest field in the western United States and home to its largest air fleet (JRP 1992:64-65).

With the onset of World War II and America's entry into the war, the 15th Air Force was created in October 1943. This strategic air force was heavily involved with bombardment during these war years. With the end of the war and the evolution of a new world order, the American military restructured its forces, creating three new commands based on function. The new Strategic Air Command (SAC) was created to conduct long-range offensive operations and reconnaissance. The command's headquarters were established at March Air Force Base. The 15th grew with reorganizations and continued activities and by the start of the Korean conflict in 1950 could count more than 20,000 personnel chiefly when the command became largely involved with bombardment and refueling (Harley 1980:9-11).

By the mid-1950s, new thermonuclear technology, the creation of the B-52 bomber, the development of aerial refueling, and yet another new world strategic order led the Eisenhower administration to create the "New Look" defense policy that used SAC bombers loaded with nuclear weapons to create a threat and deterrence to the Russian conventional ground forces (Harley 1980:16).

Aerial refueling allowed jet bombers stationed in the United States to carry out nuclear strikes anywhere in the world. This new nuclear deterrent allowed the military response to be

faster and lighter since it was then less reliant on overseas unit-size deployments (Harley 1980:16).

By the late 1950s and early 1960s, the United States feared the Soviet Union had developed long-range bombardment and missile capabilities that created a real and present danger to homeland defense. This new quiet conflict had been dubbed the constant state of eminent threat of destruction between the world's two superpowers as the "Cold War." To enhance long-range deterrence, American military contractors had developed Atlas and Titan, intercontinental ballistic missiles (ICBM) capable of striking the Soviet Union from missile silos in the United States (Harley 1980:16-19; Manley and Earth Tech 1995: 4-2).

As a further deterrence, the 15th Air Force kept one-third of its bombers on "alert," loaded with nuclear weapons and ready to fly at any time as a means of avoiding destruction on the runway by sudden enemy attack. To further reduce their vulnerability, the force was dispersed to numerous bases throughout the United States. To keep their resources organized, March Air Force Base became increasingly important as the Strategic Air Command center. Its mission focused on nuclear deterrence, dispersal, centralized initial combat crew training, and strategic alert (Harley 1980:16). By the end of 1965, the 15th Air Force was responsible for over 600 Atlas, Titan and Minuteman ICBMs, nearly all the missile units located in the western United States. Its jurisdiction included both armed planes and missiles (Manley and Earth Tech: 1995:4-2).

Building 2605 was constructed in 1962-1963 at the peak of the Cold War to serve as the Combat Operations Center (COC). This building became the control center for air force bases throughout the United States. These included Lamar, Altus, McConnell, March, Beale, Minot, Dyess, Castle, McClellan, Kadena, Eielson, Offutt, Fairchild, Mather, Malstrom, and FE Warren. These bases would report their status to March, which was also capable of providing them with direction. In other words, it became the nerve center of the SAC, aware of its functional condition and able to provide orders. Because the center was clearly a strategic target for the enemy, it was constructed with features that could sustain an operational crew in case of even nuclear attack (Gricius 2003). The COC controlled 80 percent of America's ICBM force, all of Strategic Air Command (SAC) reconnaissance aircraft (U-2, RC-135, and SR-71), and 30 percent of SAC's bombers and tankers.

The building was designed jointly by Moffatt & Nichol, Engineers, Long Beach, and the Los Angeles District of the Army Corps of Engineers. This uniquely conceived building utilized engineering techniques intended to protect and ensure the operation of the COC, even during intensive attack. The windowless exterior walls consist of a 2'-thickness of reinforced concrete. The building was designed to be virtually self-contained, with independent air-purification systems, food, and water. Half of the building is underground for protection from nuclear attack. To provide constant communication with its command bases, the command room was manned twenty-four hours a day, seven days a week by specially trained personnel. One wall was covered with video screens that provided detailed data such as the status of SAC forces, reconnaissance information, global weather reports, and political updates to the

command staff who worked in a glass-walled balcony above the main floor. The SAC Automated Command Control System managed data from around the world and transmitted it onto the large screens on the wall. Because of this, the building and its mission have been recognized as one of the most important military centers in the nation (*The Beacon* 1/23/1976; Manley and Earth Tech 1995:4-2).

The Cooling Tower was built after 1964 to replace a smaller tower that was located on the roof of the utility support building 2606.

PART II. ARCHITECTURAL INFORMATION

A. General Statement

Originally the cooling tower for the air conditioning unit was located on the roof of Utility Building 2606; it is no longer evident. This tower, situated north of Building 2606, is a later addition. The newer cooling tower is a rectangular board-formed reinforced concrete building (CA-2788-C-1, C-2). Heated water enters into the tower through pipes. Once in the tower the water traveled through pipes and was cooled from 100 degrees to 80 degrees. The water then entered the chillers inside of the tower for further cooling. Once cooled, the water exited the tower through piping that distributed the water to the March Air Force Base Combat Operations Center. This system is no longer in use.

2. Condition of the Fabric:

The structure is in good condition, with few modifications.

B. Description of Exterior:

1. **Overall Dimensions:** The structure is approximately 15' north-south x 30' east-west.

2. **Foundations:** The tower's foundation is concrete slab.

3. **Walls:** All walls are concrete reinforced steel beams.

4. **Structural System:** The structural system is steel beams with concrete.

5. **Porches and Stoops:** None.

6. **Chimneys:** None.

7. **Openings:** The only pedestrian access to the building is a rooftop entry that is accessed from a metal ladder affixed to the north side of the building by bolts (CA-2788-C-2).

8. **Roof:** The tower has a flat concrete roof.

C. Description of the Interior

1. Floor Plans

a. Basement: None

b. First Floor.

The cooling tower has reinforced concrete walls and a concrete foundation. There is concrete-lined trough, along the south side of the building (CA-2788-C-1). The concrete walls of the trough extend about 2' above grade and 4' below grade to a concrete floor. There is a metal grate cover over most of the trough; however, there is an approximately 4'-wide opening at the east end, through which metal ductwork within the trough can be viewed. A metal pipe, about 8" in diameter, comes out of the ground and extends from the south side of the building over the trough area, then curves downward to extend below grade (CA-2788-C-1). The interior apparently contains a maze of pipes.

c. Second floor None.

2. Stairways: A metal ladder is fixed to the north side of the building with bolts and provides access to the roof. This ladder extends out from the structures by about 12" and has metal rungs and handles.

3. Flooring: The tower has a concrete floor.

4. Wall and Ceiling Finishes: None

5. Openings:

a. Doorways: None. A trap door may be located on the roof to provide access to equipment within.

6. Decorative Trim: None.

7. Hardware: None.

8. Mechanical Equipment:

a. Heating: None.

b. Kitchen Appliances: None.

c. Ventilation: None.

d. Lighting: None. Three electric conduits are present on the west side of the building (CA-2788-C-2).

e. Plumbing: None.

9. Original Furnishings: None.

D. Site:

The Cooling Tower, a support facility to Building 2605 [the Combat Operations Center (COC)], is located on the east side of palm tree-lined Riverside Drive (CA-2788-A-1), approximately 500 feet north of the Riverside Drive/Escholtzia Avenue intersection within March Air Force Base (Figures 1 and 2). The building is accessed from an asphalt-paved arched driveway; the west side of the driveway includes an alignment of palm trees (CA-2788-A-1, A-2).

a. General Setting and Orientation: Two small prefabricated metal storage sheds are set along the north side of the building, one at the east end and one at the west end (CA-2788-C-2). The cooling tower, including the trough and storage sheds, is surrounded by an approximately 7'-high chain-link fencing topped with three rows of barbed wire. There is an approximately 4'-wide gate set into the east fence line (CA-2788-C-1).

b. Historical landscape Design: The structure is oriented east/west. It is within a military base and is surrounded by concrete.

c. Accessory Buildings:

A small substation, Utility Building 2606, and the Cooling Tower are accessory buildings built to support Building 2605.

PART III. Sources:

A. Architectural Drawings:

Because the air cooling tower was constructed to replace the earlier cooling arrangement, and was not considered an essential building drawings for the cooling tower are not available.

B. Historic Maps and Views:

Not Applicable

C. Interviews

George Gričius, conference call phone interview, May 14, 2003, with Mary L. Maniery and Cindy Baker, PAR Environmental Services, Inc.

D. Bibliography

Harley, R. *The Heritage of Fifteenth Air Force: 1943-1980*, 1980. Directorate of Public Affairs, Headquarters Fifteenth Air Force, March Air Force Base, California.

Mikesell, Stephen, and Stephen Wee (JRP Historical Consulting) *National Register of Historic Places Registration Form for March Field Historic District*, 1992. JRP Historical Consulting Services. On file, United States Department of the Interior, National Park Service, Washington, D. C.

Manley, Wm. Consulting, and Earth Tech. *Historic Building Inventory and Evaluation: March Air Force Base, Riverside County, California*, 1995. On file, United States Department of the Air Force, Air Force Center for Environmental Excellence, Brooks Air Force Base, Texas.

PART IV. PROJECT INFORMATION:

The 63D RRC is leasing this facility from the United States Air Force and is the responsible agency for Section 106 compliance. Prior to remodeling non-significant portions of the facility for use as a training center, the 63D RRC developed a Finding of No Adverse Effect pursuant to 36 CFR Part 800, and regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f). The State Historic Preservation Officer in 2001, Dr. Knox Mellon, concurred with the Finding of No Adverse Effect (FNAE) in a letter dated October 3, 2001. While the FNAE did not require a HABS recordation of the building, the 63D RRC has voluntarily prepared HABS reports as a means of documenting the condition of the building prior to remodeling efforts and prior to blocking access to the significant Combat

Operations Center portion of the building. This structure was recorded as an accessory to the Main Building 2605.

Prepared By: This report was prepared by Mary L. Maniery, Cultural Resources Specialist, and Cindy Baker, Senior Historian, both with PAR Environmental Services, Inc., Sacramento, California. Photography and the associated photographic index were prepared by David DeVries, Mesa Technical, Berkeley, California.

Submitted By: 63D RRC U.S. Army Regional Readiness Command Headquarters, 4235 Yorktown Avenue, Los Alamitos, CA 90720-5002

Inventory Date: March 2004 (updated October 10, 2006)

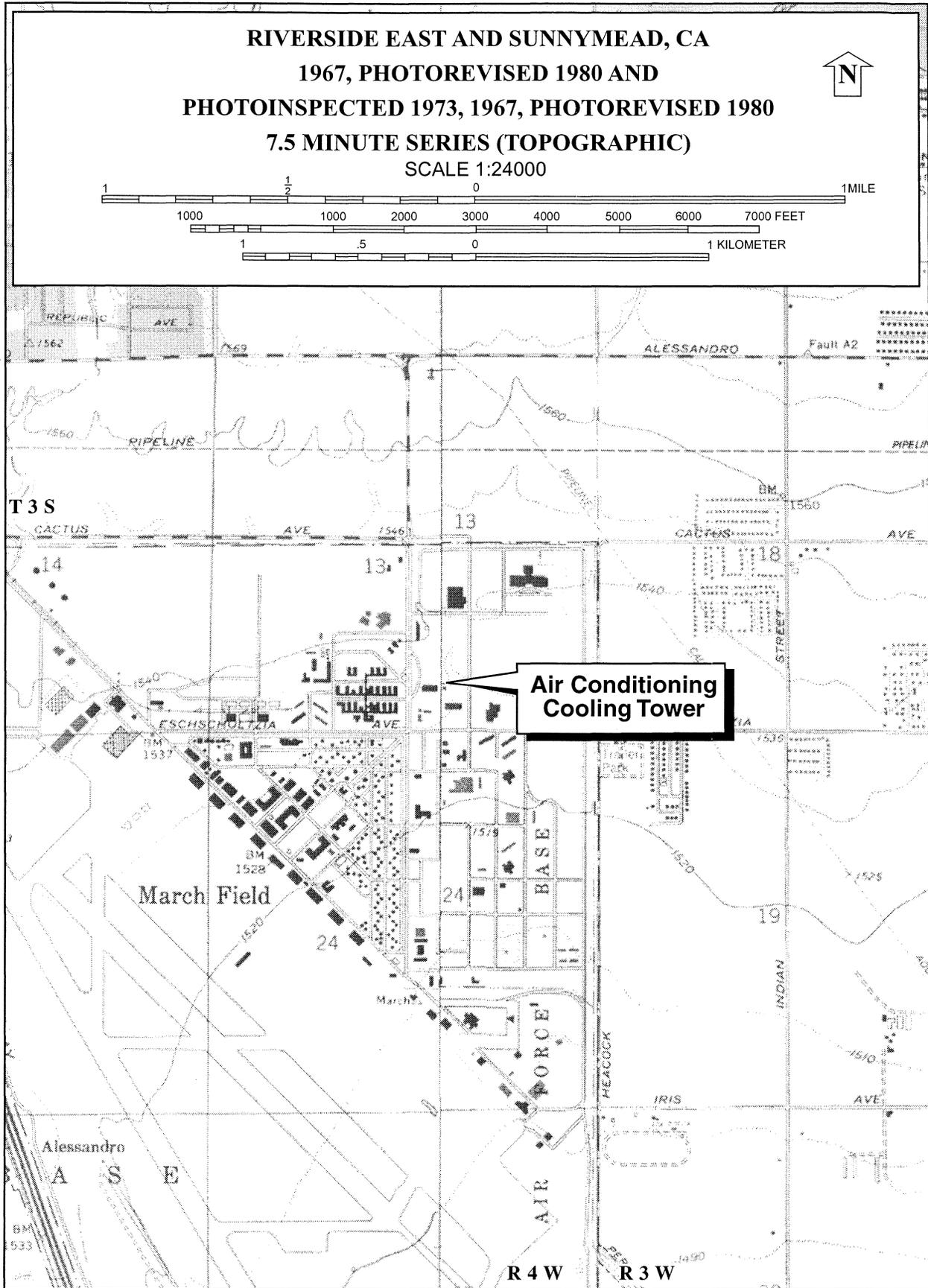


Figure 1. United States Army Reserve, March Air Force Base, Air Conditioning Cooling Tower Location Map

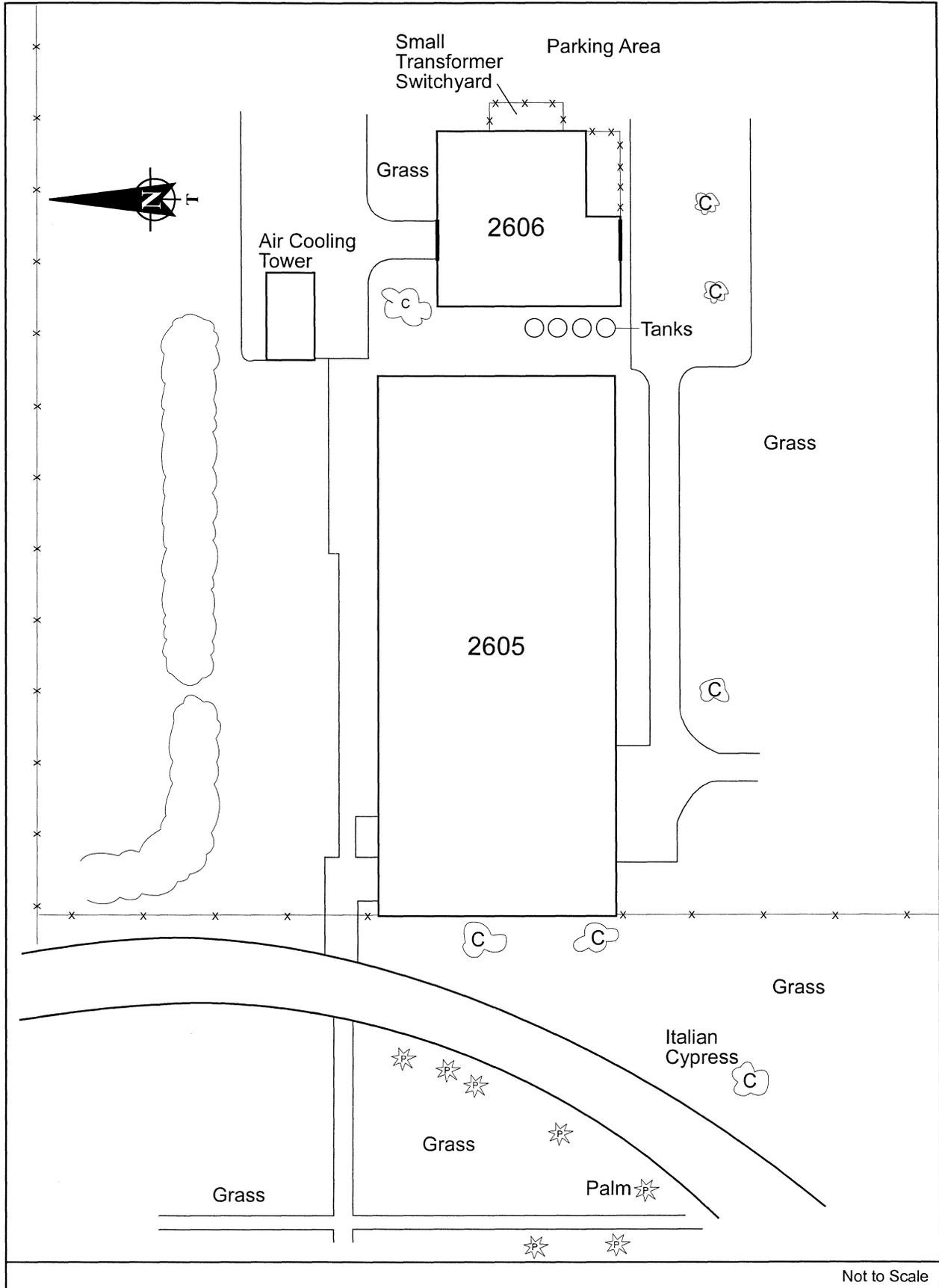


Figure 2. United States Army Reserve, March Air Force Base Site Plan, Air Conditioning Cooling Tower

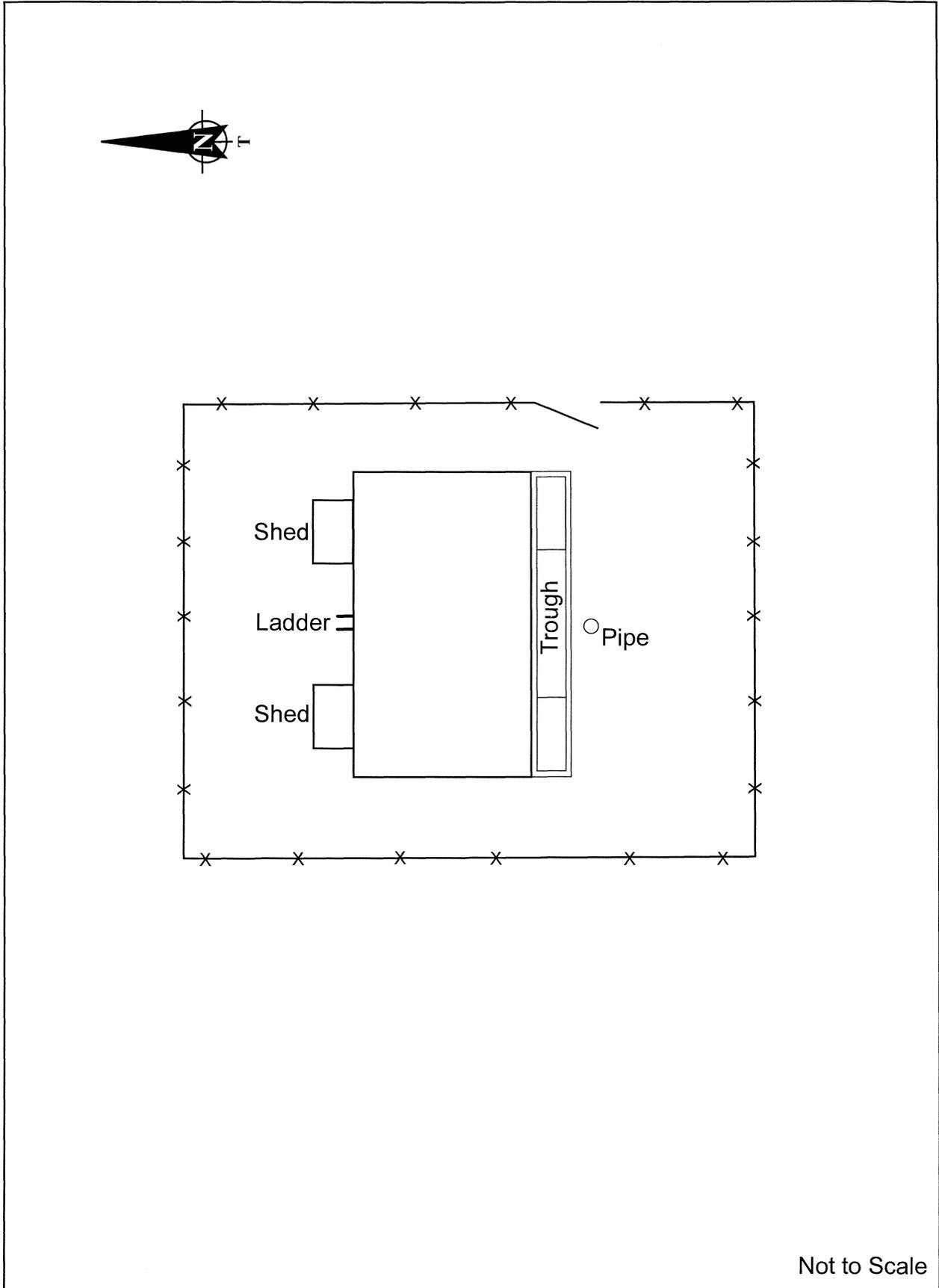


Figure 3. Air Conditioning Cooling Tower Detail Plan