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**MILITARY BUILDINGS**

AIR INTELLIGENCE GROUP, DIVISION OF NAVAL INTELLIGENCE  
OFFICE OF THE CHIEF OF NAVAL OPERATIONS, NAVY DEPARTMENT

OPNAV-16-VP 102  
JANUARY 1945



5011/8

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SUPPLEMENT NO. 4

PHOTOGRAPHIC  
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HANDBOOK—UNITED  
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**MILITARY BUILDINGS**

1 APRIL, 1945

PHOTOGRAPHIC INTELLIGENCE CENTER,  
DIVISION OF NAVAL INTELLIGENCE, NAVY DEPARTMENT

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**PREFABRICATION WALL PANEL**

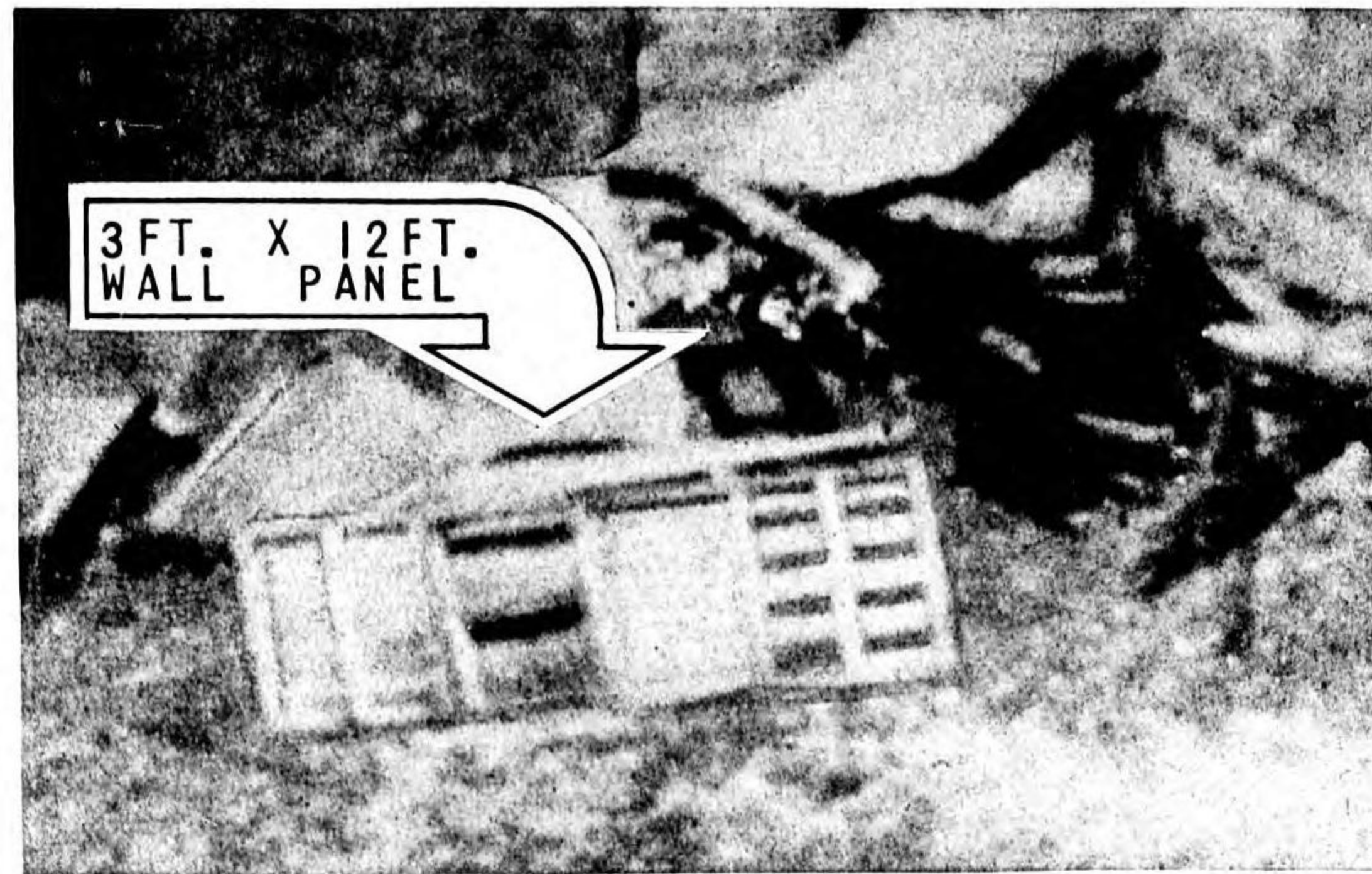
**FUNCTION** Wall Panel for Barracks  
—Storage Etc. **ELEVATION**

**DIMENSIONS** 3 Feet Wide—12 Ft. high

**TYPE OF CONSTRUCTION** Prefabricated Wood.

**DISTINGUISHING CHARACTERISTIC** Four 3-Ft. Panels—  
Ventilation Slits  
Sliding Windows

**RELATIVE LOCATION** Housing or Storage Area—Stock piles as in illustration at Wotje.



**PREFABRICATED STORAGE**

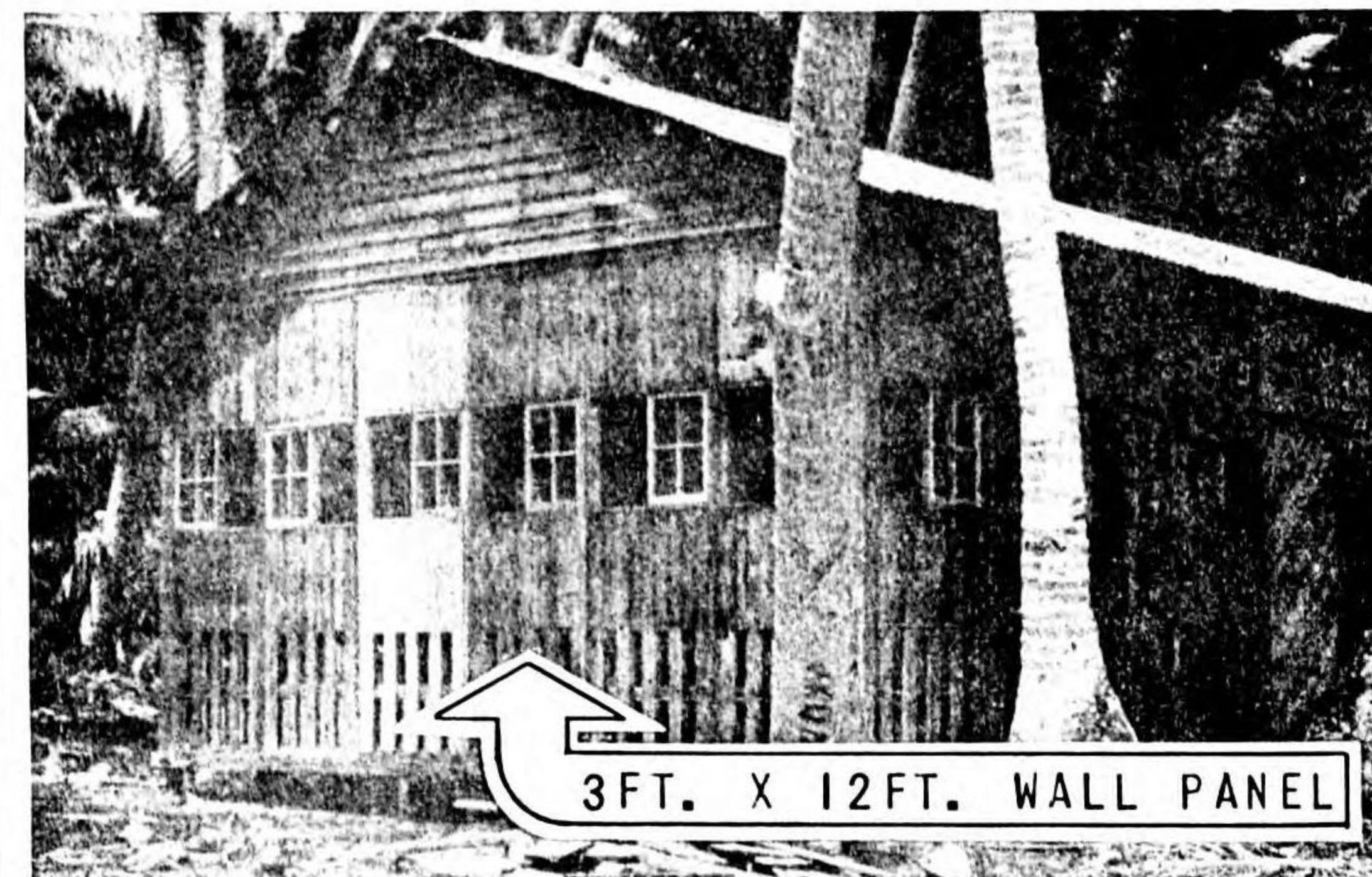
**FUNCTION** Storage or Housing. **PLAN & ELEVATION**

**DIMENSIONS** Variable according to number of panels used.

**TYPE OF CONSTRUCTION** Prefabricated wooden floor, wall and ceiling panels.

**DISTINGUISHING CHARACTERISTIC** 3 Ft. x 12 Ft. Wall Panels. Gable Roof—variable in length.

**RELATIVE LOCATION** Storage or housing area as semi-permanent wood construction.



**CLIPPED HIP BARRACKS**

**FUNCTION** Troop Housing **PLAN**

**DIMENSIONS** 45 Ft. x 150 Ft. including roof overhang.

**TYPE OF CONSTRUCTION** Wood frame. Galv. iron roof.

**DISTINGUISHING CHARACTERISTIC** Clipped hip roof  
6-Ft. porch on all sides

**RELATIVE LOCATION** Housing area—  
May house officers if broken up as shown in plan.



**TRIANGULAR ARMY BARRACKS**

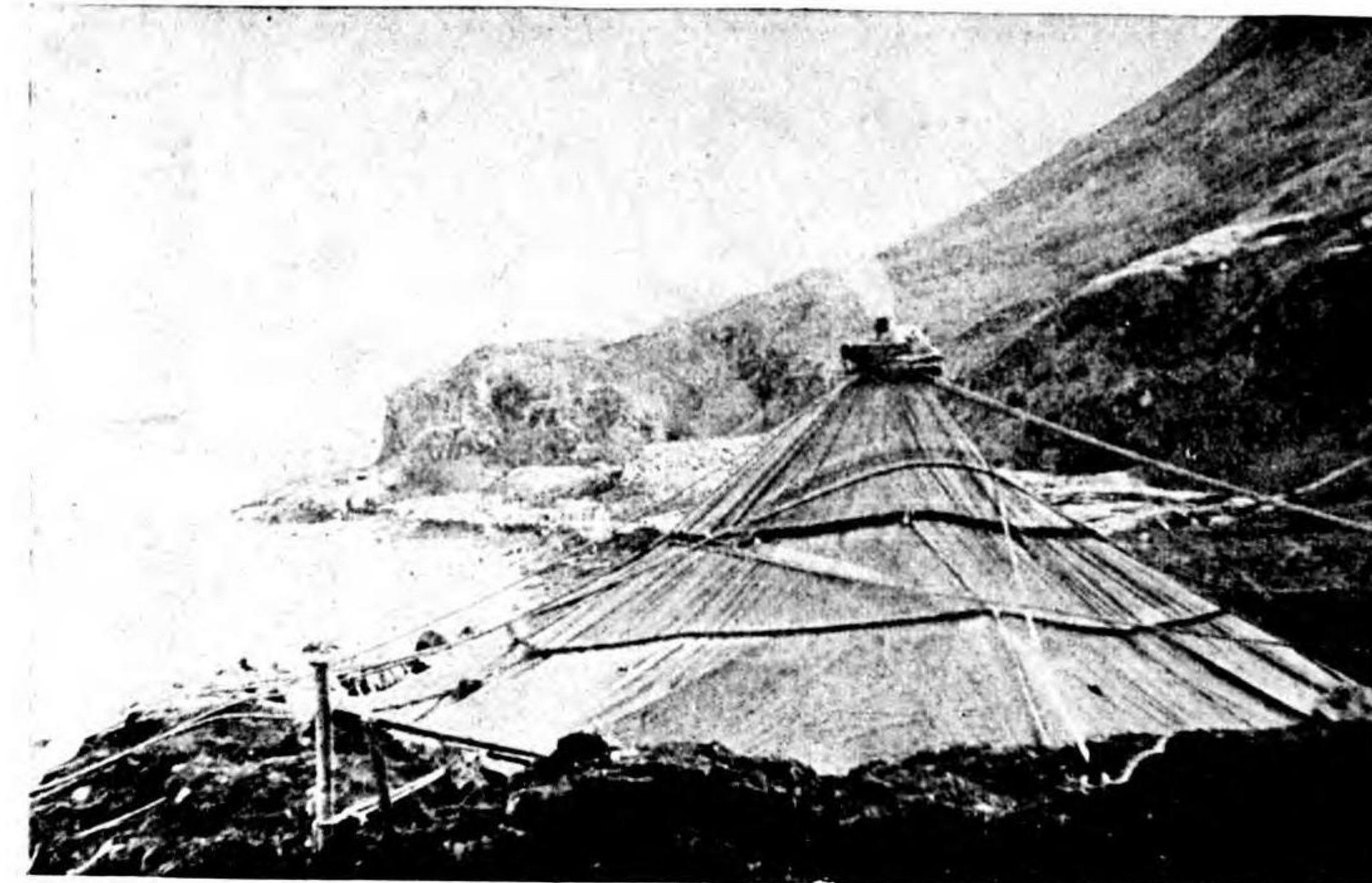
**FUNCTION** Troop Housing **DISTINGUISHING CHARACTERISTIC** Tundra covered

**DIMENSIONS** Width 21 Ft Length variable **RELATIVE LOCATION** Housing Area

**TYPE OF CONSTRUCTION** Prefabricated Wooden Panel

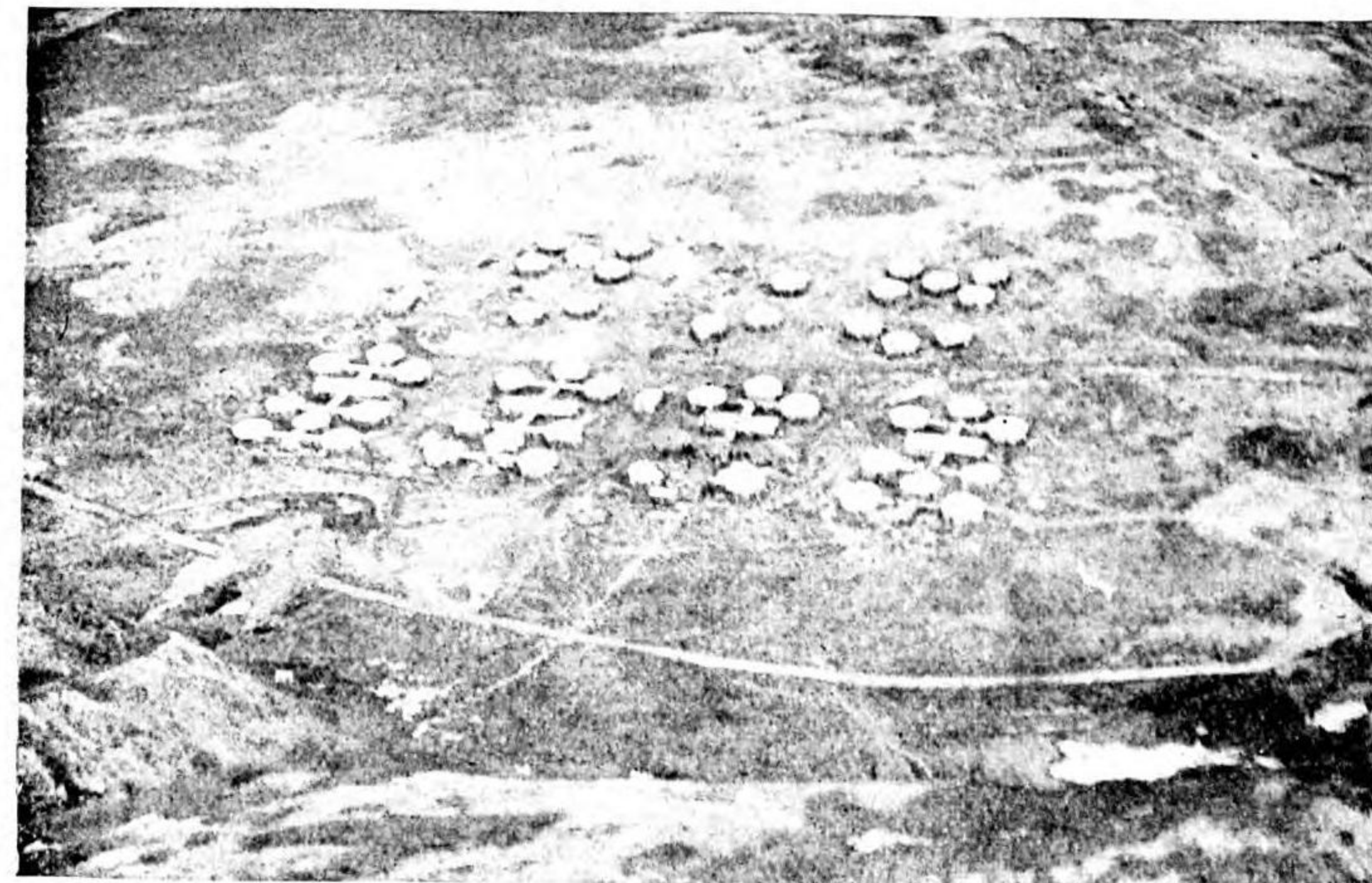






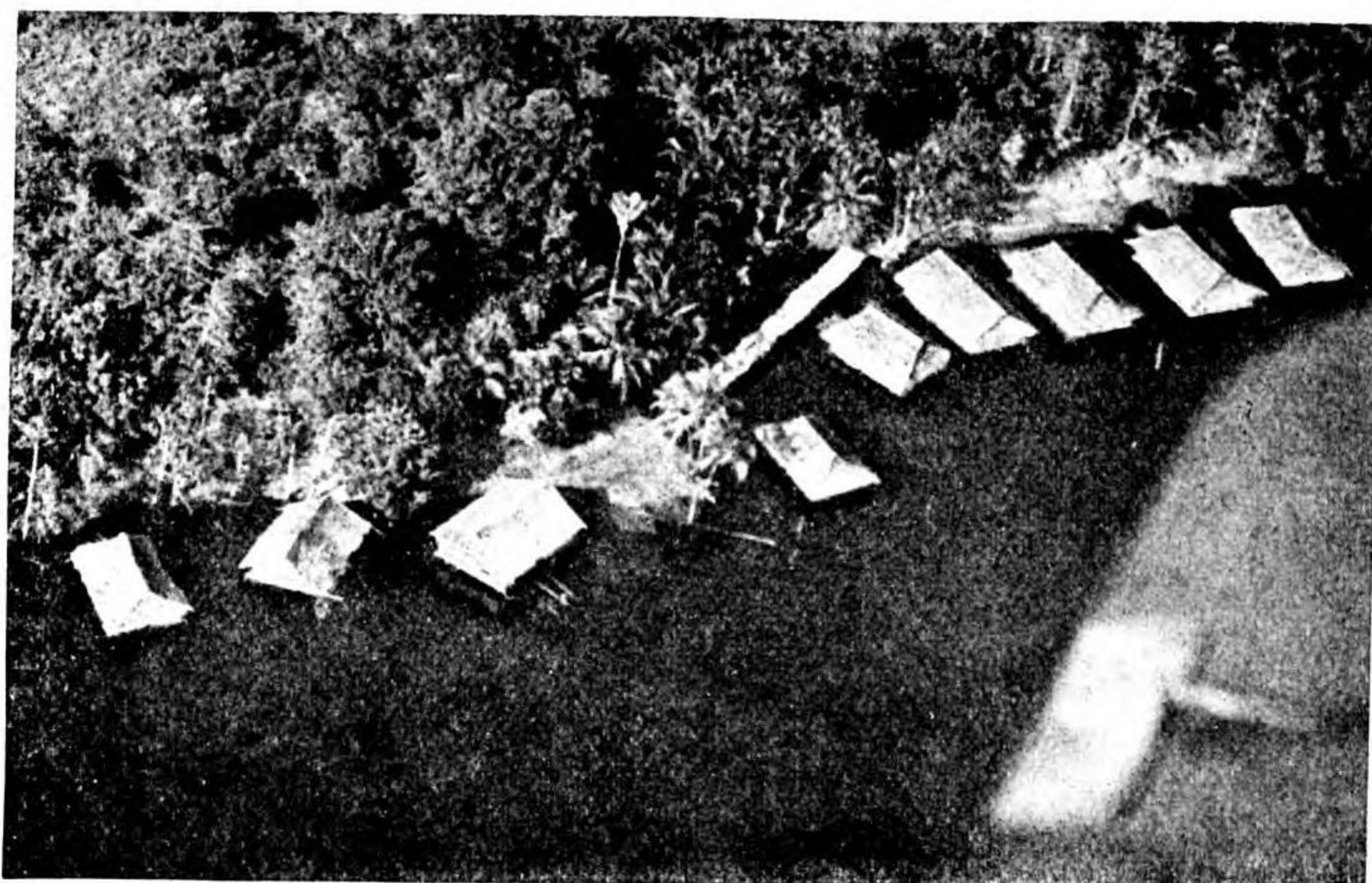
**24 FT. DIAMETER TENT**  
**PLAN & SECTION**

FUNCTION Troop housing  
 DIMENSIONS Diameter 24 feet.  
 TYPE OF CONSTRUCTION Prefabricated Canvas  
 DISTINGUISHING CHARACTERISTIC Conical form in fixed position—surrounded by small revetment.  
 RELATIVE LOCATION Found in cold climates only.



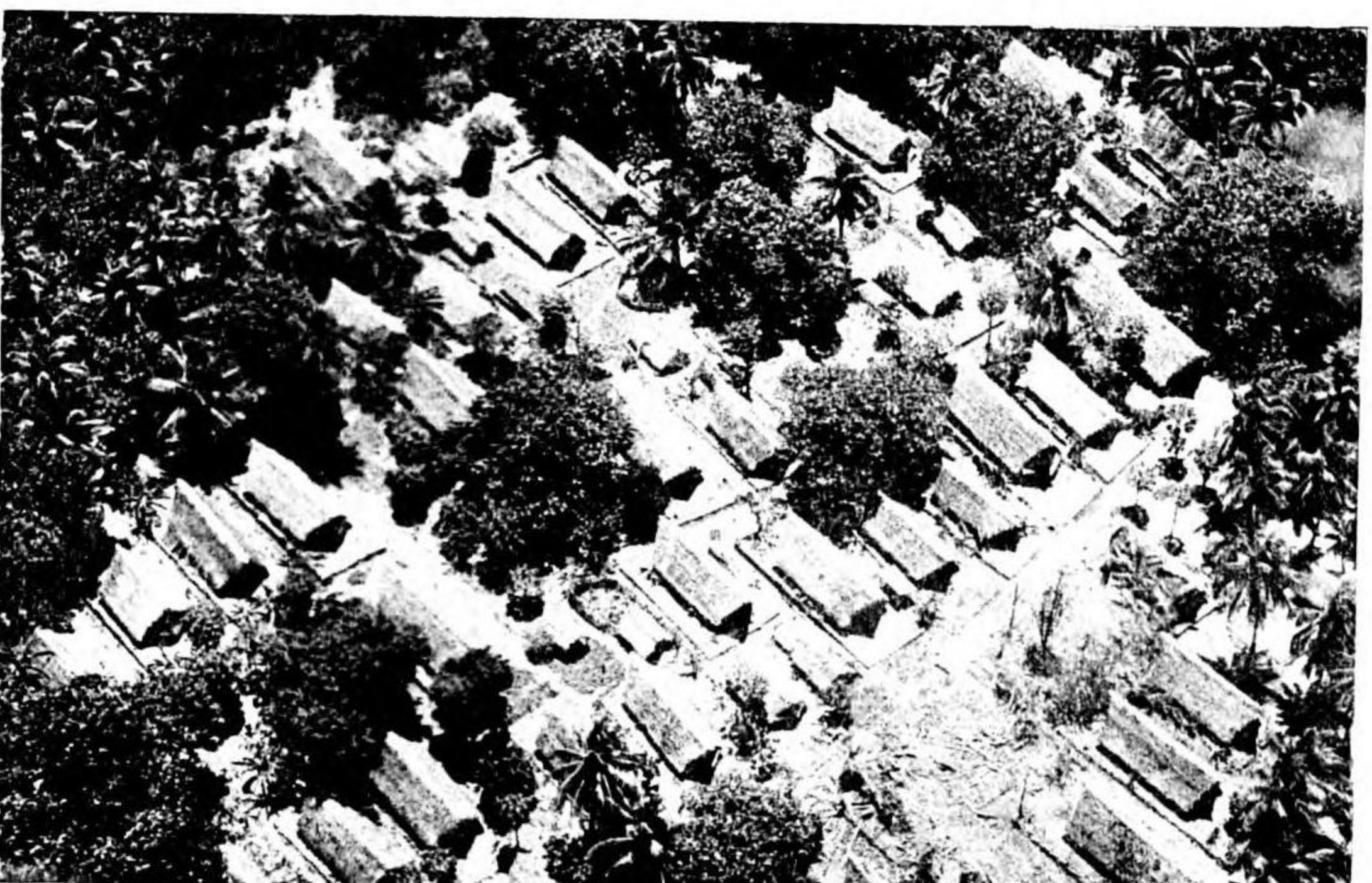
**35 FT. DIAMETER TENT**  
**PLAN & SECTION**

FUNCTION Troop Housing  
 DIMENSIONS Diameter 35 feet.  
 TYPE OF CONSTRUCTION Prefabricated wooden side walls and canvas roof surfaces.  
 DISTINGUISHING CHARACTERISTIC Similarity to fuel storage tank. Found in groups.  
 RELATIVE LOCATION Housing area. Servicing air field. Found in cold climates only.



**NATIVE OFFSHORE CONSTRUCTION**  
**PLAN**

FUNCTION Native Housing  
 DIMENSIONS Variable  
 TYPE OF CONSTRUCTION Native-thatched roof  
 DISTINGUISHING CHARACTERISTIC Clipped Hip Thatched roof.  
 RELATIVE LOCATION Offshore in large groups as in Hollandia illustration.

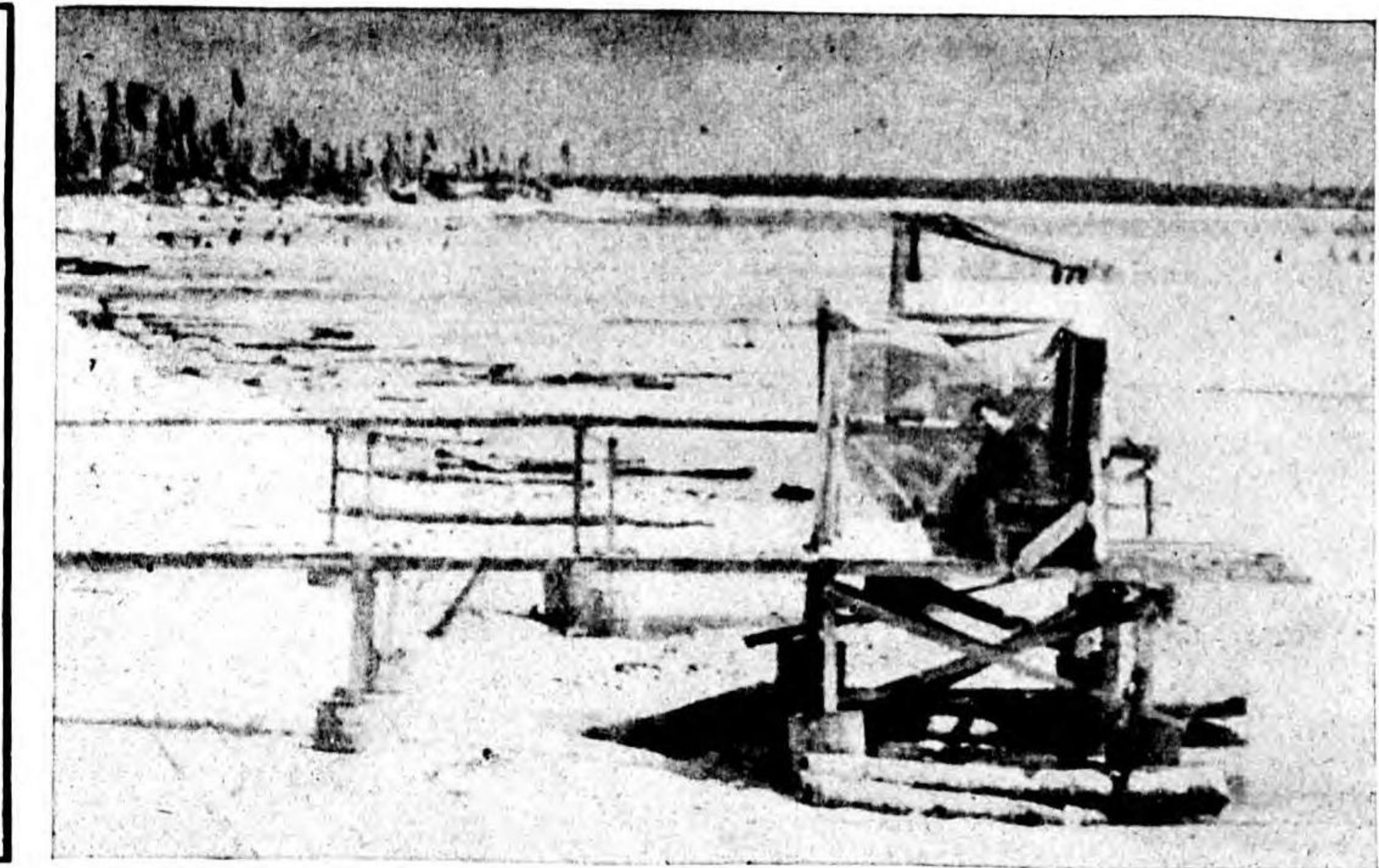


**EXTENDED RIDGE CONSTRUCTION**  
**PLAN**

FUNCTION Native Housing  
 DIMENSIONS Variable  
 TYPE OF CONSTRUCTION Native-thatched roof.  
 DISTINGUISHING CHARACTERISTIC Extended ridge. Thatched roof.  
 RELATIVE LOCATION Native housing area. Usually near shoreline.

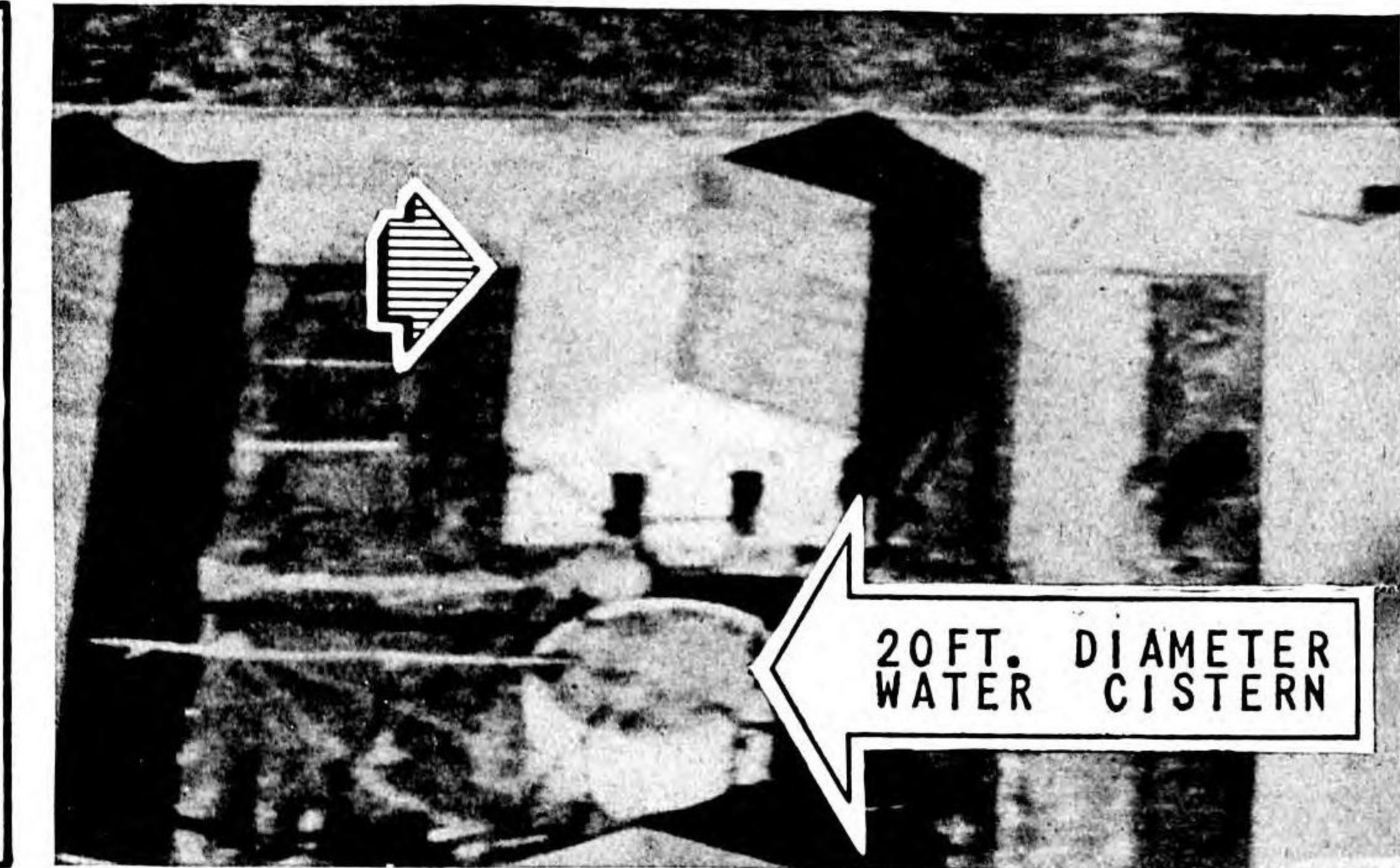
**OFFSHORE LATRINE**  
**PLAN**

FUNCTION Latrine  
 DIMENSIONS Variable  
 TYPE OF CONSTRUCTION Wood Frame  
 DISTINGUISHING CHARACTERISTIC Offshore connected by pier  
 RELATIVE LOCATION Offshore servicing barracks area.



**24 FT. X 33 FT. LATRINE**  
**PLAN & ELEVATION**

FUNCTION Latrine  
 DIMENSIONS 24 Ft. x 33 Ft.  
 TYPE OF CONSTRUCTION Wood Frame Concrete Footings  
 DISTINGUISHING CHARACTERISTIC Gable roof-shed roof at rear  
 RELATIVE LOCATION Adjacent to and servicing barracks.



**12 FT. X 18 FT. LATRINE**  
**PLAN & ELEVATION**

FUNCTION Latrine  
 DIMENSIONS 12 Ft. x 18 Ft.  
 TYPE OF CONSTRUCTION Wood Frame Concrete Foundation  
 DISTINGUISHING CHARACTERISTIC Gable roof—3 vents from septic tank.  
 RELATIVE LOCATION Tied to officer's quarters by covered passage—Part of communication center.



**24 FT. X 30 FT. BATH HOUSE**  
**PLAN & ELEVATION**

FUNCTION Bath House  
 DIMENSIONS 24 Ft. x 30 Ft.  
 TYPE OF CONSTRUCTION Wood Frame Concrete foundation  
 DISTINGUISHING CHARACTERISTIC Gable Roof-Shed at rear—Stack servicing two water heaters.  
 RELATIVE LOCATION Adjacent to and servicing barracks.



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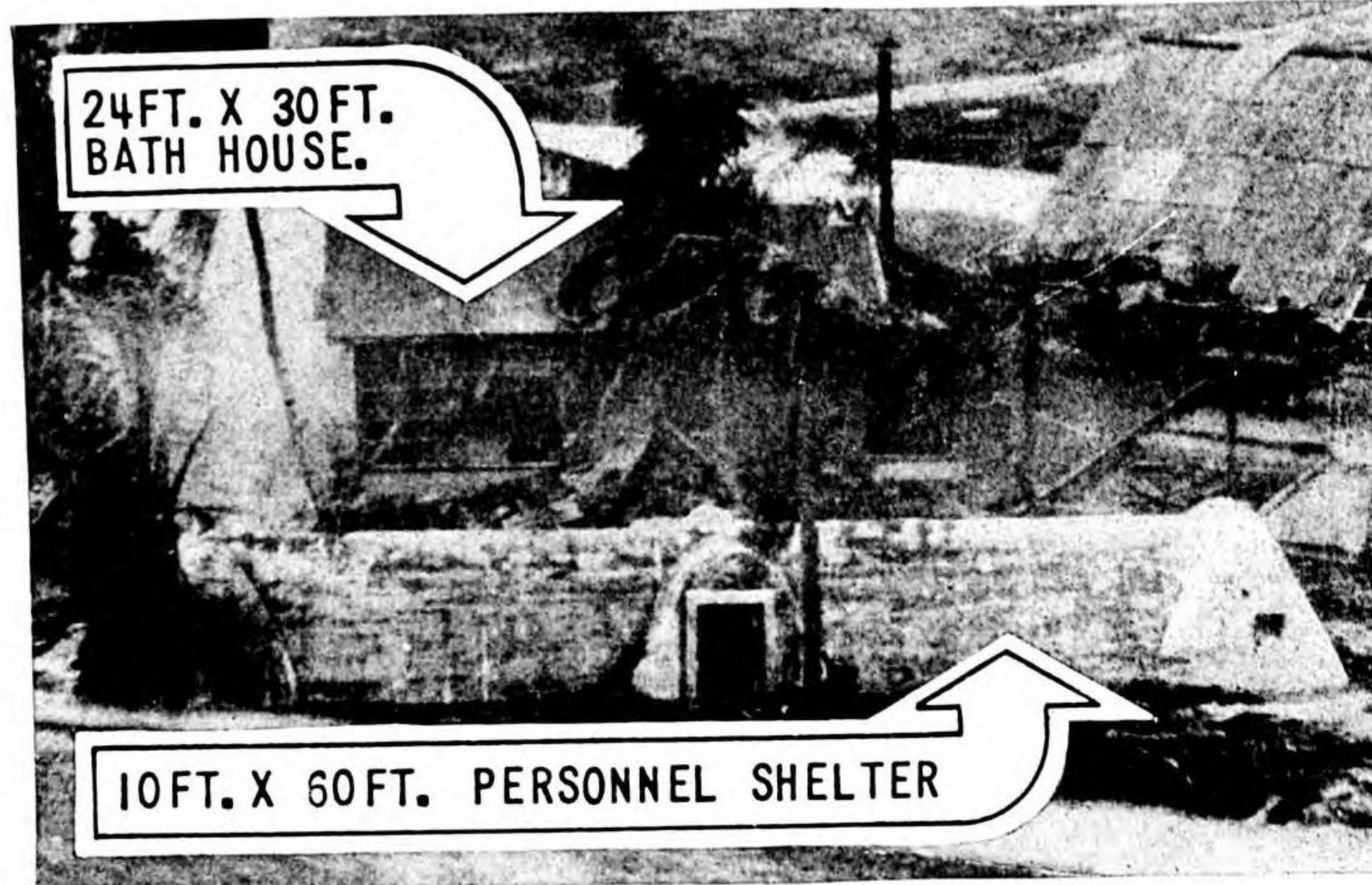
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# TECHNICAL STUDIES JAPANESE MILITARY BUILDINGS

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**10 FT. X 60 FT. SHELTER**  
SECTION

FUNCTION Personnel Air Raid Shelter

DIMENSIONS 10 Ft. x 60 Ft.

TYPE OF CONSTRUCTION Heavily Reinforced Concrete

DISTINGUISHING CHARACTERISTIC "I" Shaped plan. Usual existence of blast walls opposite 3 cast iron door ways.

RELATIVE LOCATION Adjacent to Barracks, Shops or Hangars—Capacity 100 men.



**20 FT. DIAMETER WATER CISTERN**  
PLOT PLAN

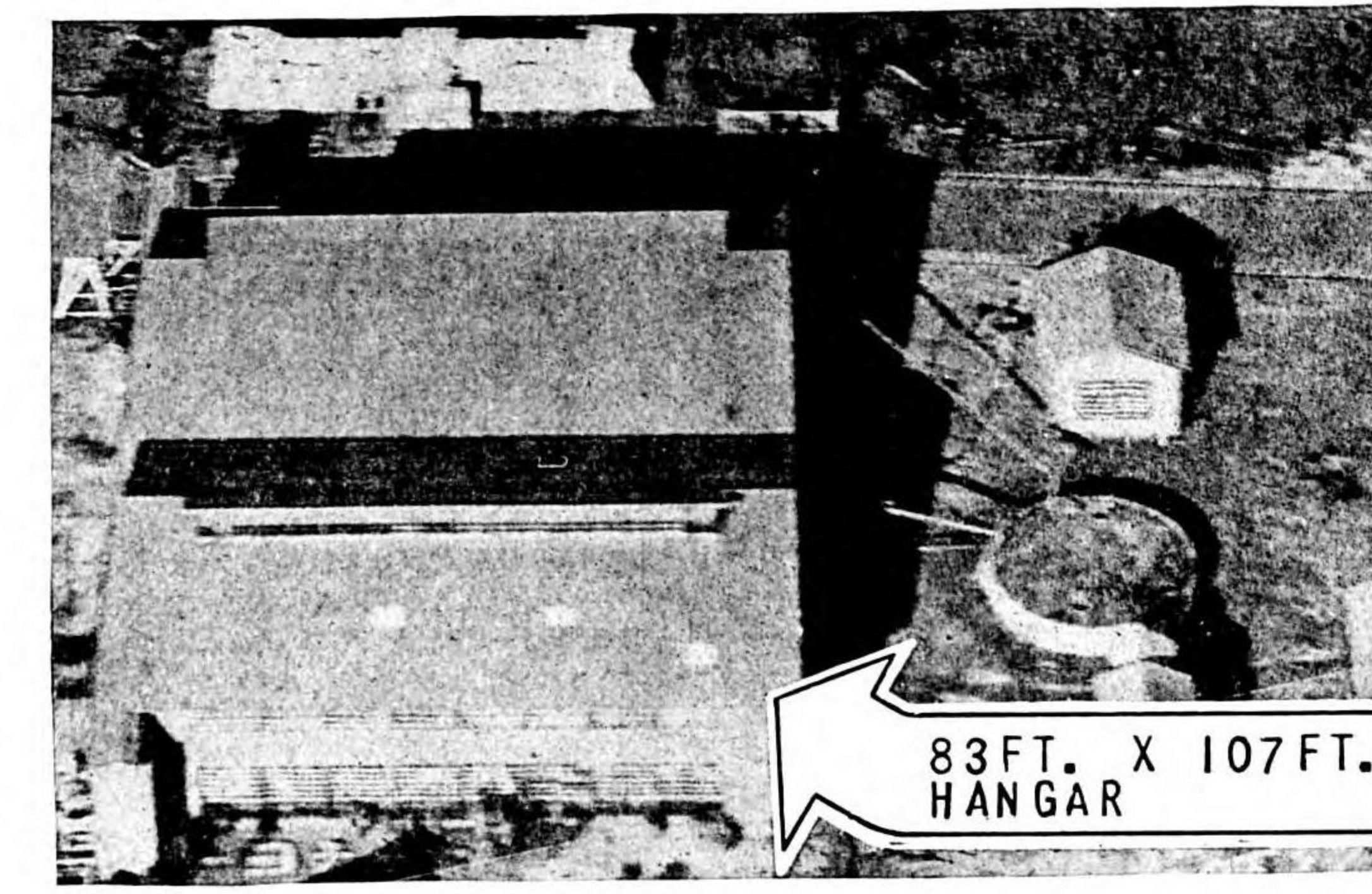
FUNCTION Collection and storage of water from roof surfaces

DIMENSIONS Diameter 20 feet.

TYPE OF CONSTRUCTION Reinforced concrete

DISTINGUISHING CHARACTERISTIC Circular plan—pipes to gutters of all adjacent roof surfaces.

RELATIVE LOCATION Near any large roof surface—usually barracks or Hangars. Capacity 12,232 gals.



**46 FT. DIAMETER WATER CISTERN**  
PLOT PLAN

FUNCTION Storage of water

DIMENSIONS Diameter 46 feet.

TYPE OF CONSTRUCTION Reinforced Concrete.

DISTINGUISHING CHARACTERISTIC Circular plan—pipes to gutters of all adjacent roof surfaces.

RELATIVE LOCATION Near large roof surface—Usually Hangar. Capacity 71,400 gals.



**S H I N T O S H R I N E**  
PLOT PLAN

FUNCTION Shinto Worship

DIMENSIONS Variable—relatively small.

TYPE OF CONSTRUCTION Wood and Masonry.

DISTINGUISHING CHARACTERISTIC Raised platform base and stairway.

RELATIVE LOCATION Isolated from main housing areas. Formal walkway to steps.

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**S H I N T O G A T E**  
PLAN & SECTION

FUNCTION Gate to shrine

DIMENSIONS Variable

TYPE OF CONSTRUCTION Wood or Concrete

DISTINGUISHING CHARACTERISTIC Spans walkway to shrine

RELATIVE LOCATION Isolated from main housing areas.



**2 STORY ADMINISTRATION**  
PLAN & ELEVATION

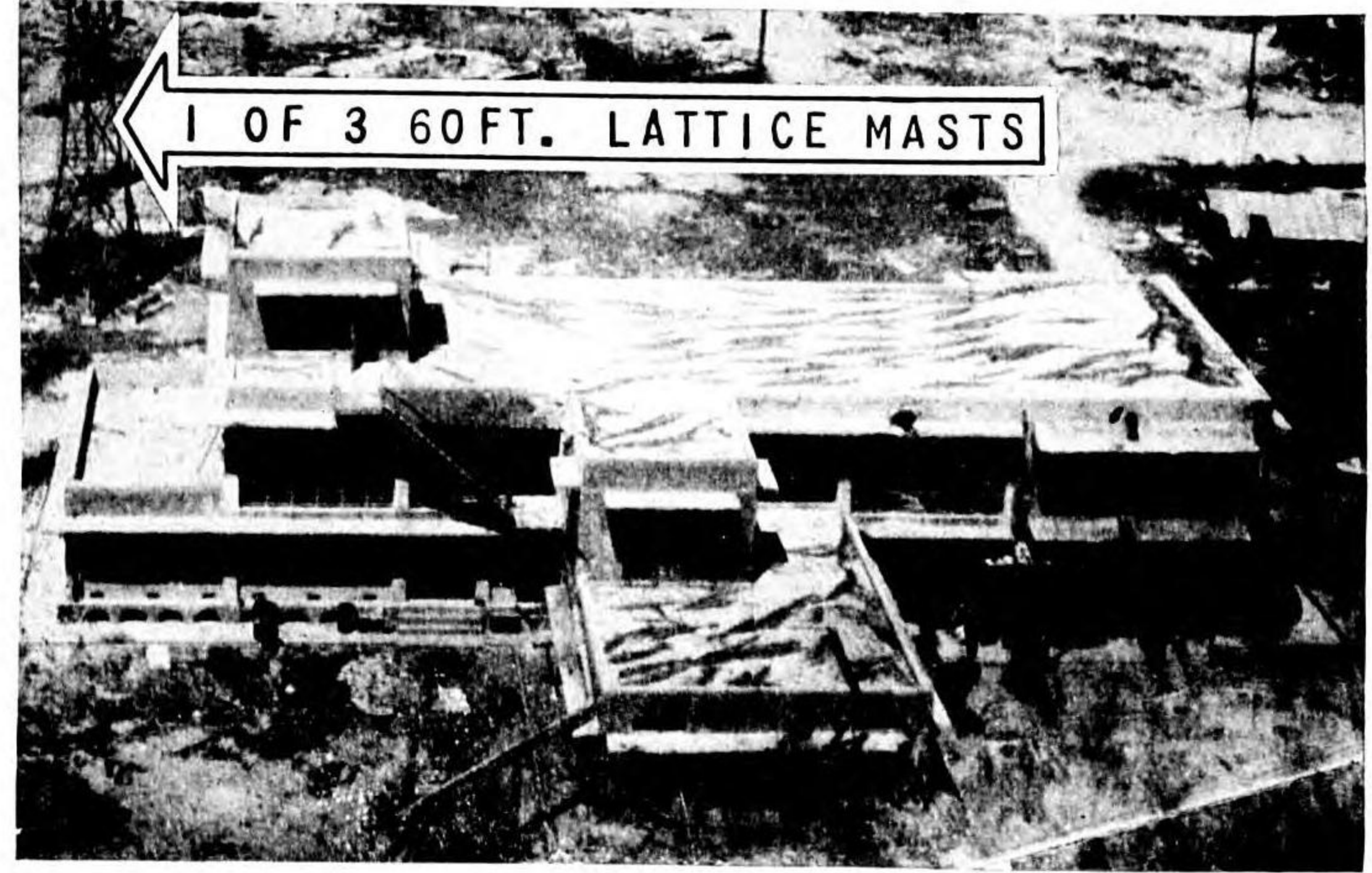
FUNCTION Medium Freq. communication center.

DIMENSIONS 65 Ft. x 167 Ft.

TYPE OF CONSTRUCTION Reinforced concrete

DISTINGUISHING CHARACTERISTIC 2-story height T-in plan.

RELATIVE LOCATION Centrally located 3 lattice masts present.



**AIR COMMAND HEADQUARTERS**  
PLAN & ELEVATION

FUNCTION Air Command Hdqtrs. or Operations Bldg.

DIMENSIONS 39 Ft. x 42 Ft.

TYPE OF CONSTRUCTION Reinforced Concrete.

DISTINGUISHING CHARACTERISTIC Square Plan—Flat roof—wooden tower on roof occasionally.

RELATIVE LOCATION Edge of center portion of air strip.



**20 FT. X 20 FT. D. F. BLDG.**  
PLAN & ELEVATION

FUNCTION High Freq. D. F. Station.

DIMENSIONS 20 Ft. x 20 Ft. 30 Ft. High

TYPE OF CONSTRUCTION Wood Frame

DISTINGUISHING CHARACTERISTIC Square plan. 30 Ft. Height. Buttresses at each corner.

RELATIVE LOCATION In cleared area—Usually in groups of 3. Serviced by Generator building.



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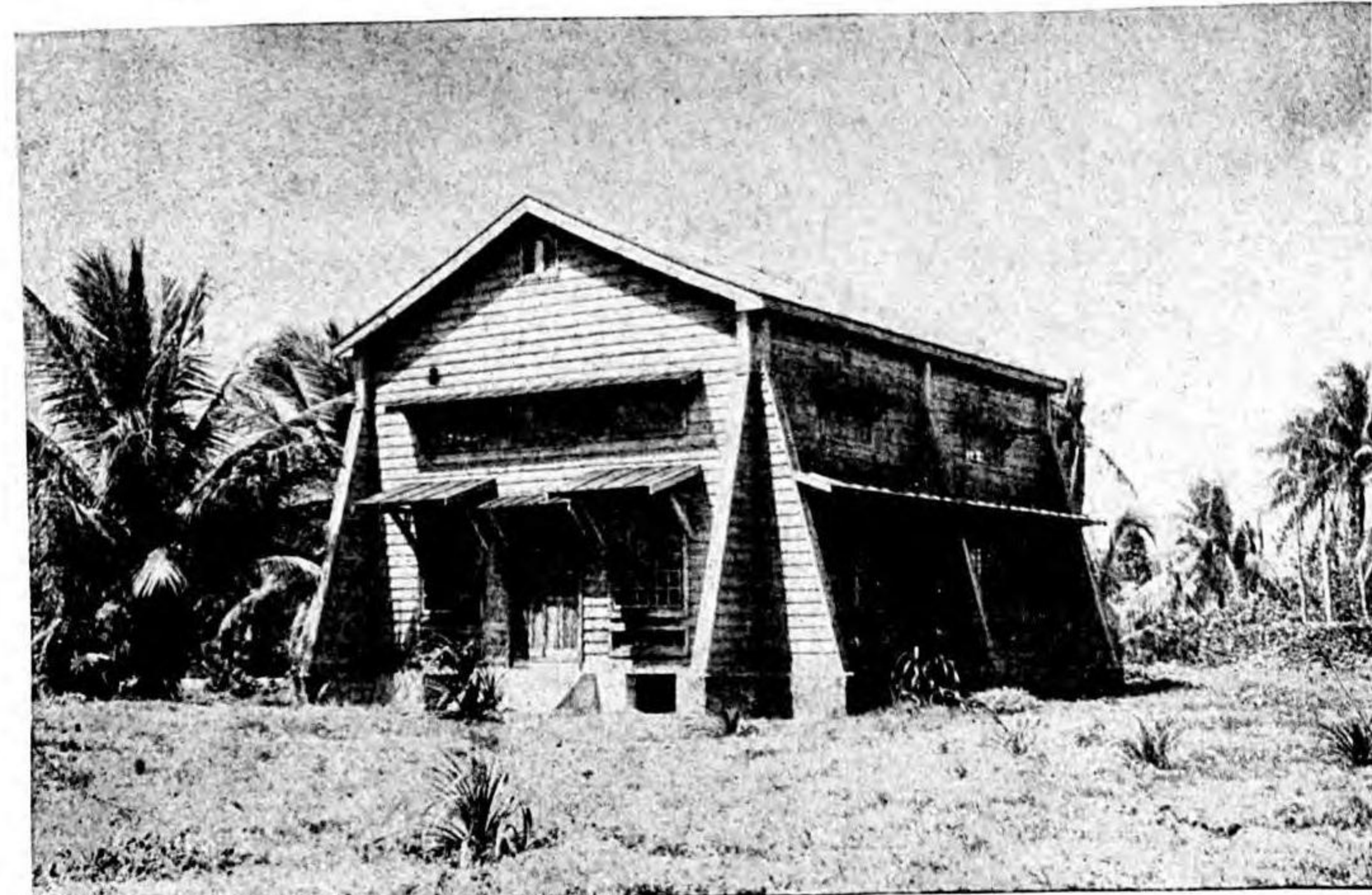
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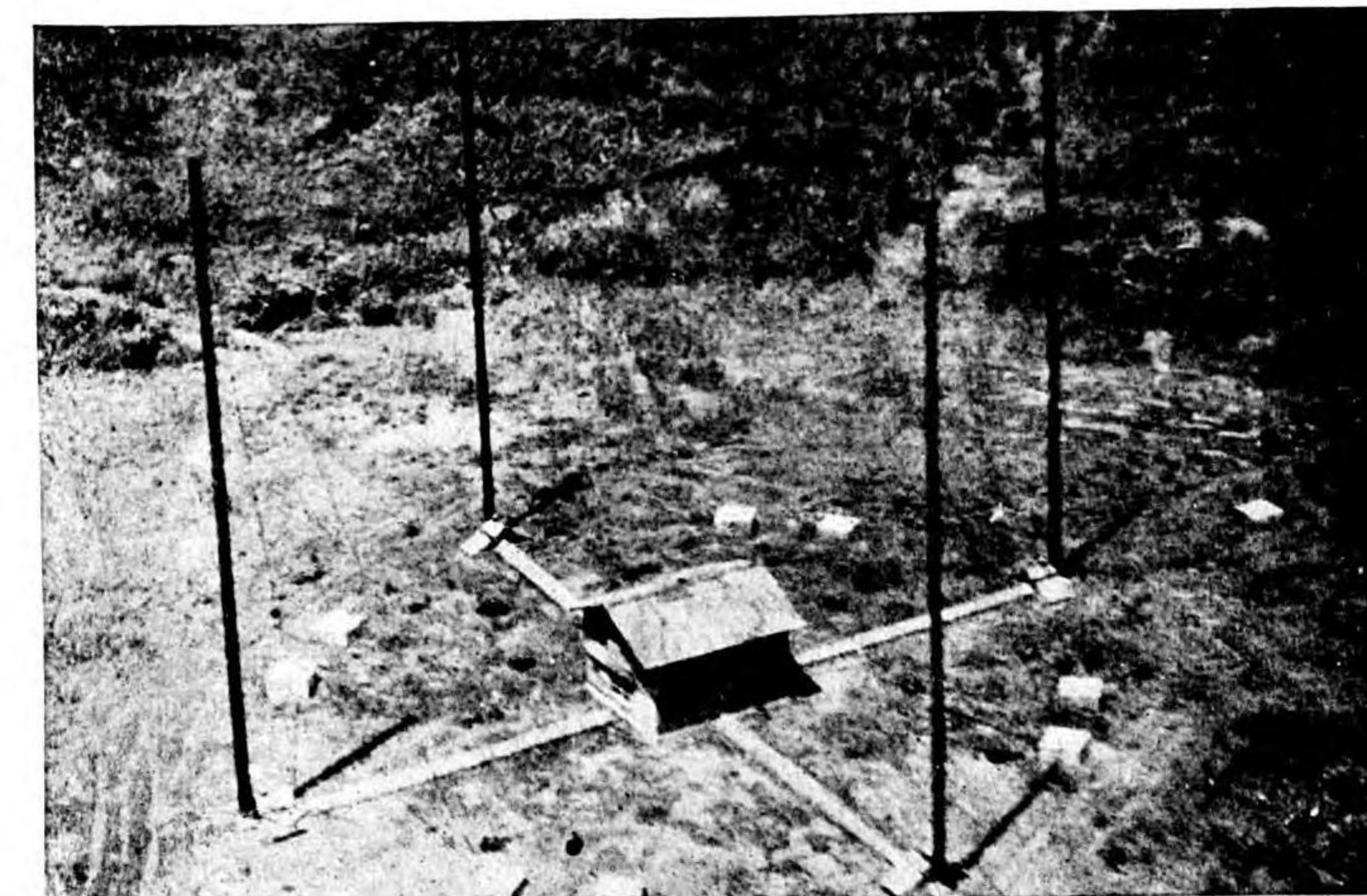
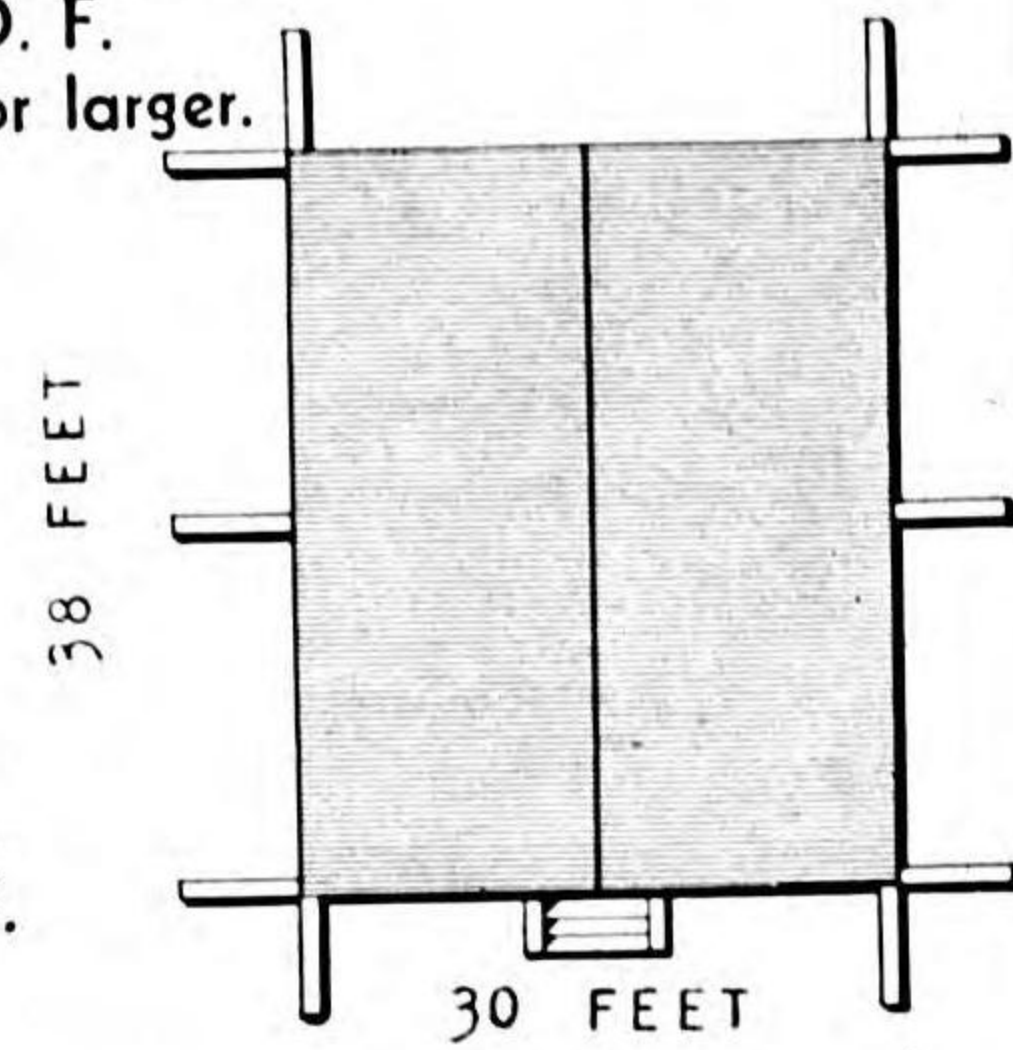


# TECHNICAL STUDIES JAPANESE MILITARY BUILDINGS

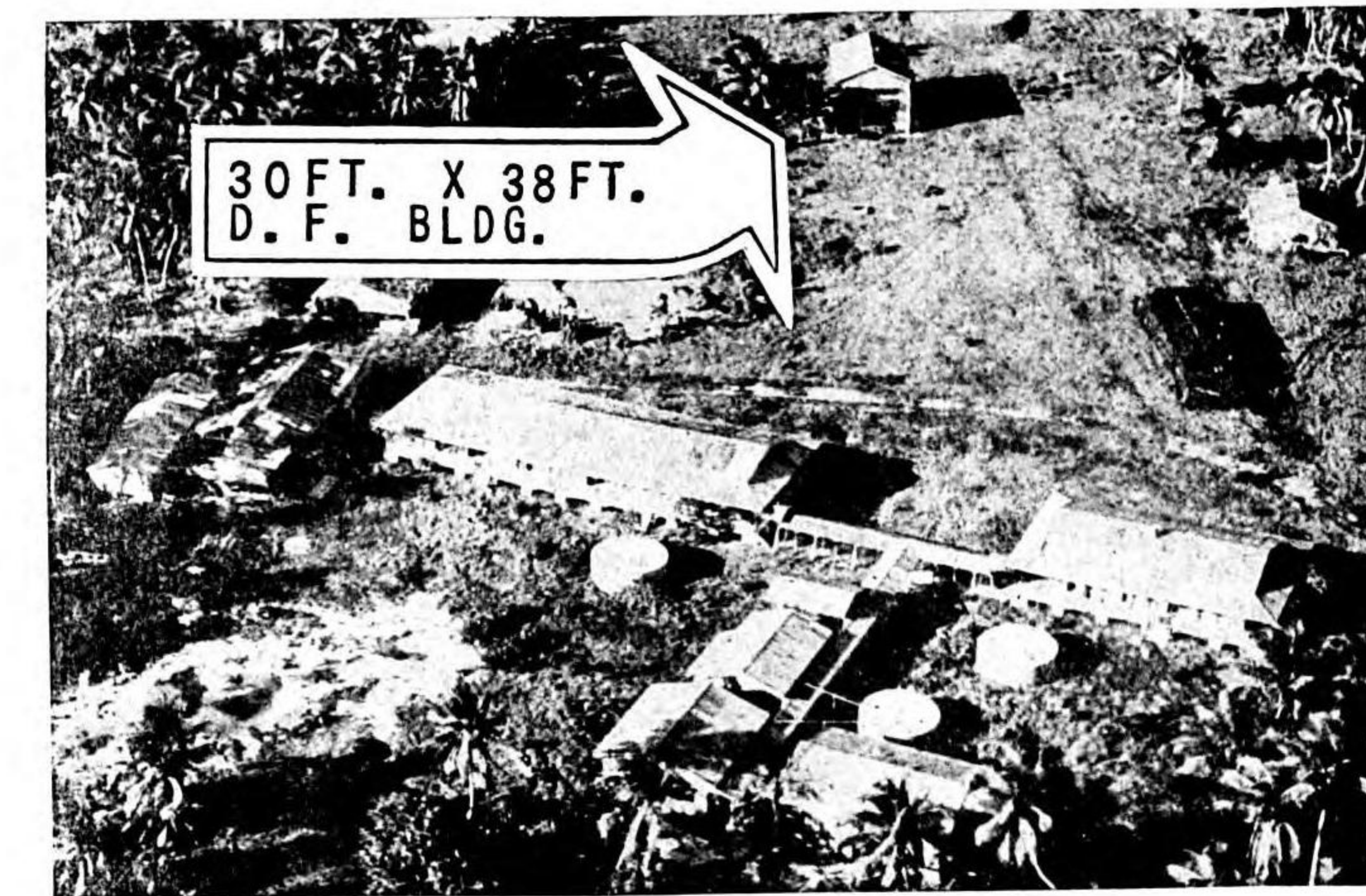
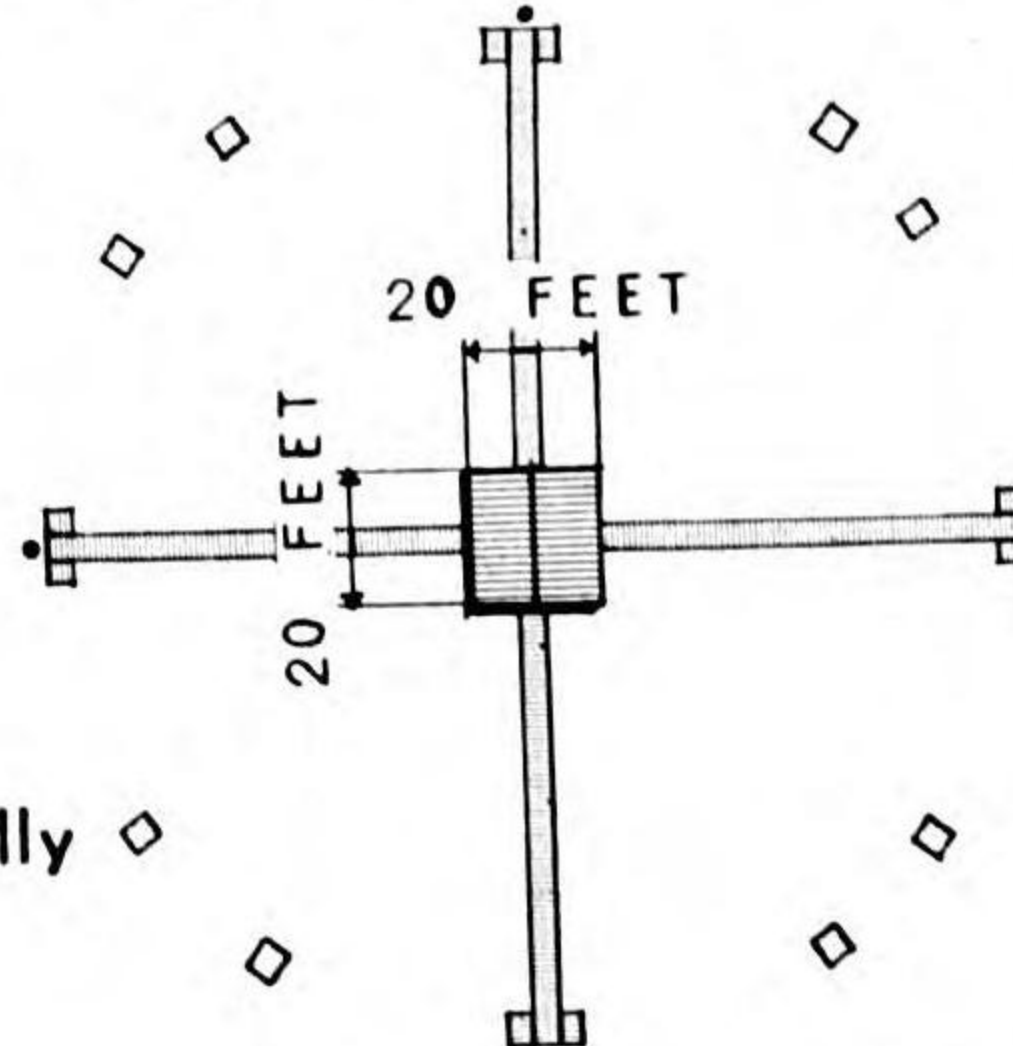
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**30 FT. X 38 FT. D. F. BLDG.**  
**FUNCTION** Probable Generator Bldg. for High Freq. D. F.  
**DIMENSIONS** 30 Ft. x 38 Ft. or larger.  
**TYPE OF CONSTRUCTION** Wood Frame Concrete foundation  
**DISTINGUISHING CHARACTERISTIC** Gable Roof Buttresses on corners  
**RELATIVE LOCATION** Cleared Area Servicing High Frequency D. F. Buildings.

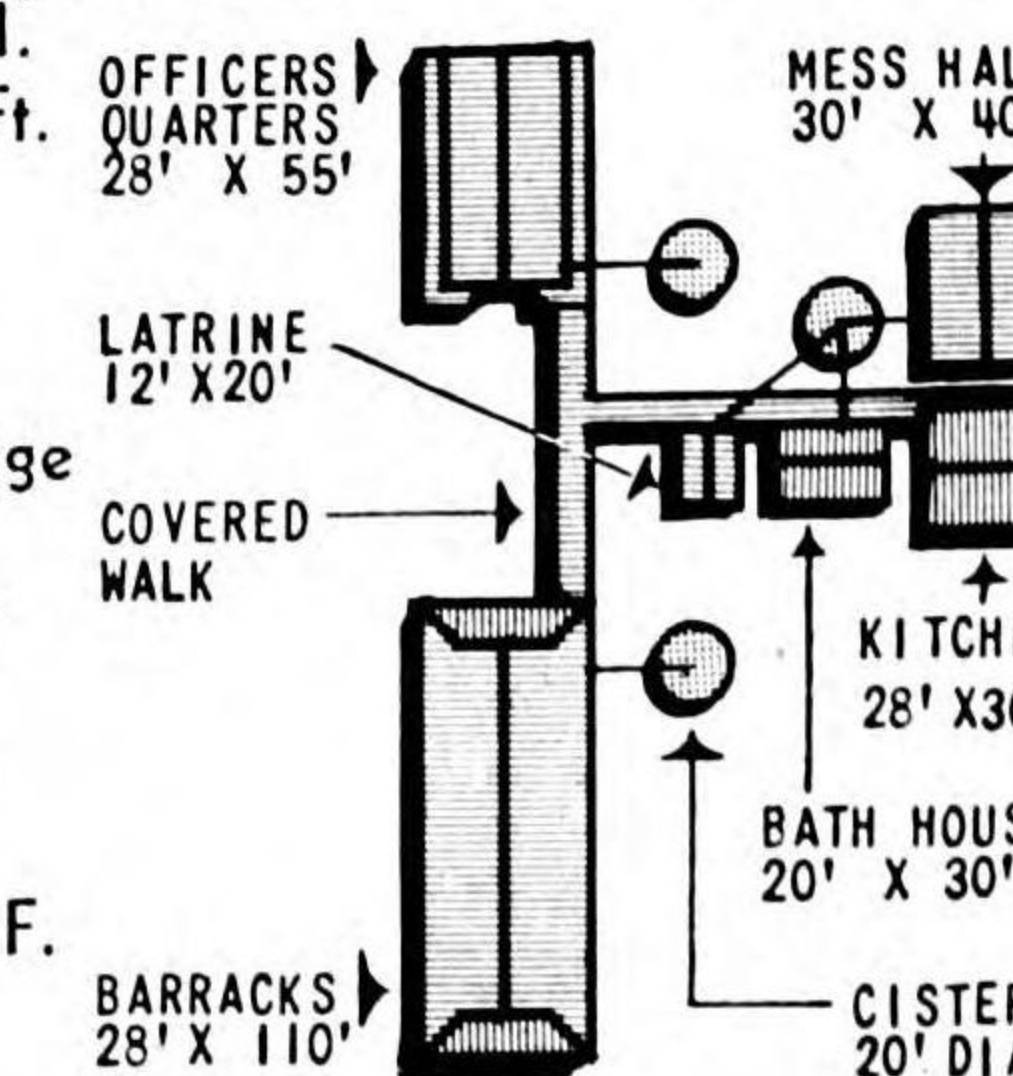


**20 FT. X 20 FT. ADCOCK**  
**FUNCTION** Medium Frequency D. F. Station  
**DIMENSIONS** 20 Ft. x 20 Ft.  
**TYPE OF CONSTRUCTION** Wood Frame concrete footings.  
**DISTINGUISHING CHARACTERISTIC** 4 unipoles 50 Ft. from bldg. Gable roof.  
**RELATIVE LOCATION** in Circular Clearing—usually in pairs.

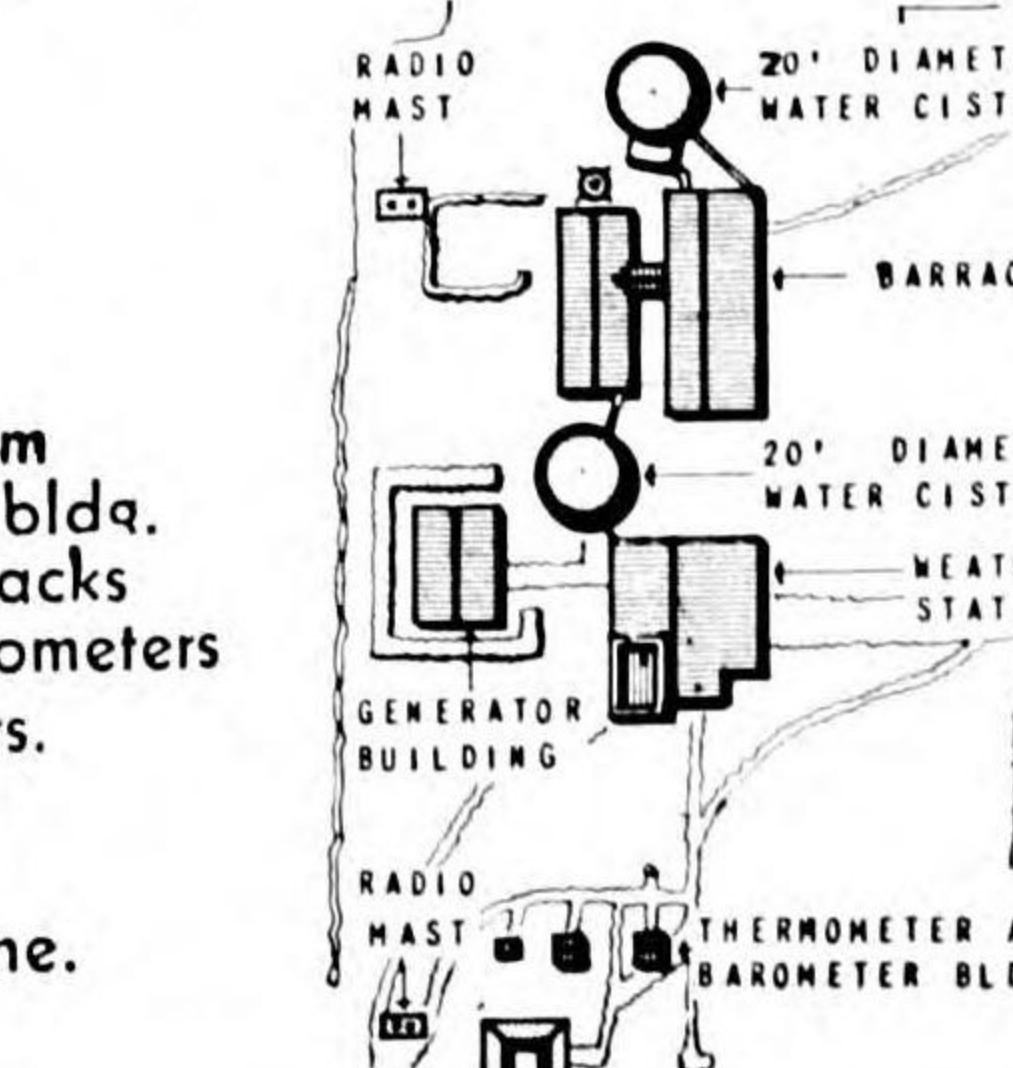


30 FT. X 38 FT. D. F. BLDG.

**COMMUNICATION CENTER**  
**FUNCTION** Housing for High and Med. Freq. Personnel.  
**DIMENSIONS** Approx. 180 Ft. x 250 Ft.  
**TYPE OF CONSTRUCTION** Wood Frame  
**DISTINGUISHING CHARACTERISTIC** Covered passage way T-plan—water cisterns  
**RELATIVE LOCATION** Services High and Medium Frequency D. F. bldgs.



**WEATHER STATION**  
**FUNCTION** Weather Station  
**DIMENSIONS** Variable  
**TYPE OF CONSTRUCTION** Wood Frame  
**DISTINGUISHING CHARACTERISTIC** 2-story platform on transmitter bldg. Small white shacks housing thermometers and barometers.  
**RELATIVE LOCATION** Isolated or along shore line.

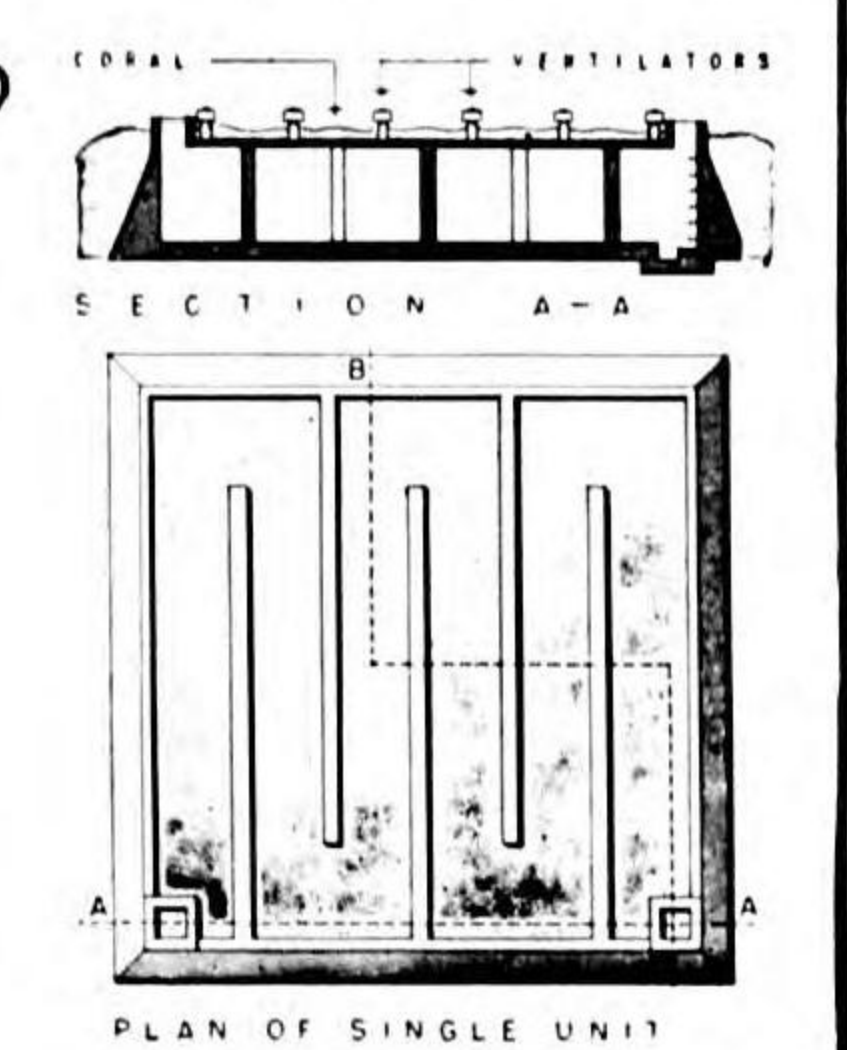


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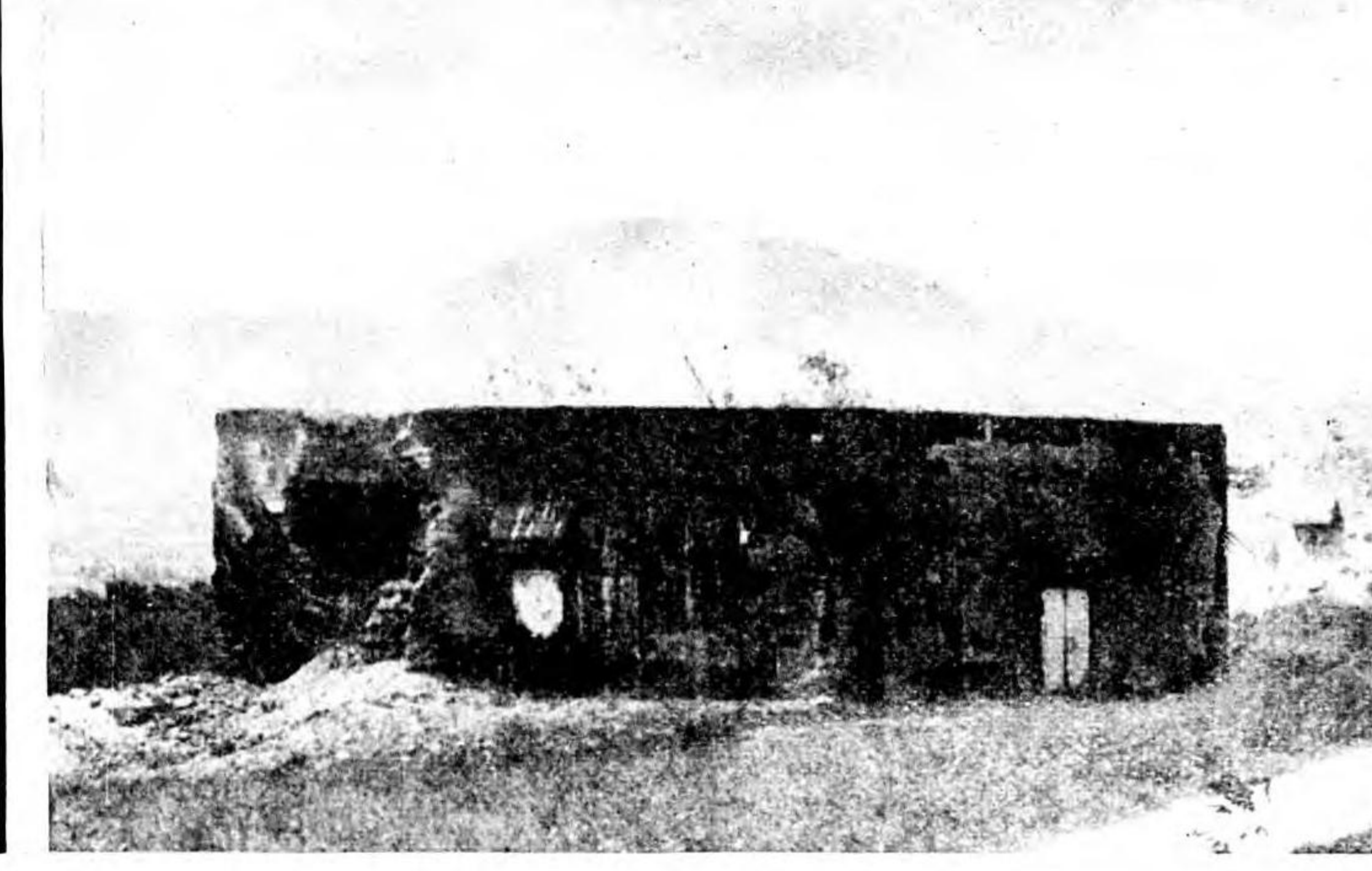
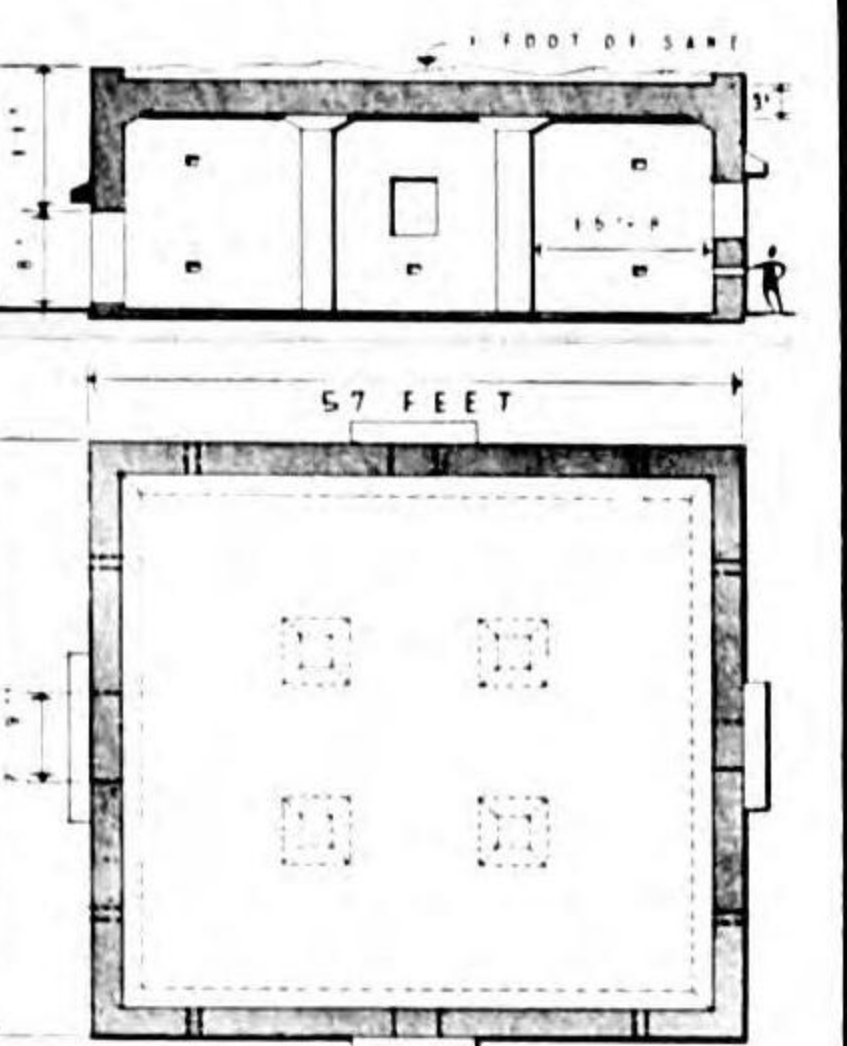
# TECHNICAL STUDIES JAPANESE MILITARY BUILDINGS

**WATER RESERVOIR AND TANK**  
**FUNCTION** Water Reservoir and settling tank  
**DIMENSIONS** Variable—20 Ft. x 200 Ft. Average.  
**TYPE OF CONSTRUCTION** Reinforced Concrete.  
**DISTINGUISHING CHARACTERISTIC** Rows of circular ventilators on earth covered roof.  
**RELATIVE LOCATION** Centrally located on level ground.

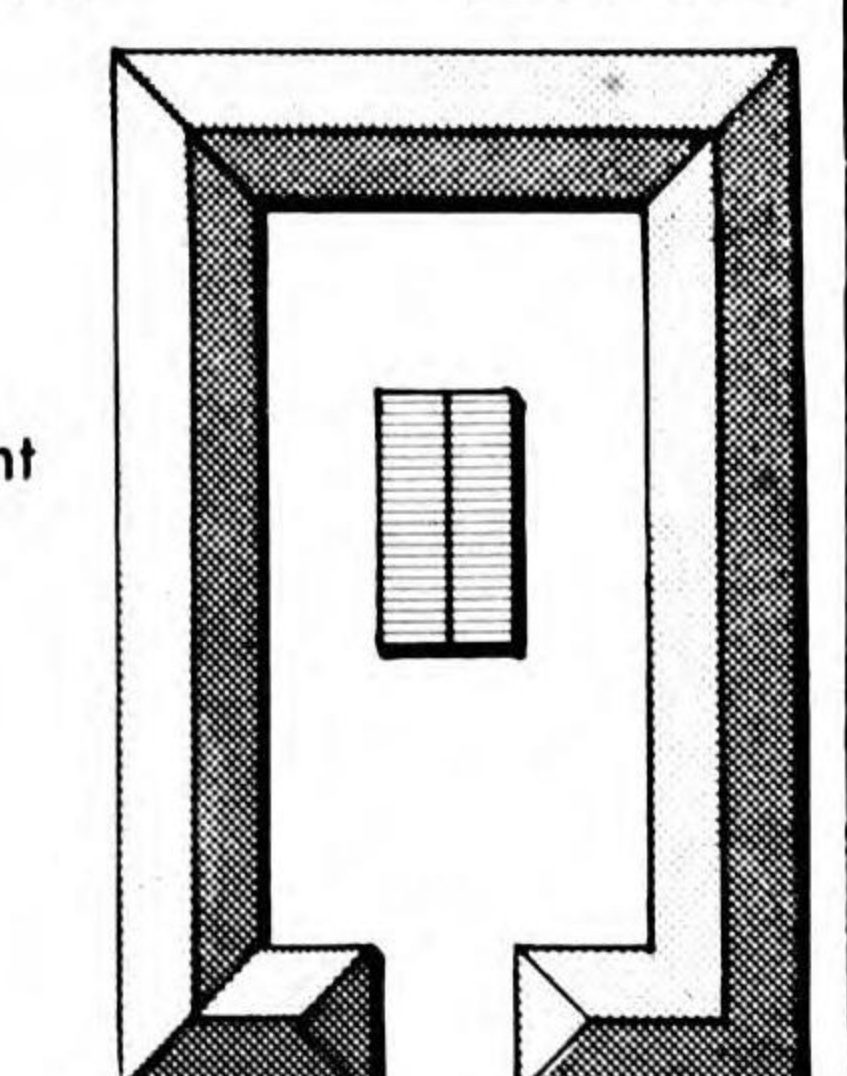


20 FT. DIAM. WATER CISTERN

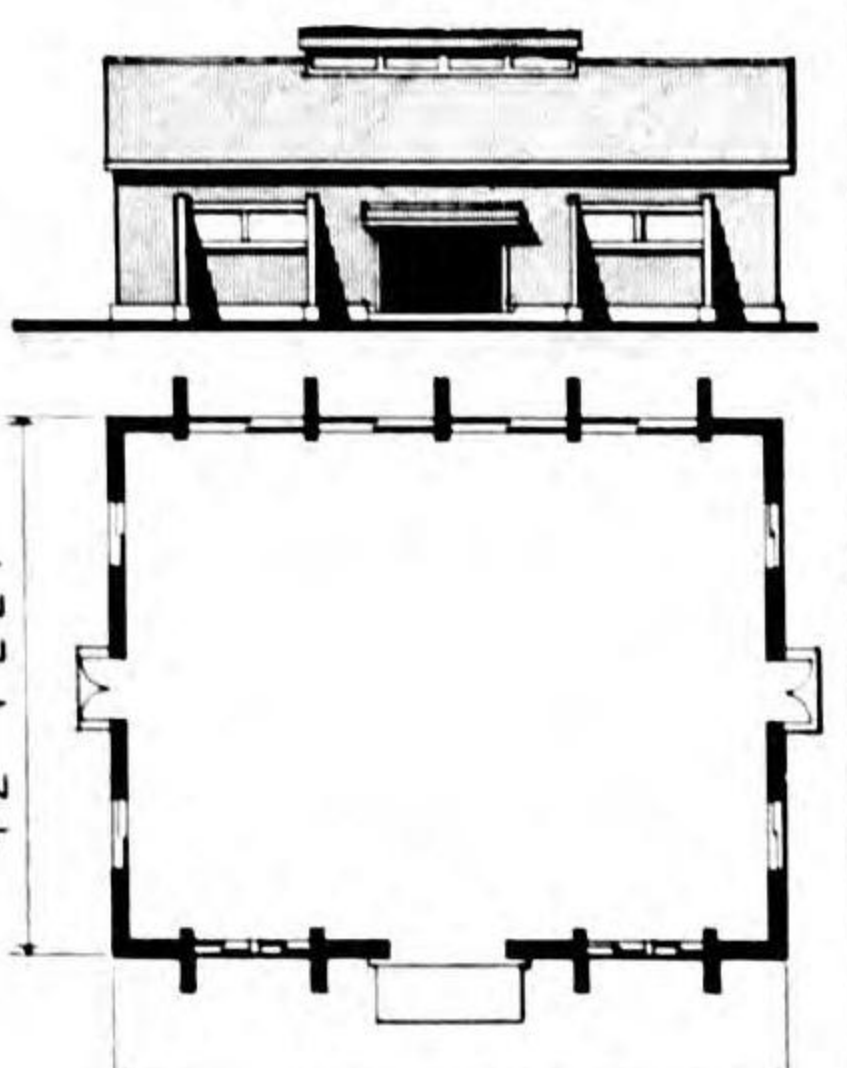
**52 FT. X 57 FT. FUEL STORAGE**  
**FUNCTION** Fuel Storage (gasoline and oil)  
**DIMENSIONS** 52 Ft. x 57 Ft.  
**TYPE OF CONSTRUCTION** Reinforced Concrete  
**DISTINGUISHING CHARACTERISTIC** Flat roof Square Plan 21 Ft. height.  
**RELATIVE LOCATION** Isolated—in groups of 3 or 4.



**REVETTED AMMUNITION STORAGE**  
**FUNCTION** Storage of high Explosives  
**DIMENSIONS** Variable—Relatively Small  
**TYPE OF CONSTRUCTION** Wood Frame.  
**DISTINGUISHING CHARACTERISTIC** Heavy Earth Revetment  
**RELATIVE LOCATION** Services Airplane Ramp or Airstrip



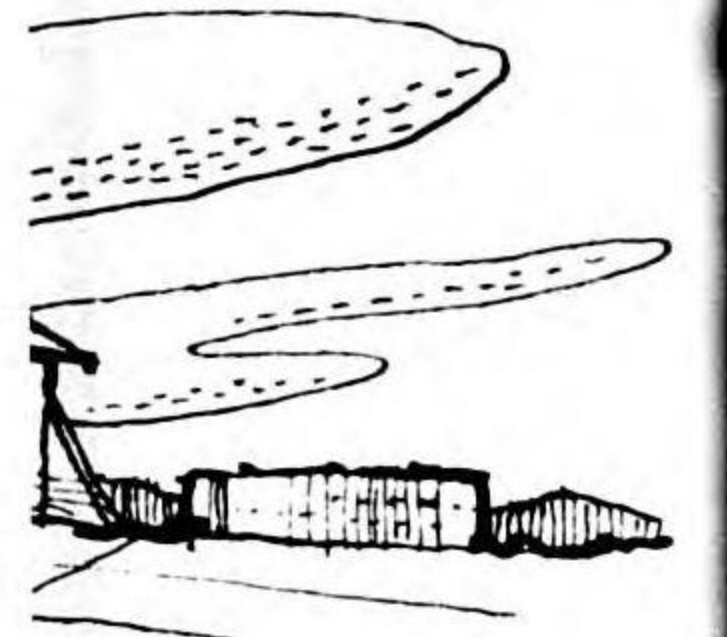
**42 FT. X 60 FT. FOOD STORAGE**  
**FUNCTION** Storage of Food.  
**DIMENSIONS** 42 Ft. x 60 Ft.  
**TYPE OF CONSTRUCTION** Galv. Iron Sheathing.  
**DISTINGUISHING CHARACTERISTIC** Gable Roof Monitor Buttresses.  
**RELATIVE LOCATION** Storage Area.



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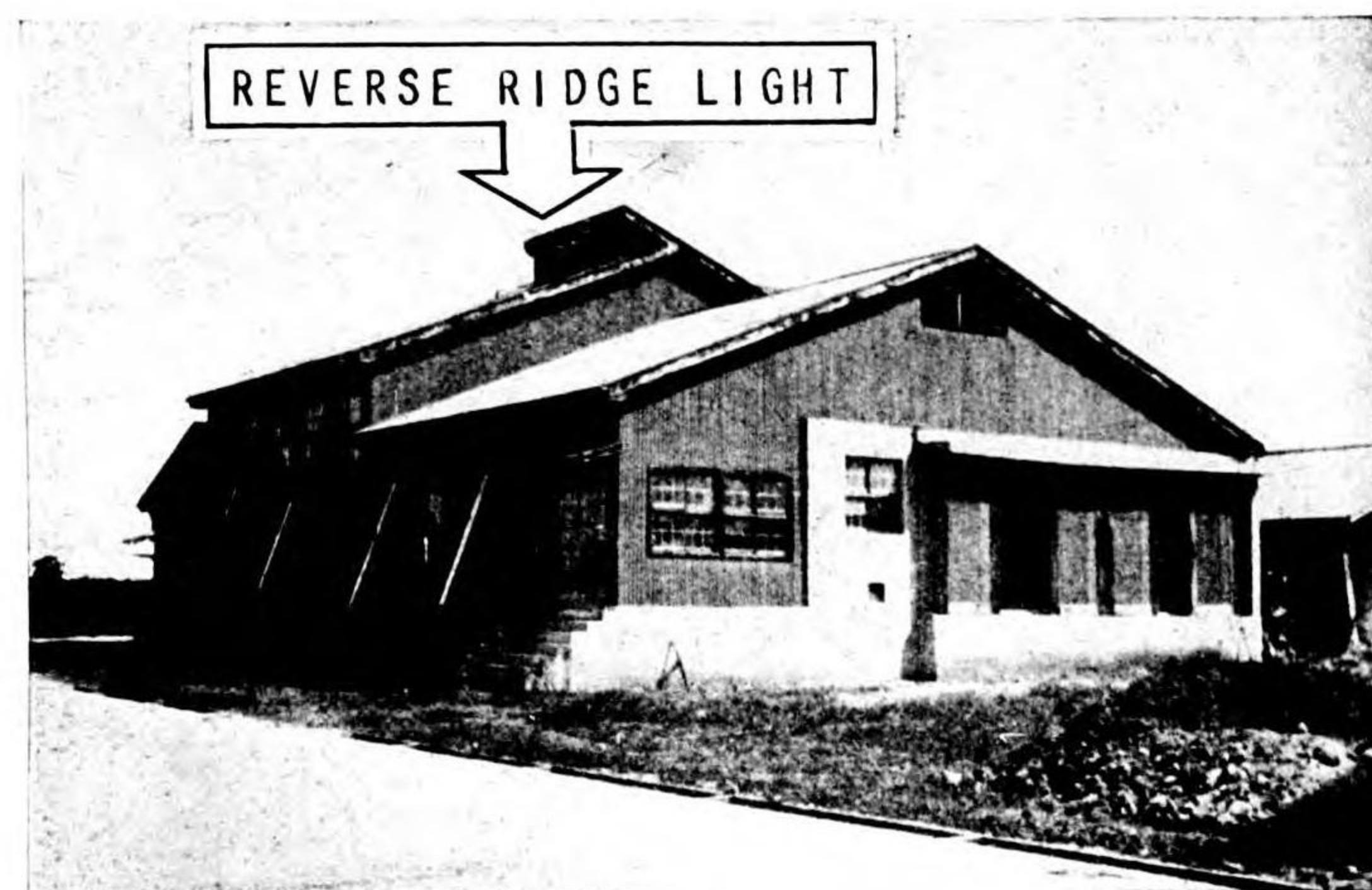


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**OXYGEN GENERATING PLANT**  
PLAN & ELEVATION

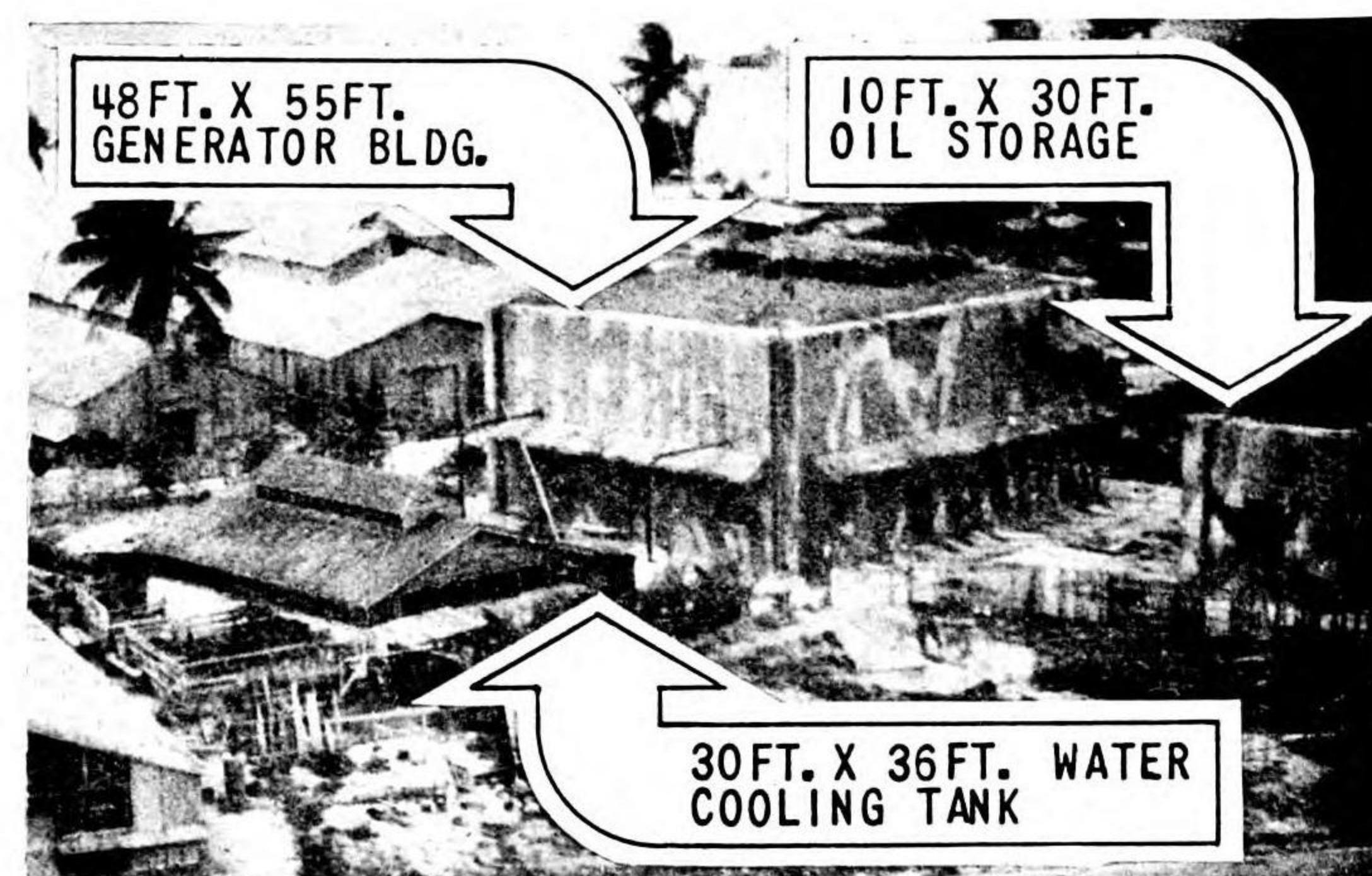
FUNCTION Manufacture of oxygen

DIMENSIONS 49 Ft. x 79 Ft.

TYPE OF CONSTRUCTION Wood Frame occasionally concrete

DISTINGUISHING CHARACTERISTIC Reverse Ridge Light Buttresses

RELATIVE LOCATION Shop area near power distribution station.



**POWER PLANT GENERATOR BLDG.**  
PLAN & SECTION

FUNCTION Generation of electric power

DIMENSIONS 48 Ft. x 55 Ft.

TYPE OF CONSTRUCTION Heavily reinforced concrete occasionally Brick.

DISTINGUISHING CHARACTERISTIC Flat Roof. Square Plan.

RELATIVE LOCATION Centrally located always in 3 bldg. group.



**POWER PLANT OIL STORAGE BLDG.**  
PLAN & SECTION

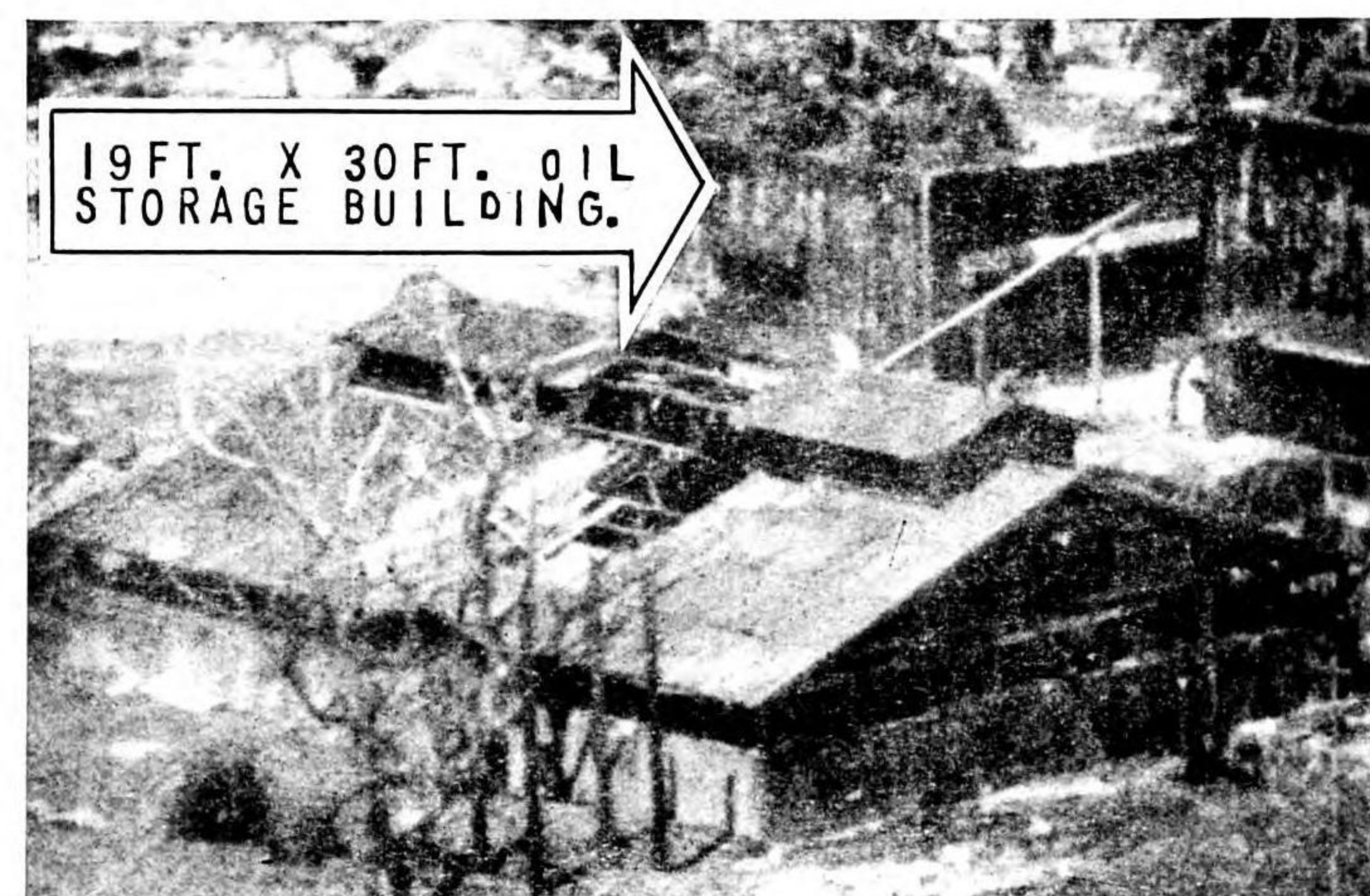
FUNCTION Oil Storage for Generator Bldg.

DIMENSIONS 19 Ft. x 30 Ft.

TYPE OF CONSTRUCTION Reinforced Concrete.

DISTINGUISHING CHARACTERISTIC Flat Roof.

RELATIVE LOCATION Services Power Plant Generator Building.



**30 FT. X 36 FT. WATER TANK**  
PLAN & ELEVATION

FUNCTION Water Storage for Generator Bldg.

DIMENSIONS 30 Ft. x 36 Ft. or 38 Ft. x 52 Ft.

TYPE OF CONSTRUCTION Concrete Tanks Wood Frame Roof.

DISTINGUISHING CHARACTERISTIC Gable roof continuous gable monitor on ridge

RELATIVE LOCATION Services Power Plant Generator Building.

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# TECHNICAL STUDIES JAPANESE MILITARY BUILDINGS

**101 FT. X 140 FT. HANGAR**  
PLAN & ELEVATION

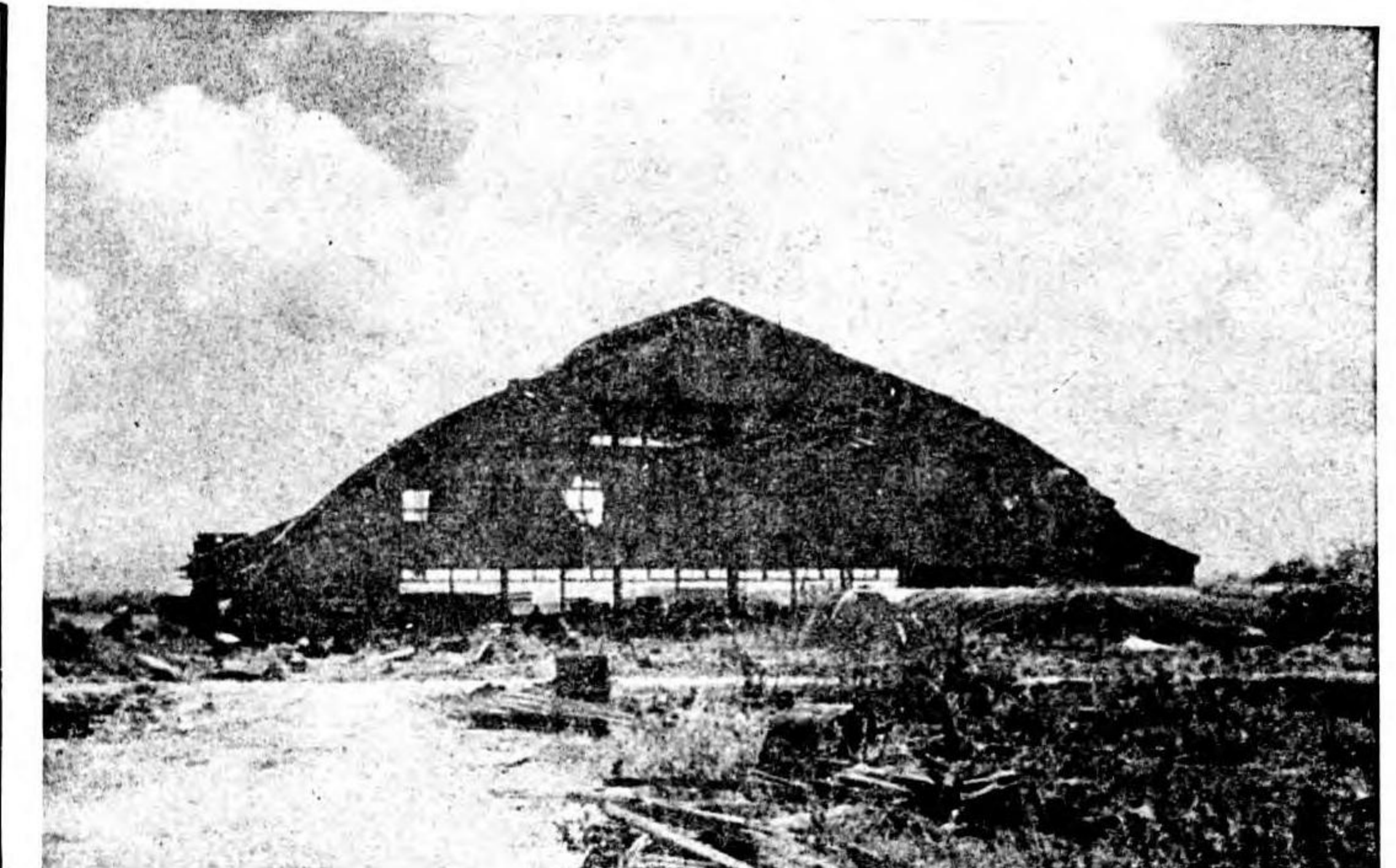
FUNCTION Hangar for operational planes

DIMENSIONS 101 Ft. length 140 Ft. span.

TYPE OF CONSTRUCTION Prefabricated skeletal steel.

DISTINGUISHING CHARACTERISTIC Arched Roof Monitor Relatively large size.

RELATIVE LOCATION Servicing air Strip or warm up apron.



**92 FT. X 107 FT. HANGAR**  
PLAN & ELEVATION

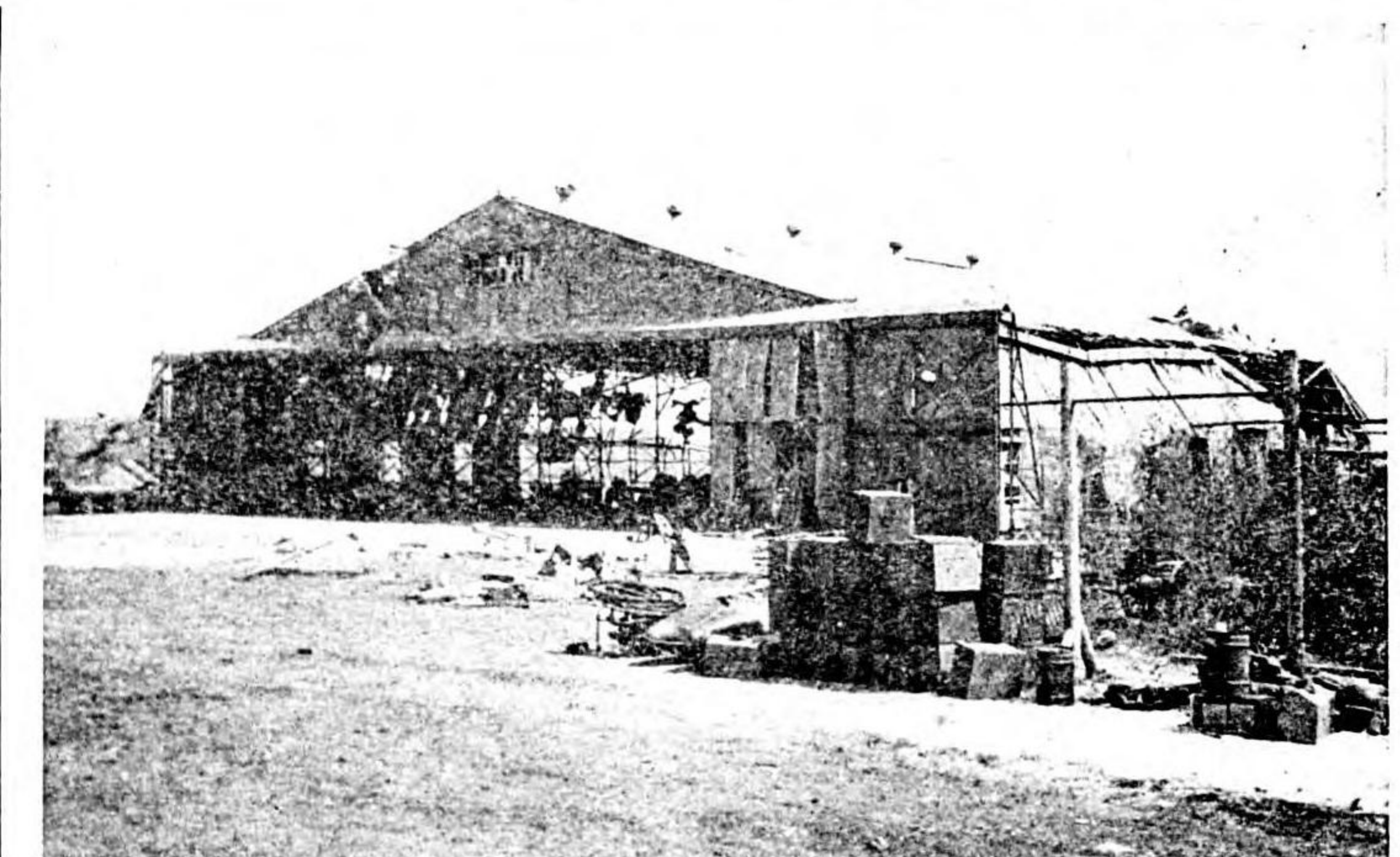
FUNCTION Airplane repair Hangar

DIMENSIONS 92 Ft. x 107 Ft.

TYPE OF CONSTRUCTION Steel Frame Galv. iron roof and siding.

DISTINGUISHING CHARACTERISTIC Row of circular ventilators on gable roof. Sliding doors.

RELATIVE LOCATION Servicing Air Strip or warm up apron.



**55 FT. X 90 FT. HANGAR**  
PLAN

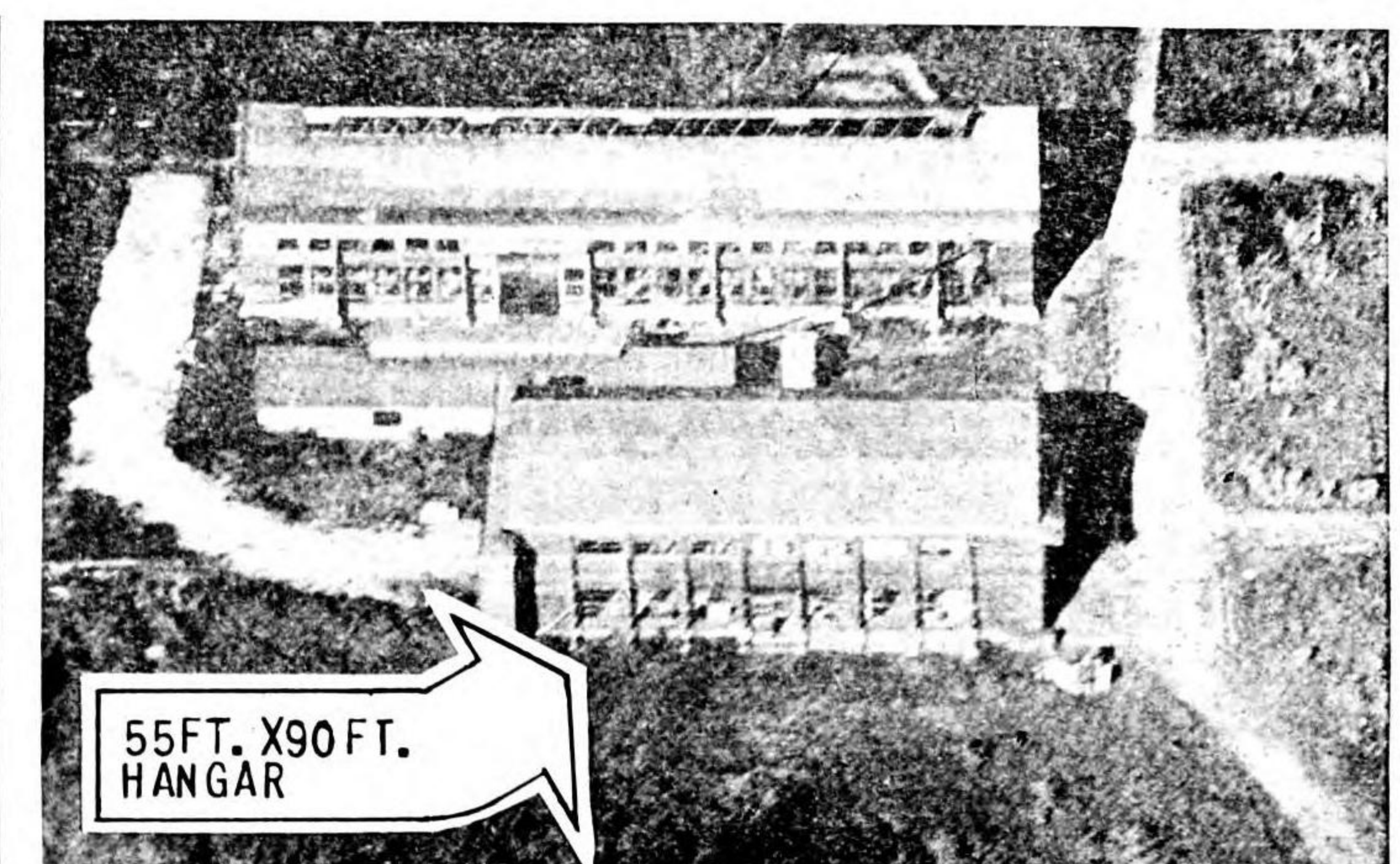
FUNCTION Repair Hangar

DIMENSIONS 55 Ft. x 90 Ft.

TYPE OF CONSTRUCTION Wood frame.

DISTINGUISHING CHARACTERISTIC Gable roof. Extended sliding doors Rows of Buttresses

RELATIVE LOCATION Hangar Area.



**83 FT. X 103 FT. HANGAR**  
PLAN & SECTION

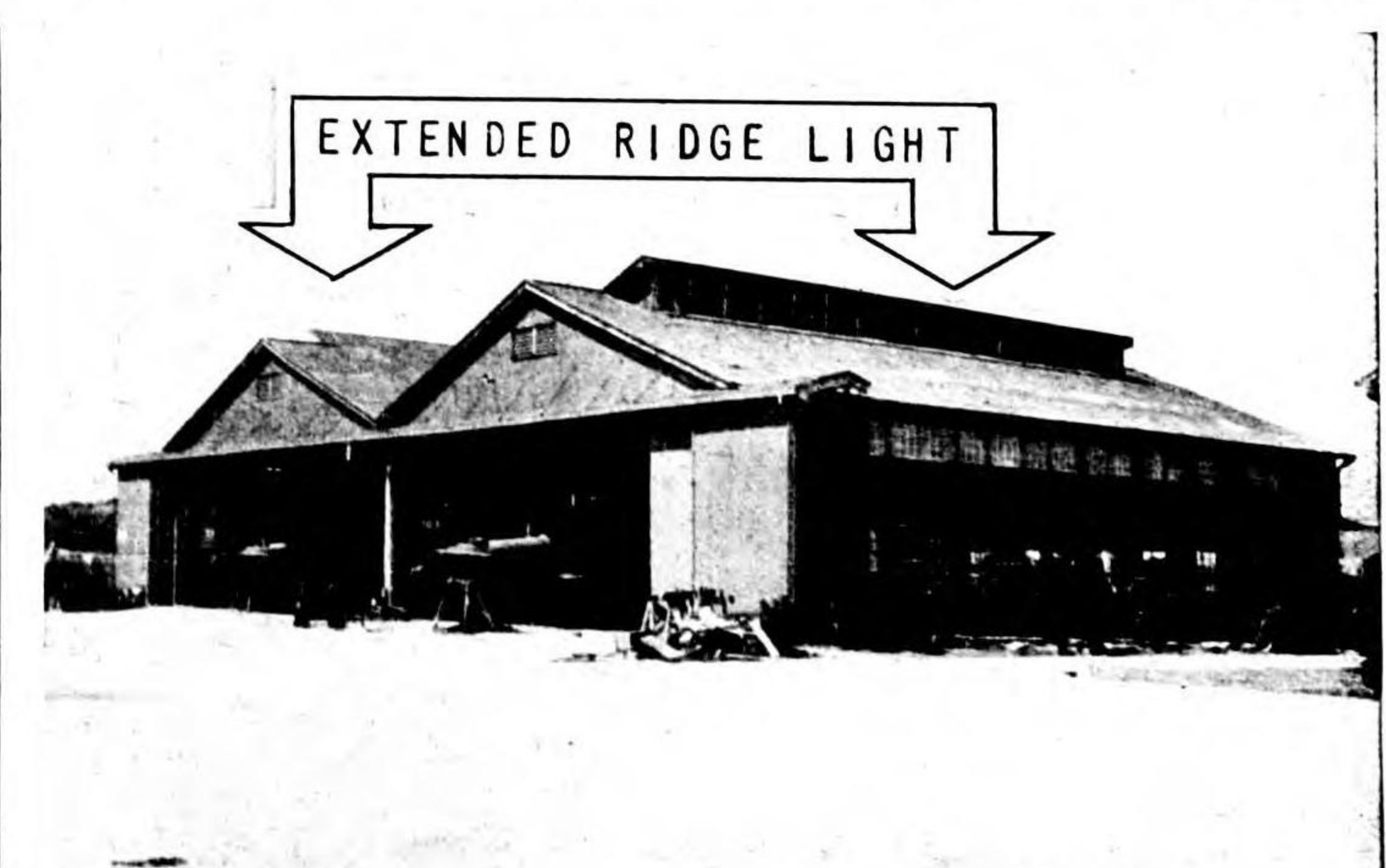
FUNCTION Repair Hangar

DIMENSIONS 83 Ft. x 103 Ft.

TYPE OF CONSTRUCTION Wood Frame

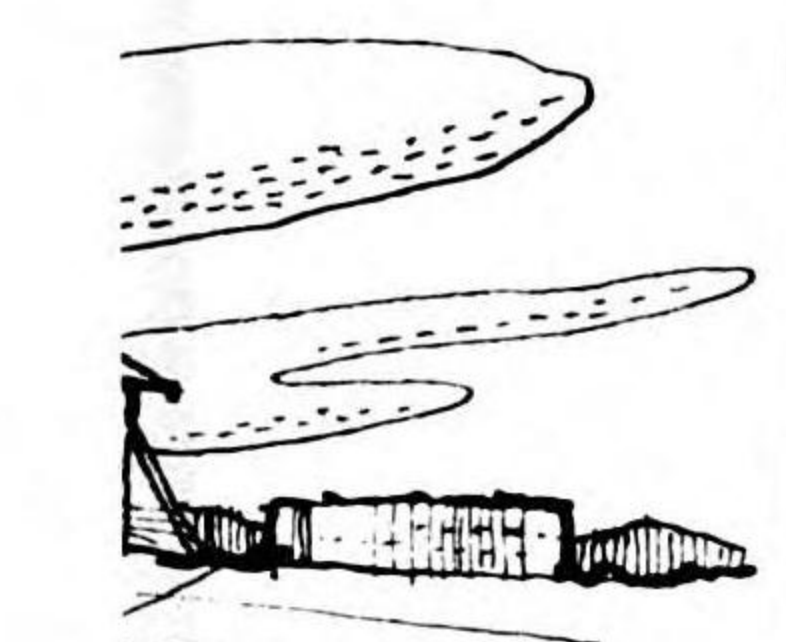
DISTINGUISHING CHARACTERISTIC Double Ridge. Extended ridge lights.

RELATIVE LOCATION Hangar Area at edge of warm up apron.



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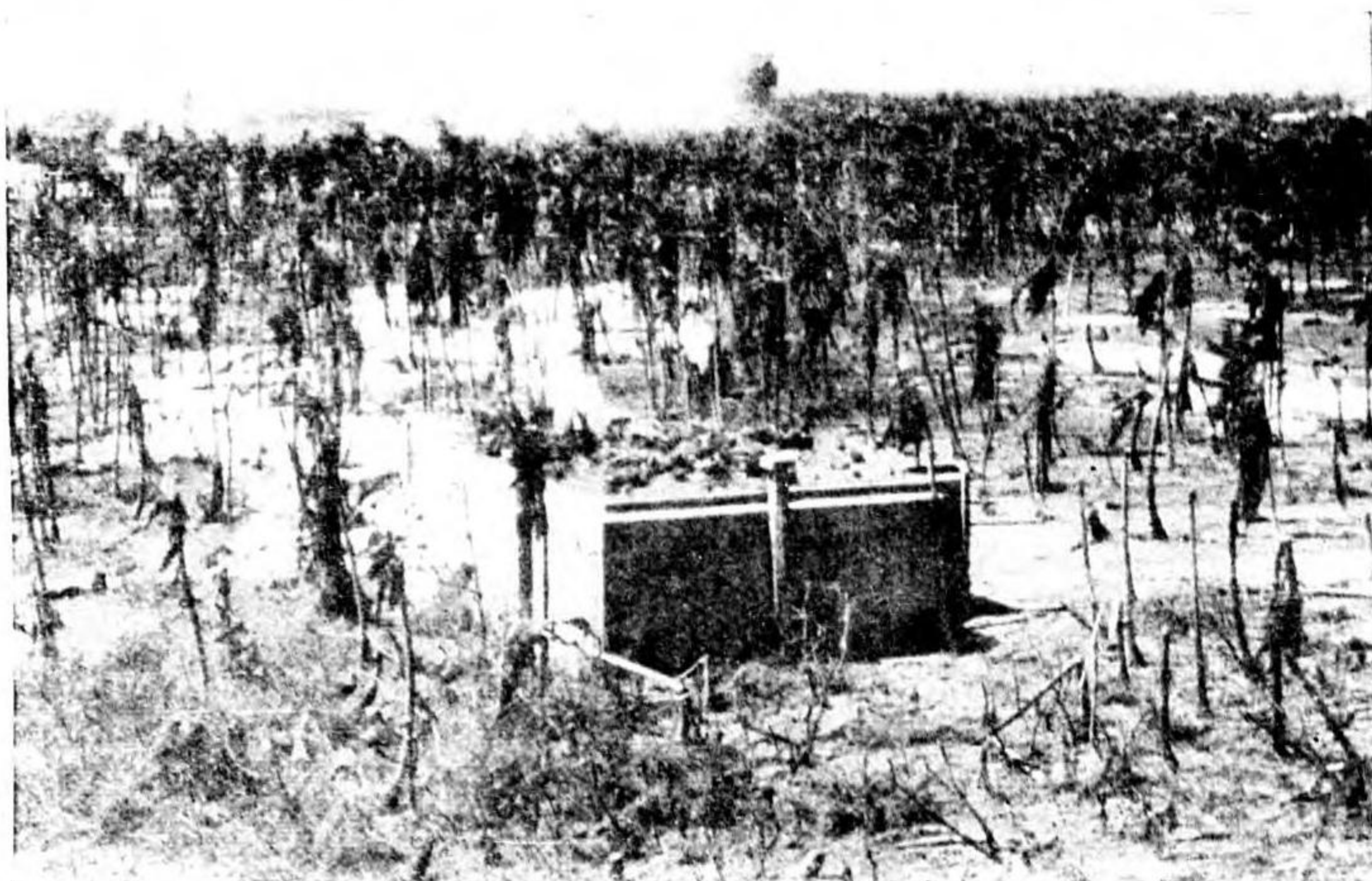


# TECHNICAL STUDIES

## JAPANESE MILITARY BUILDINGS

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### 52 FT. X 52 FT. AMMO. STORAGE

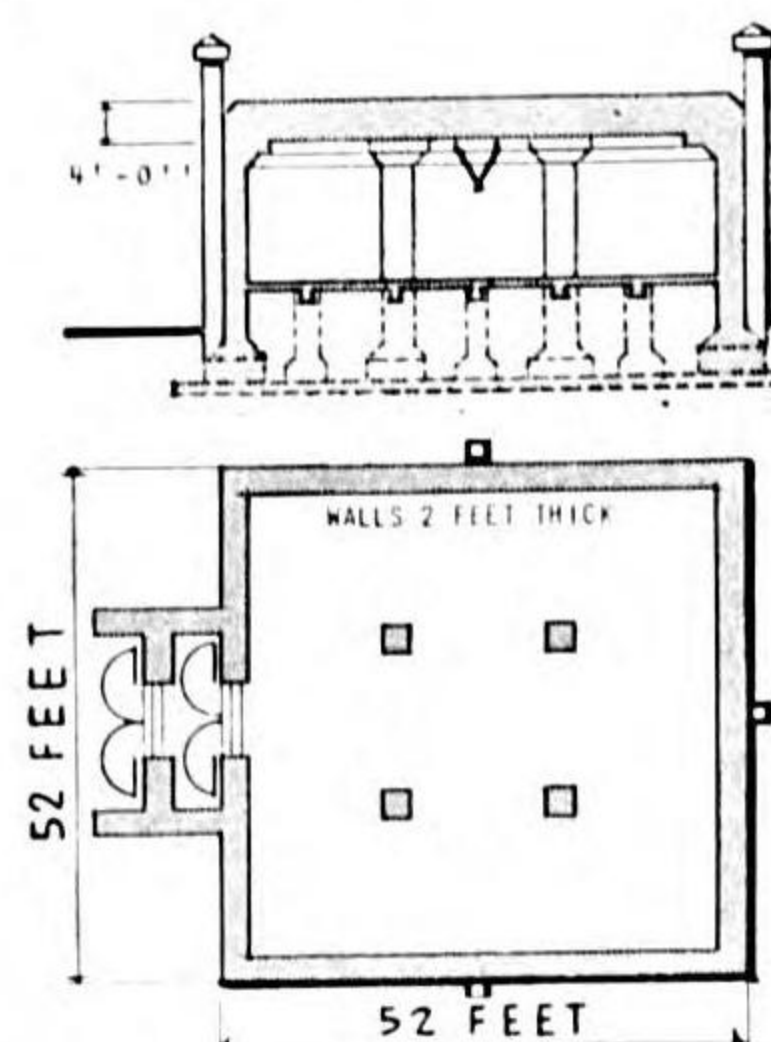
FUNCTION Storage of High explosives. PLAN & SECTION

DIMENSIONS 52 Ft. x 52 Ft.

TYPE OF CONSTRUCTION Heavily reinforced concrete

DISTINGUISHING CHARACTERISTIC Flat Roof  
Square plan with porch.

RELATIVE LOCATION 3 Square ventilators  
Isolated—usually in pairs.



### 20 FT. x 39 FT. REFRIGERATION BUILDING

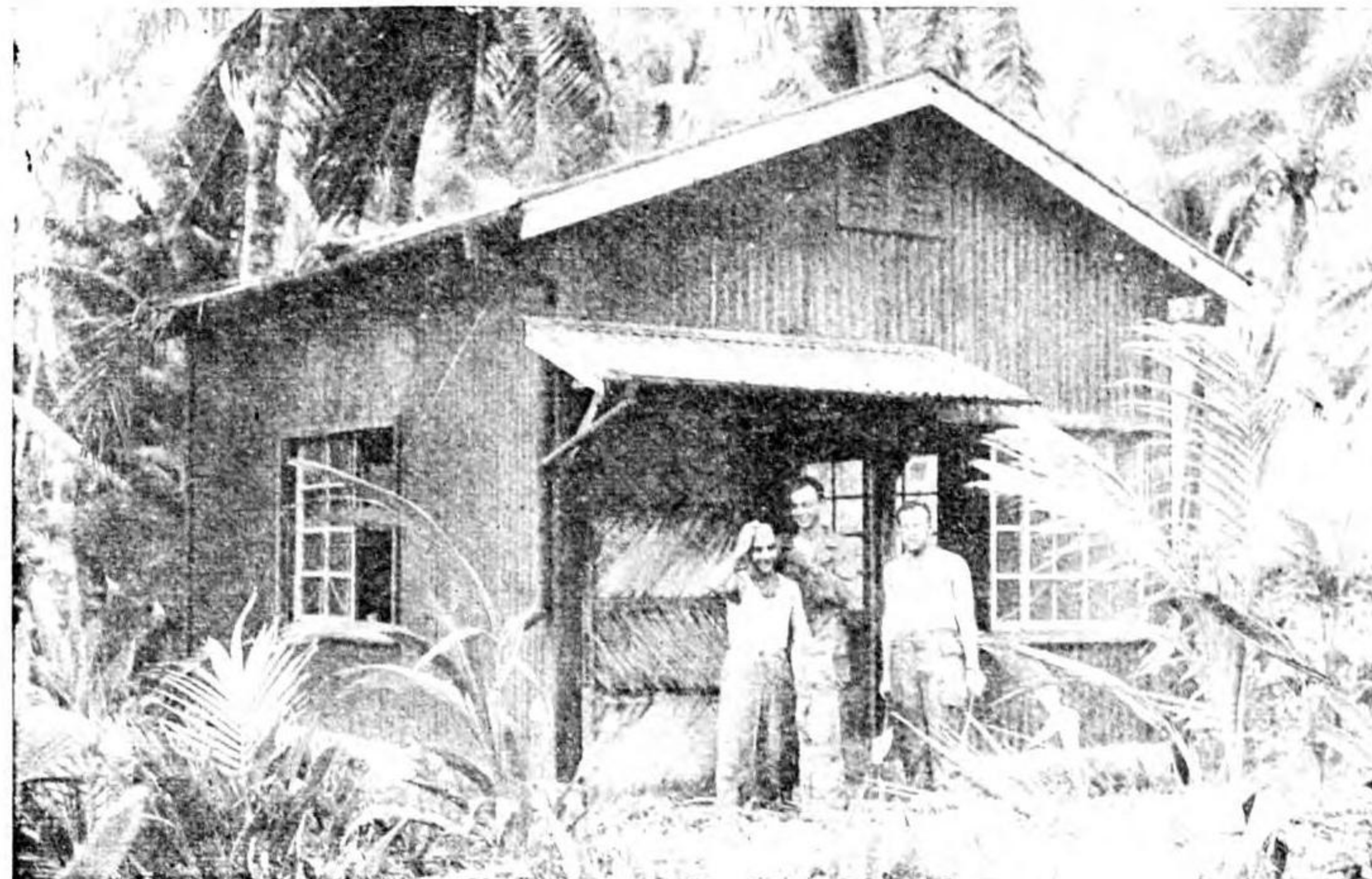
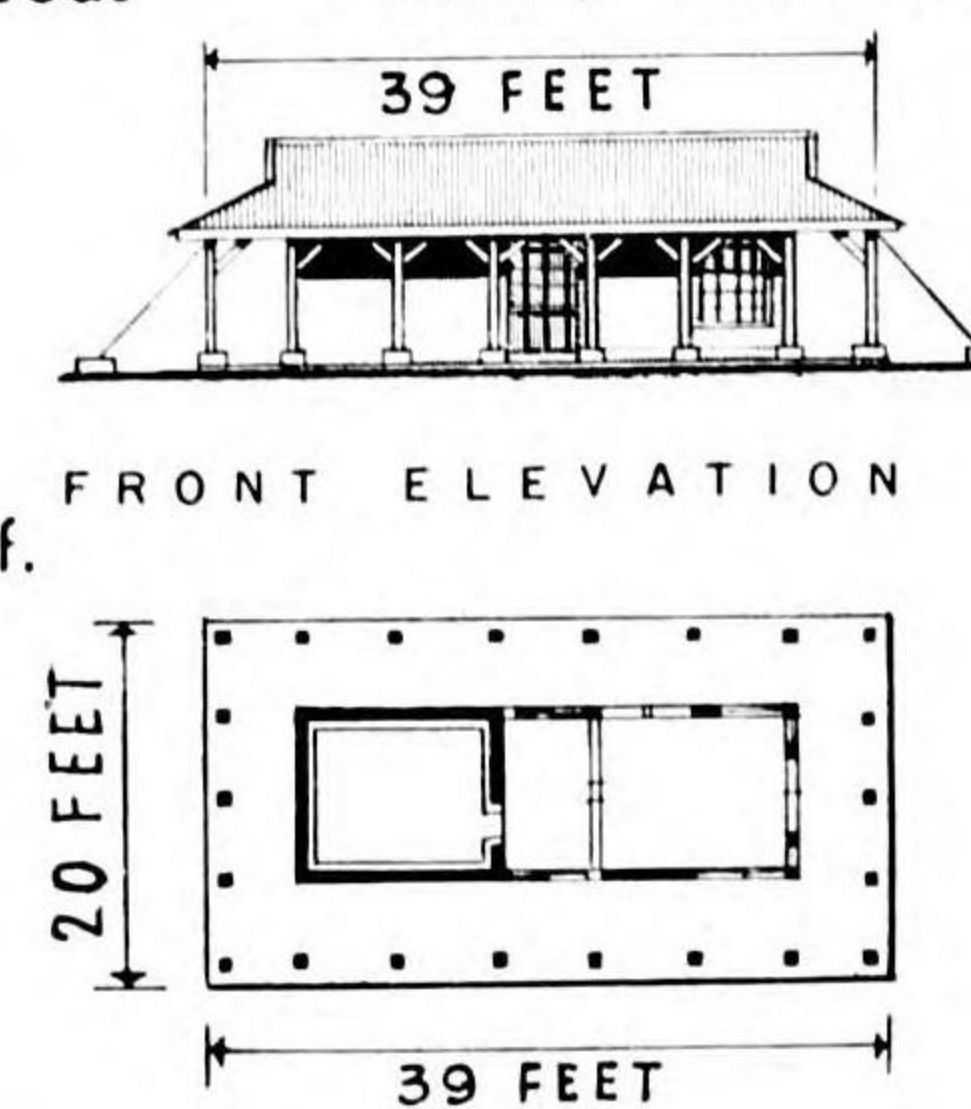
FUNCTION Cold storage of foods PLAN & ELEVATION

DIMENSIONS 20 Ft. x 39 Ft.

TYPE OF CONSTRUCTION Wood frame and concrete.

DISTINGUISHING CHARACTERISTIC Clipped Hip roof.

RELATIVE LOCATION Usually Services Galley.



### 14 FT. x 20 FT. FOOD STORAGE BUILDING

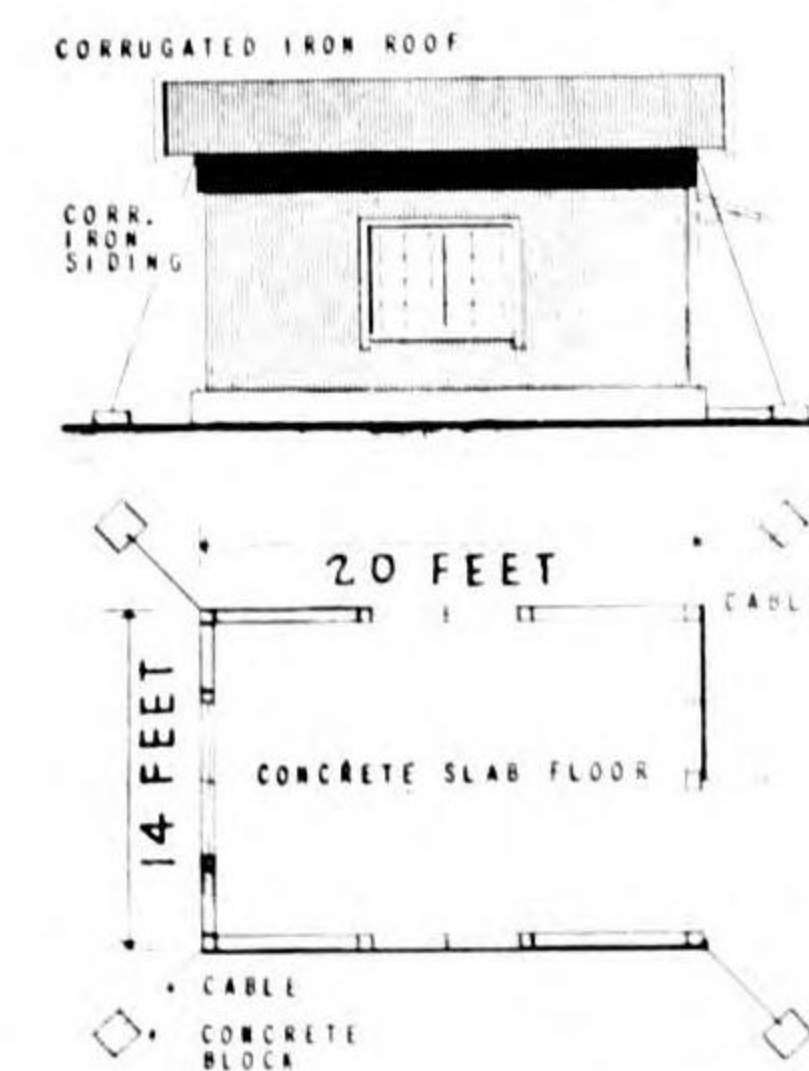
FUNCTION Food Storage PLAN & ELEVATION

DIMENSIONS 14 Ft. x 20 Ft.

TYPE OF CONSTRUCTION Wood Frame  
Corr. Iron Siding and Roof.

DISTINGUISHING CHARACTERISTIC Gable Roof  
Shed over door.

RELATIVE LOCATION Storage Area.



### 20 FT. x 54 FT. MOTOR VEHICLE GARAGE

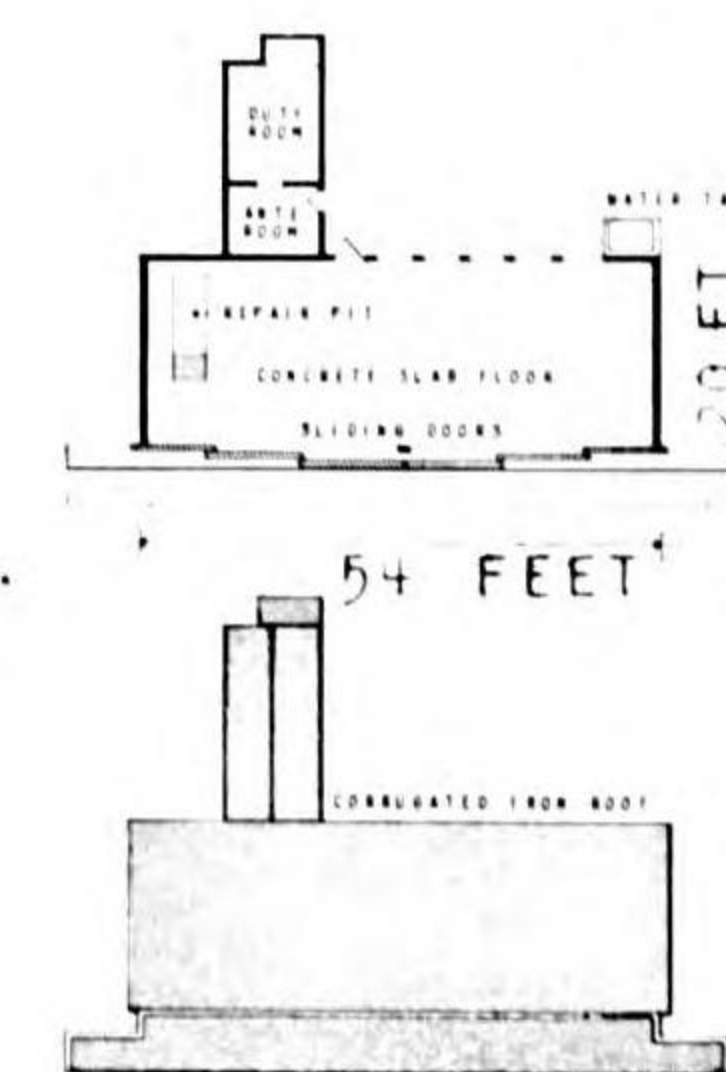
FUNCTION Motor Vehicle Garage PLAN

DIMENSIONS 20 Ft. x 54 Ft.

TYPE OF CONSTRUCTION Wood Frame  
Galv. iron Roofing and siding.

DISTINGUISHING CHARACTERISTIC Shed Roof  
Extended Sliding doors.

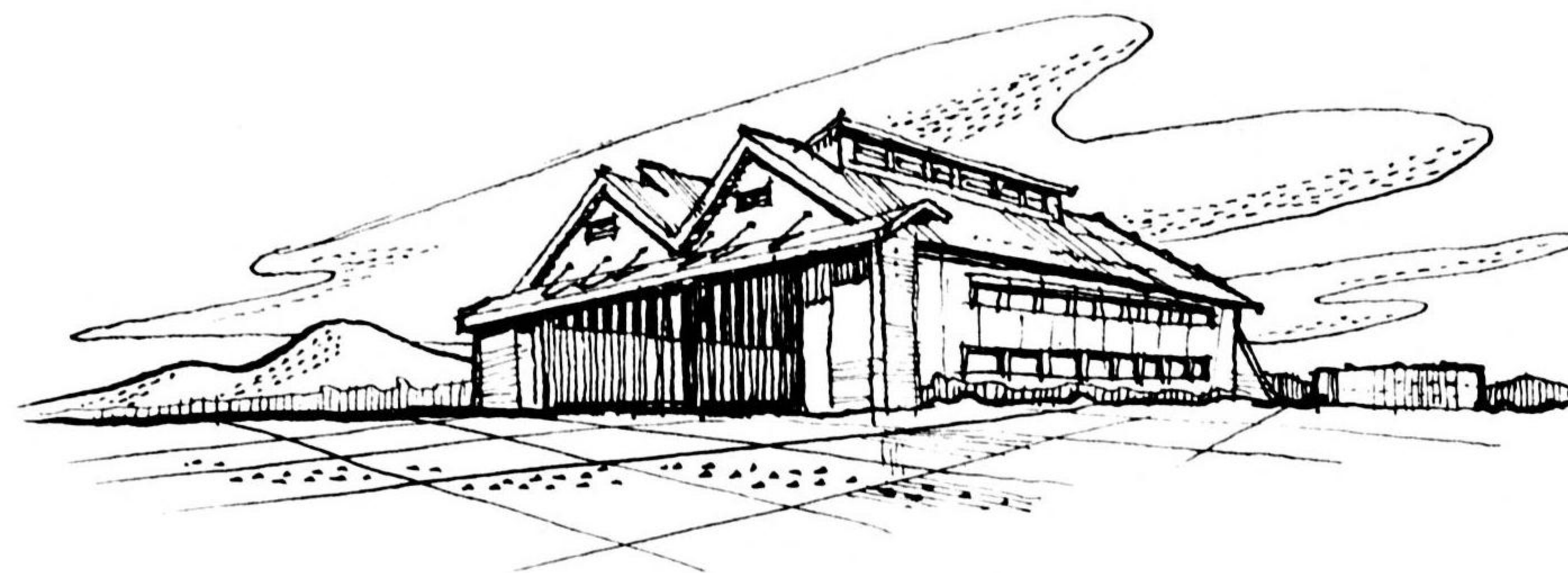
RELATIVE LOCATION Shop area.





PHOTOGRAPHIC INTELLIGENCE REPORT

JAPANESE MILITARY BUILDINGS



UNITED STATES NAVAL PHOTOGRAPHIC INTELLIGENCE CENTER  
NAVY YARD, WASHINGTON 25, D. C.

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# F O R E W O R D

**T**HIS study is designed primarily to provide interpreters with the essential data needed to identify Japanese special function military construction.

**S**ECONDARILY, it is intended that the Plans, Sections, Elevations, and Structural information included will be an aid to Target Analysis and Damage Assessment Groups. Emphasis is placed on structural forms known to be standard in plan and construction.

**C**OMMENT and criticism, as well as additional relevant data, is invited.



CHARLES H. COX  
Lieutenant Colonel, USMCR  
Officer-in-Charge  
Photographic Intelligence Center



# I N T R O D U C T I O N

**T**he story of what is transpiring at a Japanese Airfield is best told by accurate interpretation of its special function buildings. If structural airfield facilities can be dealt with by the interpreter in the same manner as Aircraft and Defenses, then a complete interpretation report can be prepared.

Knowledge of the existence and capacity of construction housing personnel is vital to the preparation of an accurate Military Personnel Estimate.

Information pertaining to dimensions, building material, and type of construction of a building is data helpful to Target Analysis and Bomb Damage Assessment Groups.

Standardization in plan and construction of Japanese special function military buildings makes accurate interpretation and the preparation of detailed structural information possible. There is a marked recurrence of standard building forms in different geographic

areas. Prefabrication is employed extensively as housing and storage.

The structural forms studied in this publication are classified as to use. A section is devoted to each special function building. Ground and oblique photographs, stereo-pairs, as well as scaled plans, sections and elevation are presented when the material available permits. The relative position of a building with respect to other airfield facilities is an important interpretation key. Mosaics, annotated overlays and large stereo-studies are included for this reason.

Source of material includes captured Japanese documents, working drawings and photographs, as well as general photographic coverage.

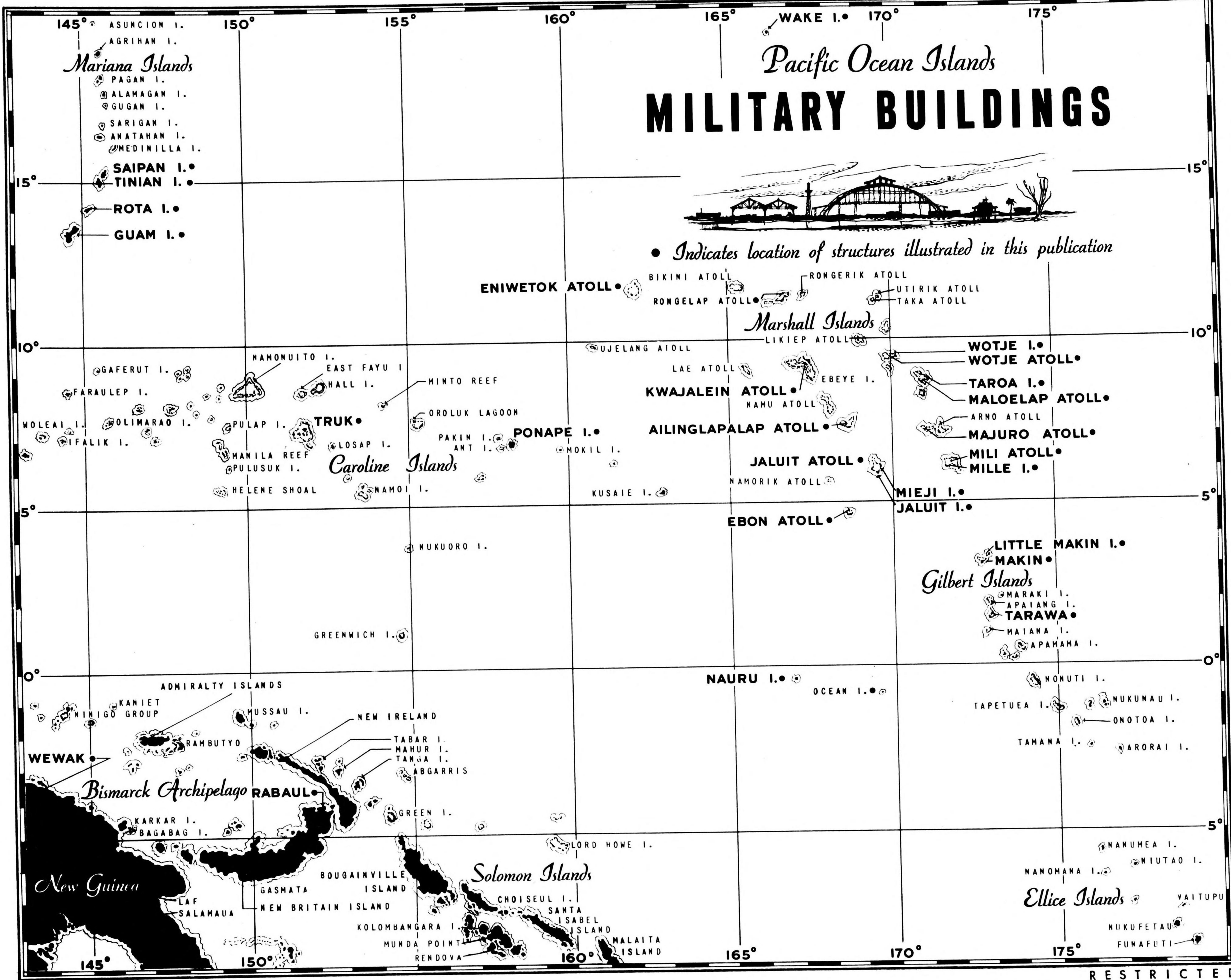
Contents herein include all major special function construction considered pertinent to the operation of a Japanese Airfield.



# Pacific Ocean Islands MILITARY BUILDINGS



● Indicates location of structures illustrated in this publication





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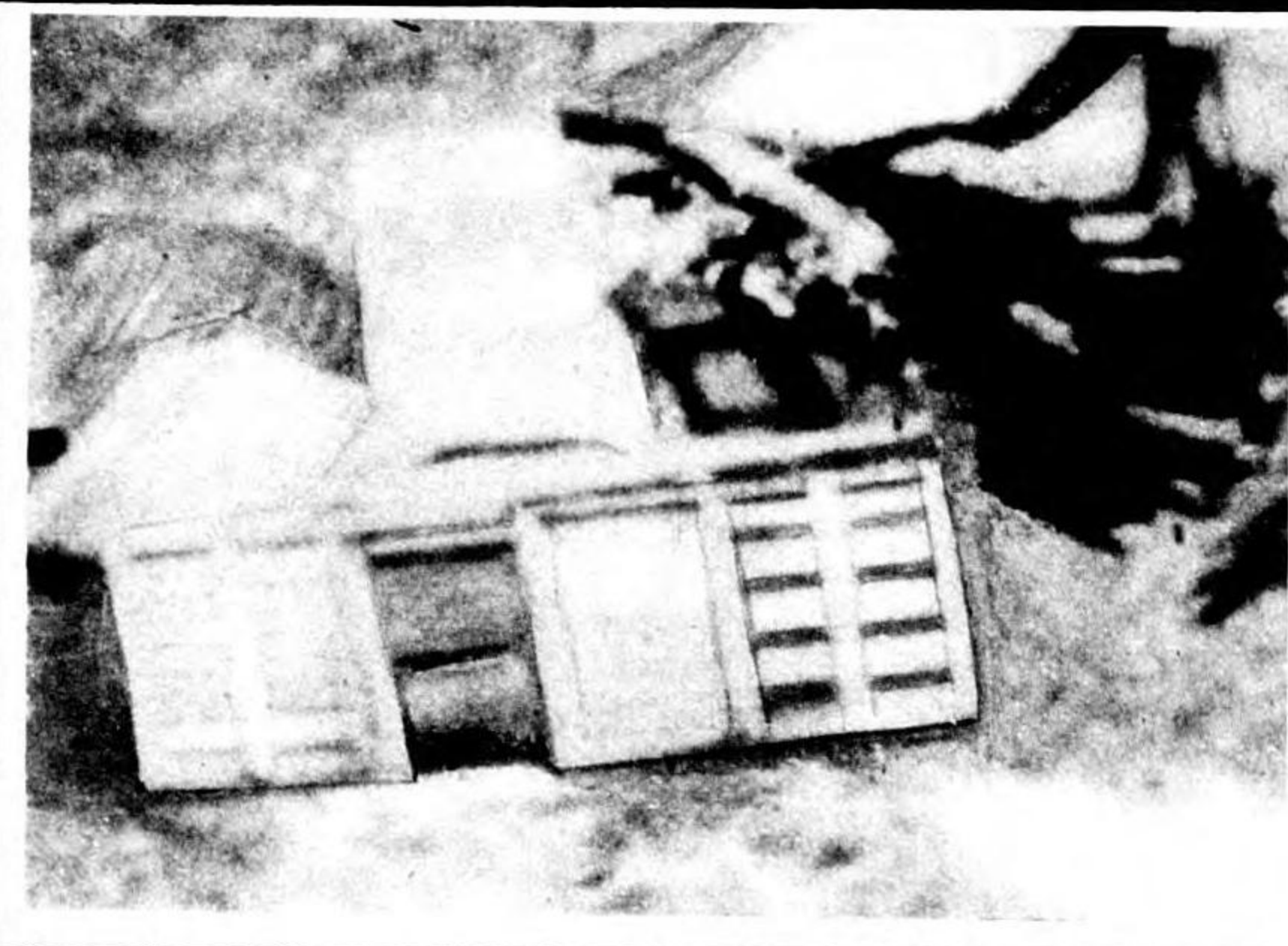


# SUMMARY OF STANDARD CONSTRUCTION

## JAPANESE MILITARY BUILDINGS

### PREFABRICATION

### 3 X 12 WALL PANEL



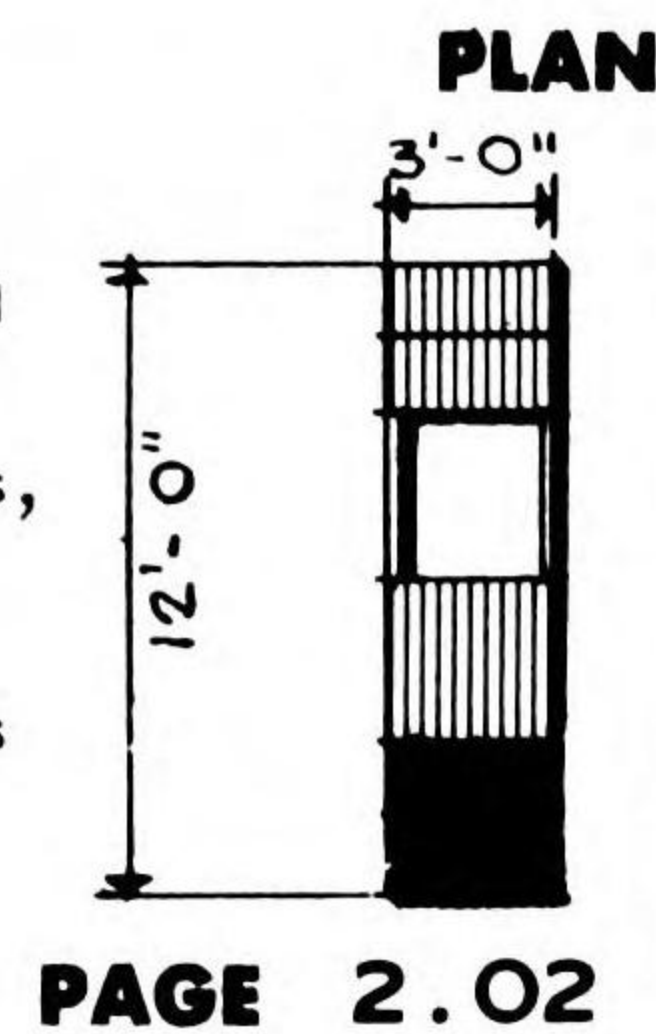
**DIMENSIONS** 3 Feet x 12 Feet

**TYPE OF CONSTRUCTION** Prefabricated wood

**FUNCTION** Wall panels for barracks, storage, etc.

**DISTINGUISHING CHARACTERISTIC** Ventilation slits

**RELATIVE LOCATION** Barracks area



PAGE 2.02

### BARRACKS

### OFFICERS QUARTERS

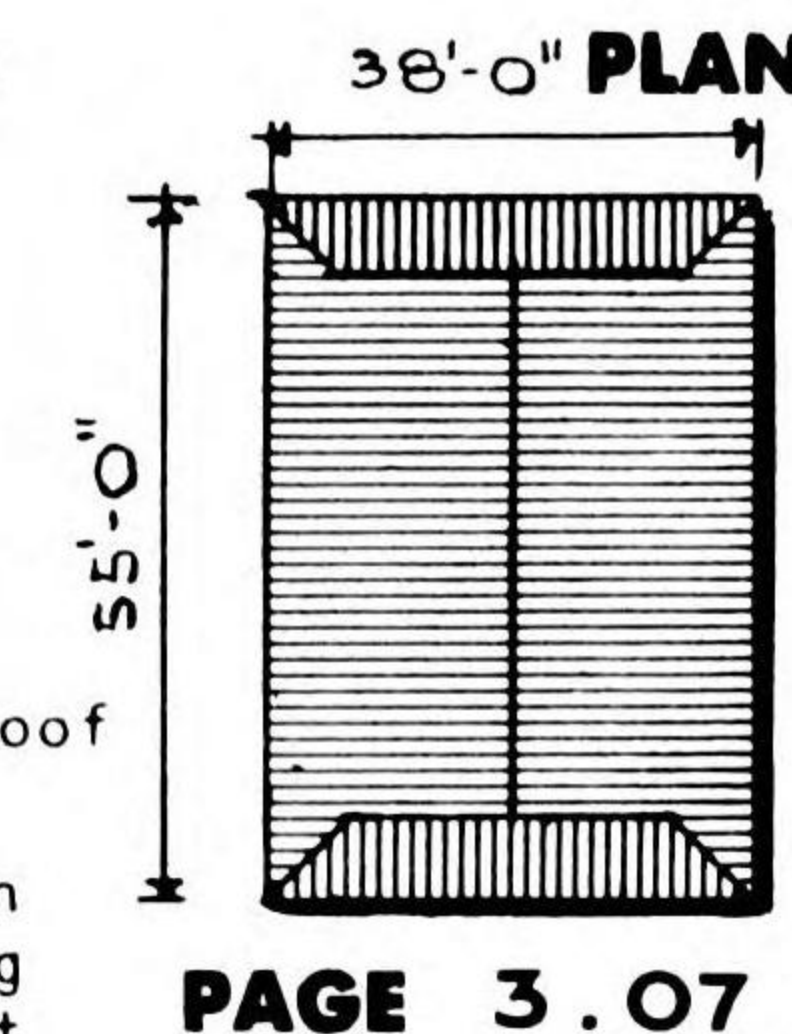
**DIMENSIONS** 38 Feet x 55 Feet

**TYPE OF CONSTRUCTION** Wood frame

**FUNCTION** Officers quarters

**DISTINGUISHING CHARACTERISTIC** Clipped hip roof

**RELATIVE LOCATION** Part of "T" formation bldg. group servicing electronics equipment



PAGE 3.07



### BARRACKS

### PREFABRICATED



**DIMENSIONS** Vary according to number of panels used.

**TYPE OF CONSTRUCTION** Prefabricated wooden floor, wall & ceiling panels.

**FUNCTION** Barracks.

**DISTINGUISHING CHARACTERISTIC** 3x12 Wall panels.

**RELATIVE LOCATION** Housing area.



PAGE 3.11

### BARRACKS

### TRIANGULAR, ARMY

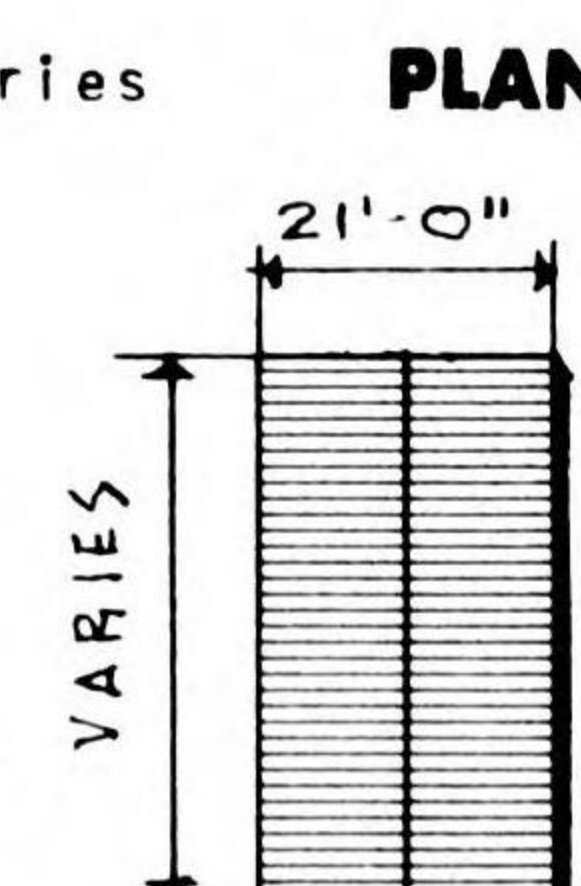
**DIMENSIONS** 21 Foot width-length varies

**TYPE OF CONSTRUCTION** Prefabricated wooden panel

**FUNCTION** Enlisted quarters

**DISTINGUISHING CHARACTERISTIC** Tundra covered distinct ridge line

**RELATIVE LOCATION** Housing area



PAGE 2.03



### BARRACKS

### CLIPPED HIPPED ROOF, ENLISTED



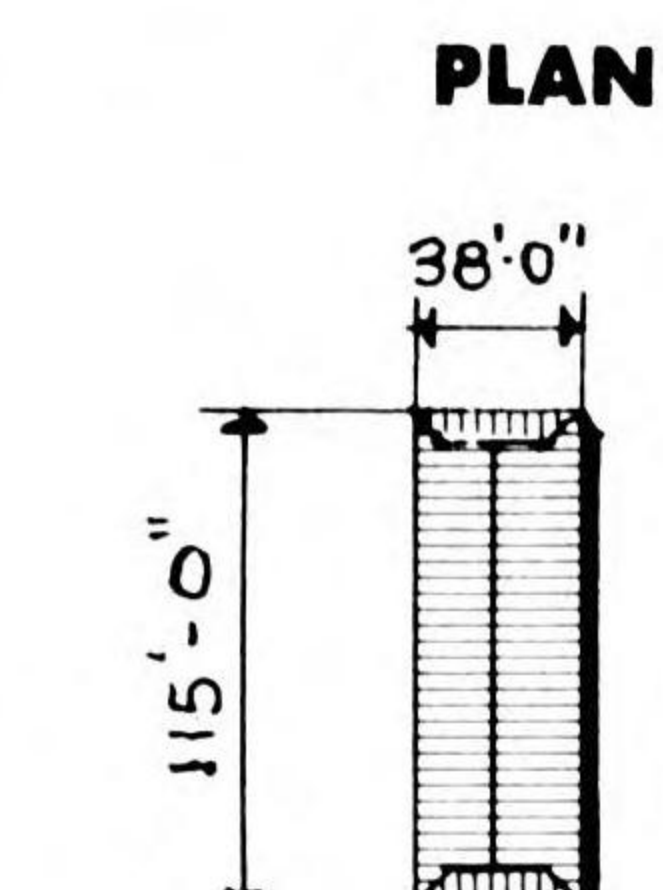
**DIMENSIONS** 38 Feet x 115 Feet

**TYPE OF CONSTRUCTION** Wood frame

**FUNCTION** Quarters for enlisted personnel

**DISTINGUISHING CHARACTERISTIC** Clipped hip roof

**RELATIVE LOCATION** Housing area



PAGE 3.02

### TENT

### 24 FOOT DIAMETER, OCTAGONAL

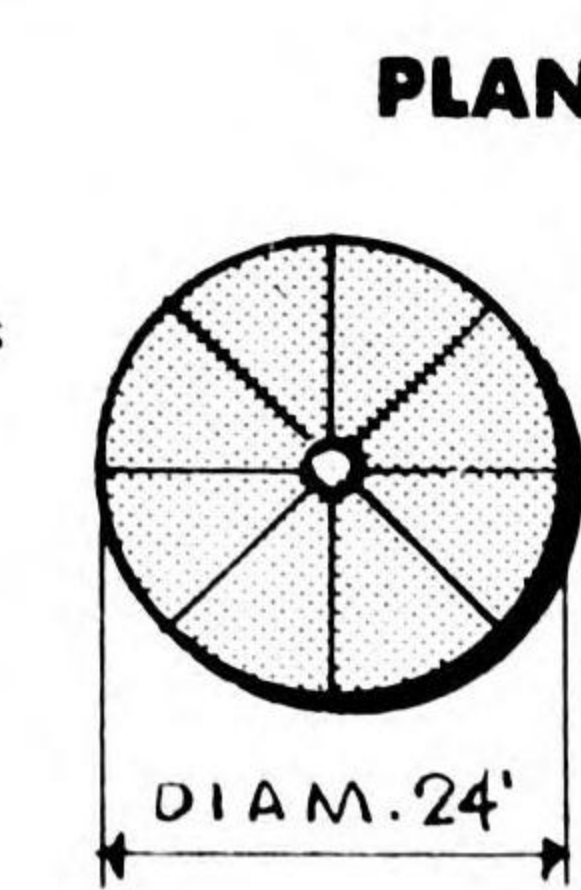
**DIMENSIONS** 24 Foot Diam.

**TYPE OF CONSTRUCTION** Prefabricated canvas

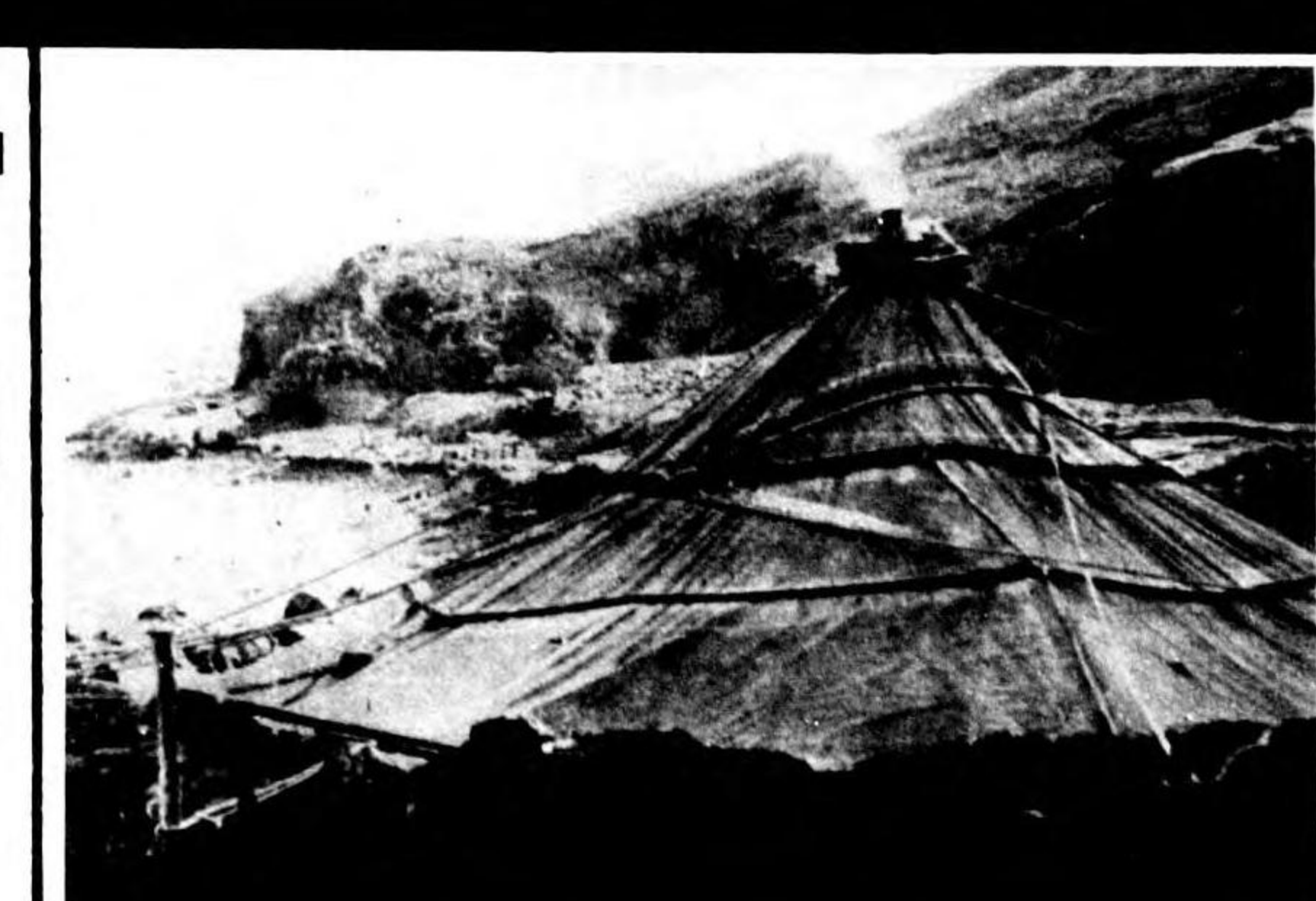
**FUNCTION** Troop housing

**DISTINGUISHING CHARACTERISTIC** Conical form

**RELATIVE LOCATION** Level housing area



PAGE 4.03

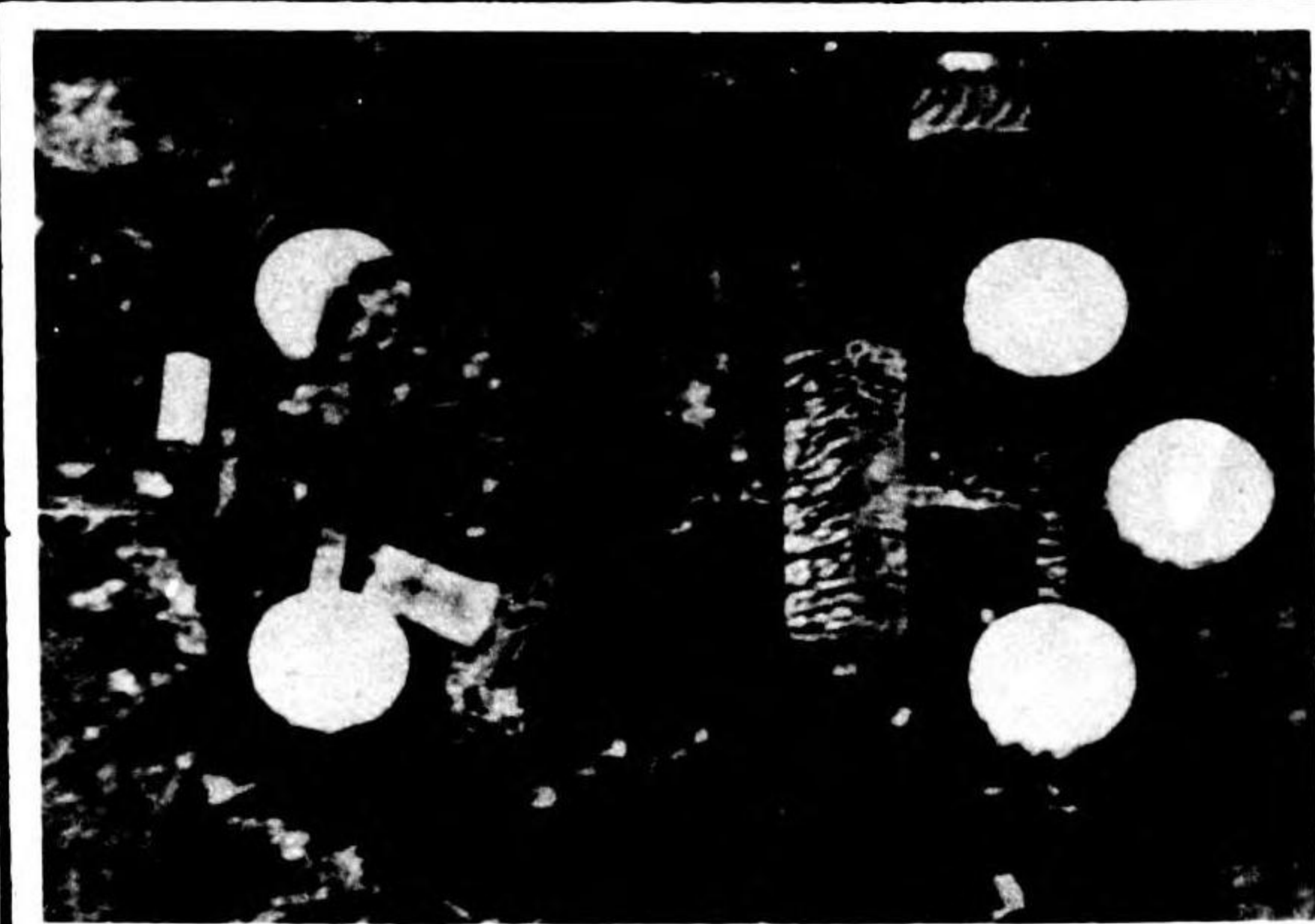




# SUMMARY OF STANDARD CONSTRUCTION

## JAPANESE MILITARY BUILDINGS

### TENT 35 FOOT DIAMETER, PREFABRICATED



**DIMENSIONS** Diameter 35 feet

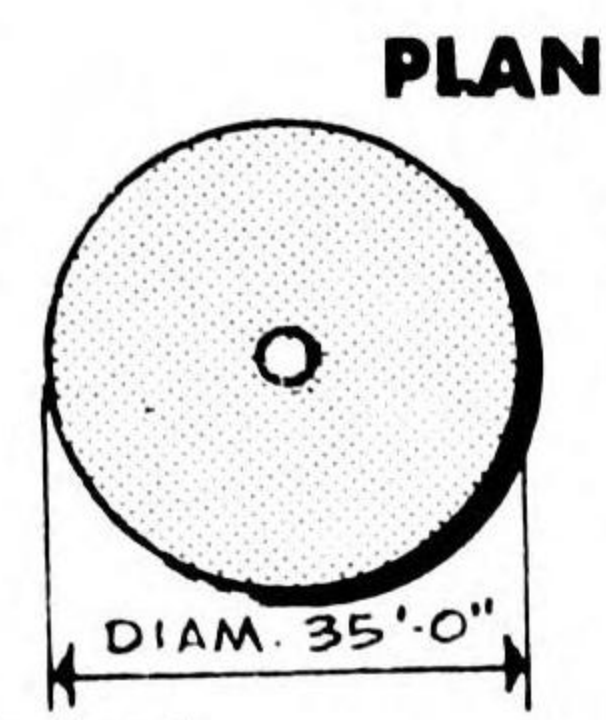
**TYPE OF CONSTRUCTION** Prefabricated side wall panels

**FUNCTION** Troop housing

**DISTINGUISHING CHARACTERISTIC** Similarity to fuel tank

**RELATIVE LOCATION** Servicing air field

PAGE 4.02



### NATIVE BUILDING

**DIMENSIONS** Variable

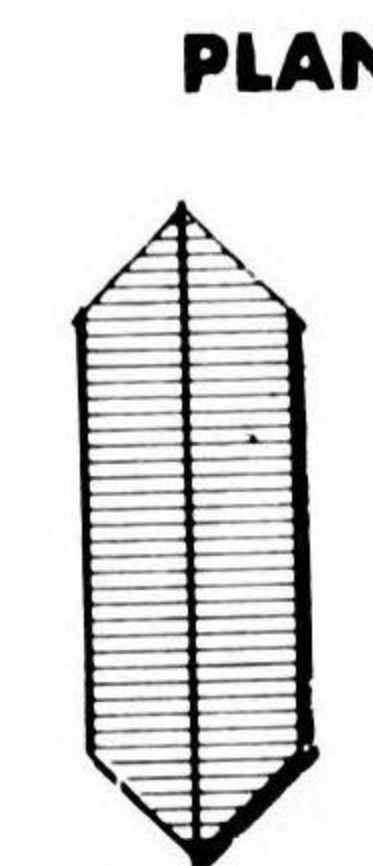
**TYPE OF CONSTRUCTION** Native - thatched roof

**FUNCTION** Native housing

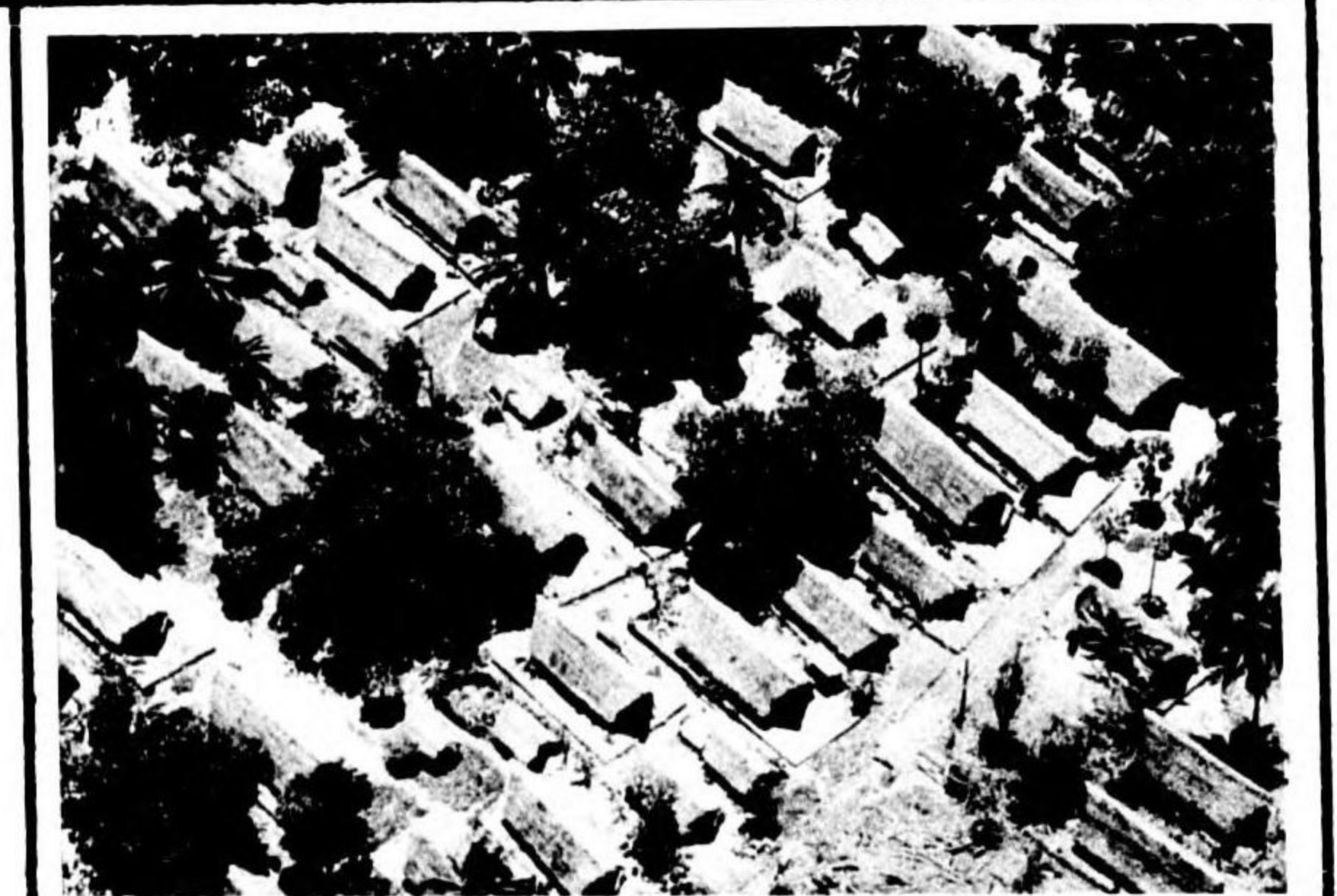
**DISTINGUISHING CHARACTERISTIC** Extended ridge

**RELATIVE LOCATION** Native housing area

PAGE 5.06



### EXTENDED RIDGE



### NATIVE BUILDING

### OFFSHORE



**DIMENSIONS** Variable

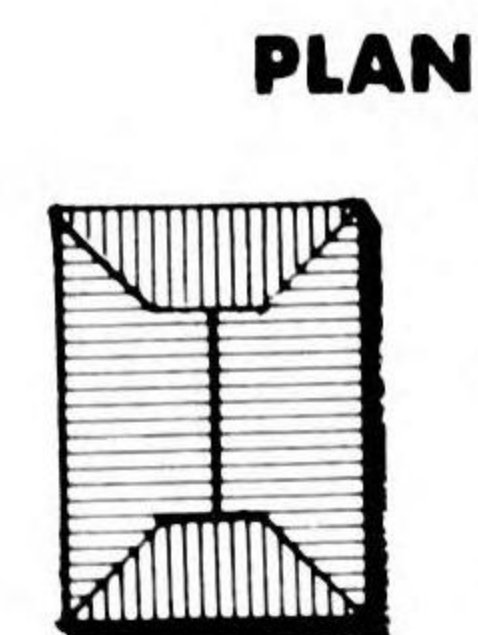
**TYPE OF CONSTRUCTION** Native - thatched hipped roof

**FUNCTION** Native housing

**DISTINGUISHING CHARACTERISTIC** Stone - offshore foundation

**RELATIVE LOCATION** Offshore native settlement

PAGE 5.02



### LATRINE

### OFFSHORE

**DIMENSIONS** Variable

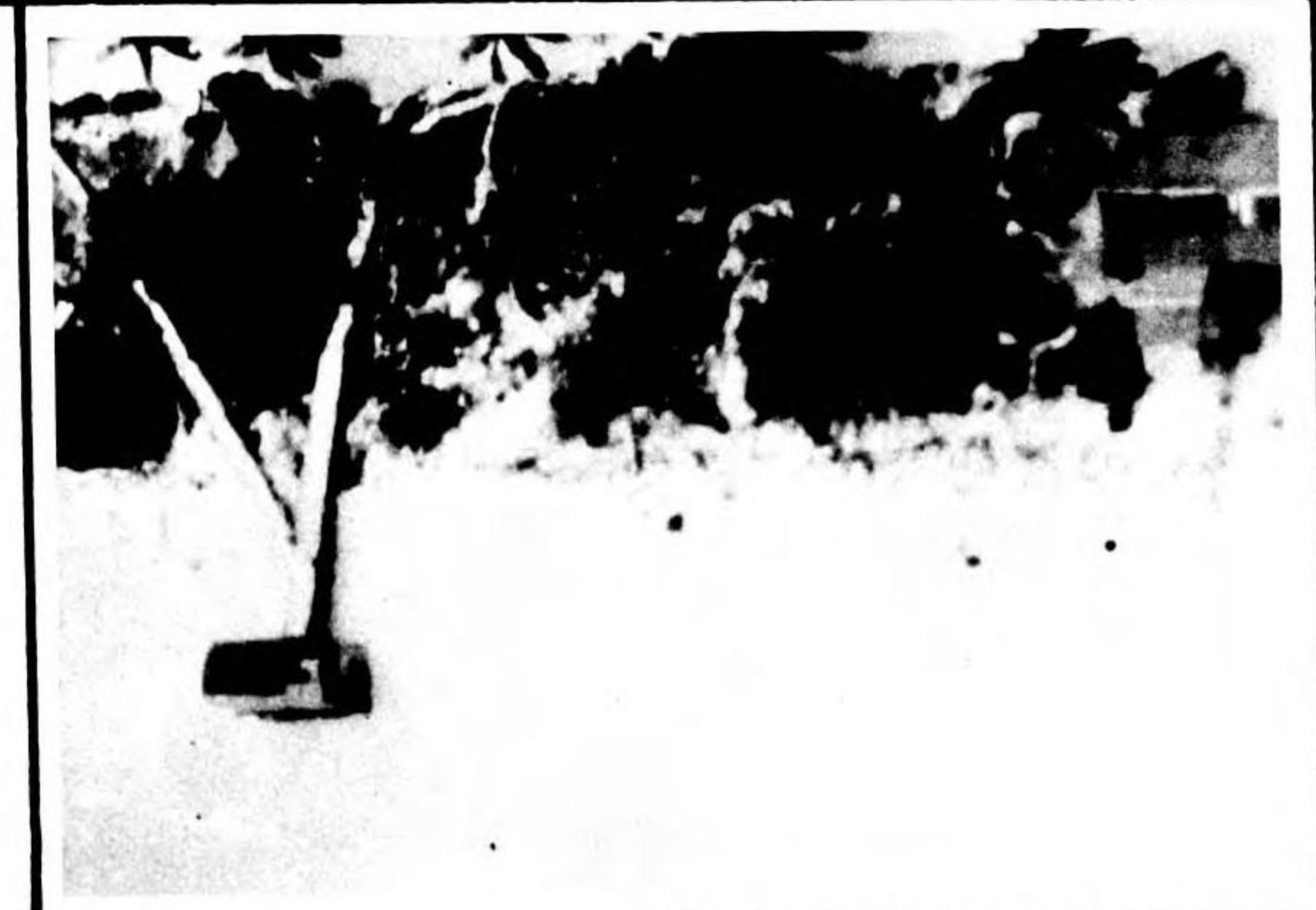
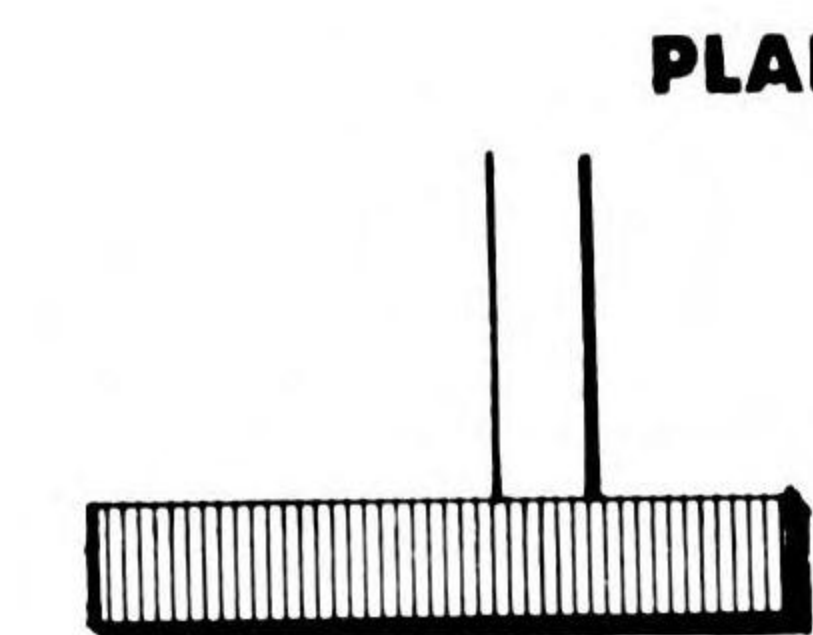
**TYPE OF CONSTRUCTION** Wood framed

**FUNCTION** Latrine

**DISTINGUISHING CHARACTERISTIC** Offshore - connected by pier

**RELATIVE LOCATION** Offshore - servicing barracks area

PAGE 6.02



### NATIVE BUILDING

### MISSION



**DIMENSIONS** Approx. 40' x 100'

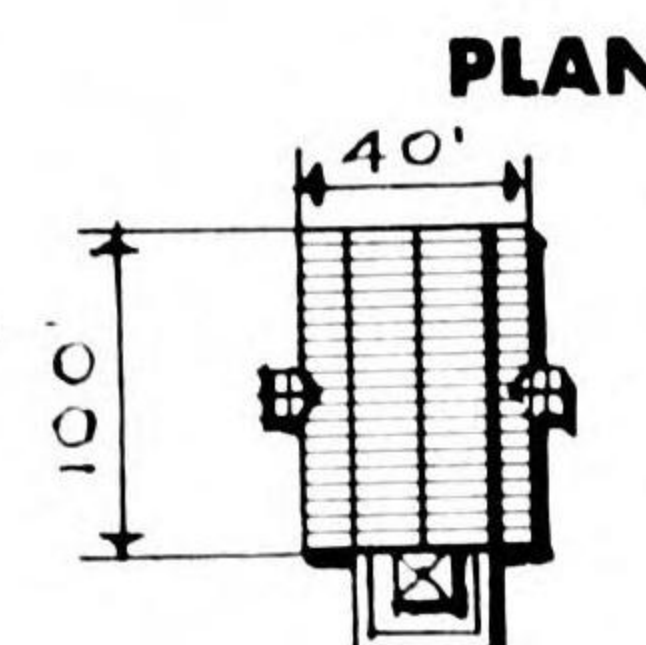
**TYPE OF CONSTRUCTION** Masonry & concrete

**FUNCTION** Native Mission

**DISTINGUISHING CHARACTERISTIC** Relative large size, steeple

**RELATIVE LOCATION** Center of native village

PAGE 5.04



### LATRINE

### BARRACKS

**DIMENSIONS** 24 feet x 33 feet

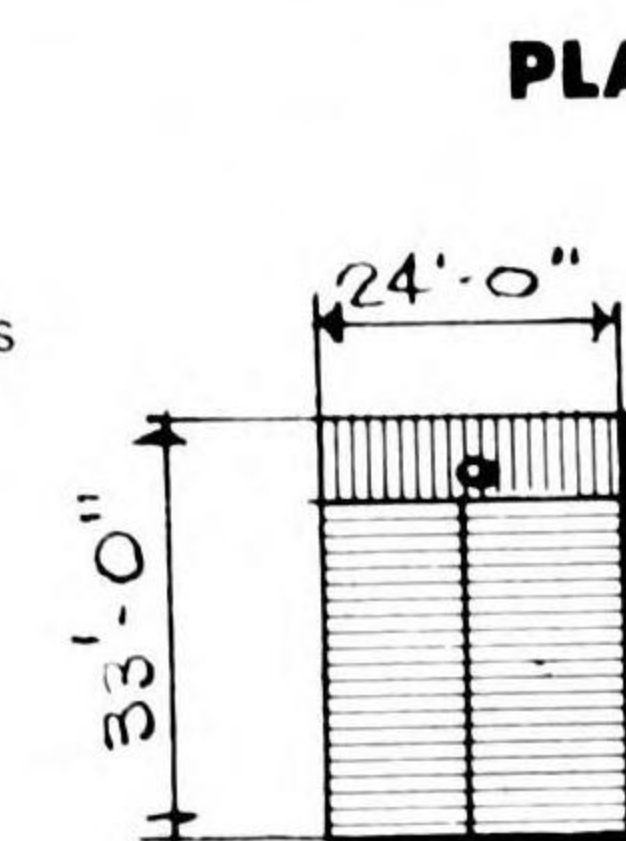
**TYPE OF CONSTRUCTION** Wood frame concrete footings

**FUNCTION** Latrine

**DISTINGUISHING CHARACTERISTIC** Gable roof

**RELATIVE LOCATION** Servicing barracks

PAGE 6.03





# SUMMARY OF STANDARD CONSTRUCTION

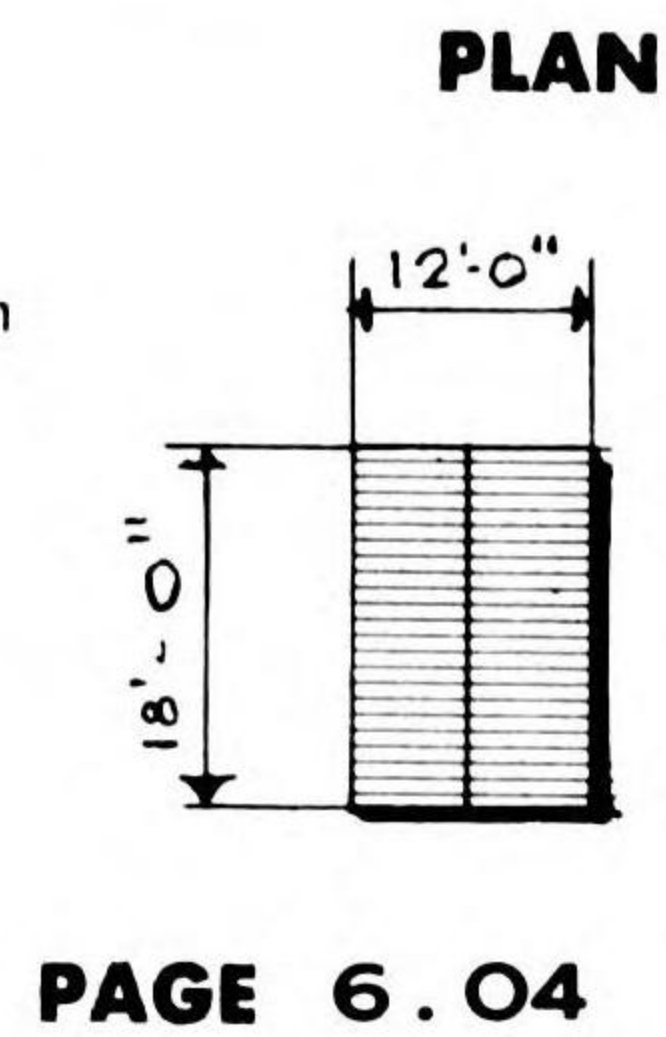
## JAPANESE MILITARY BUILDINGS

### LATRINE

### OFFICER



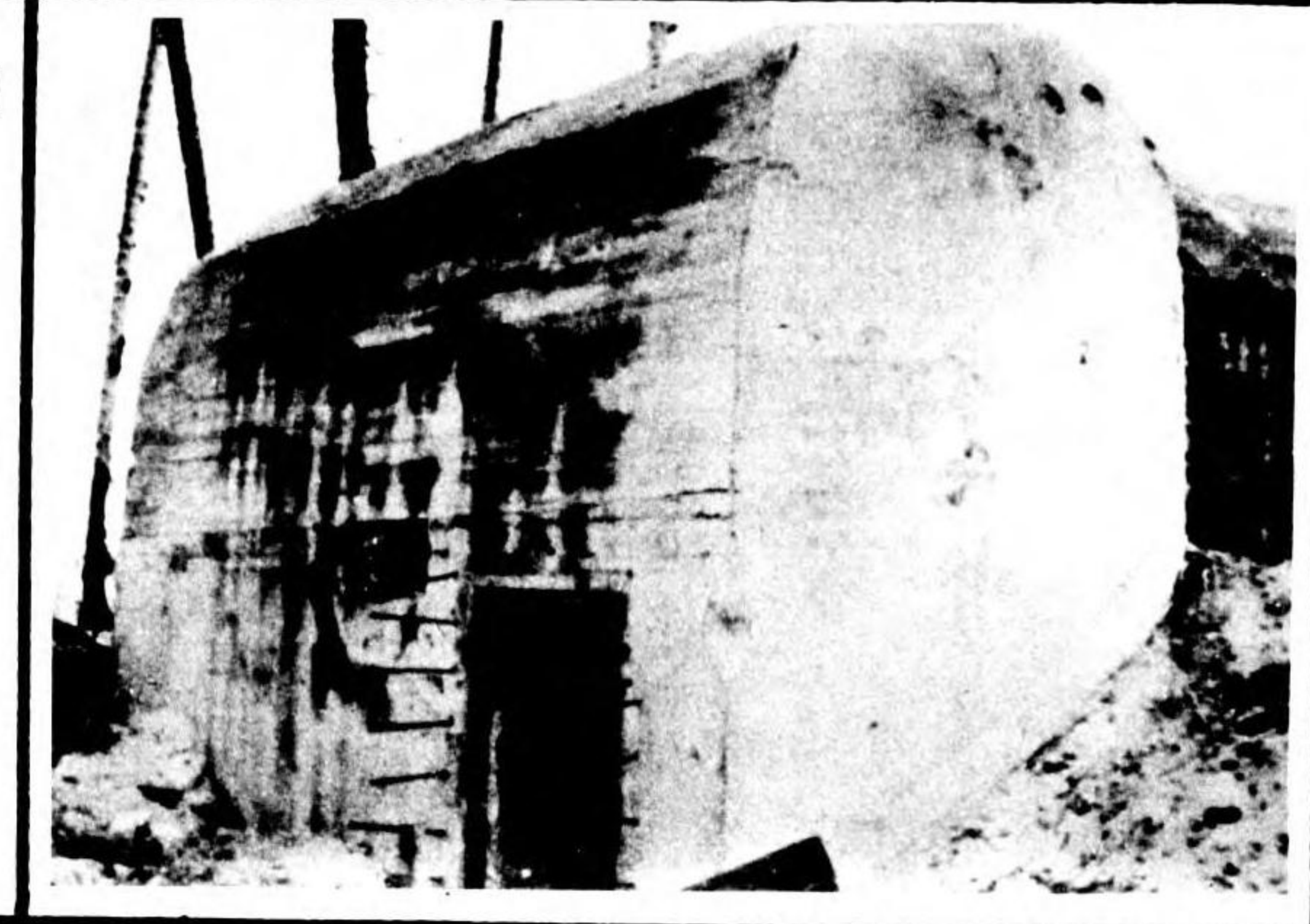
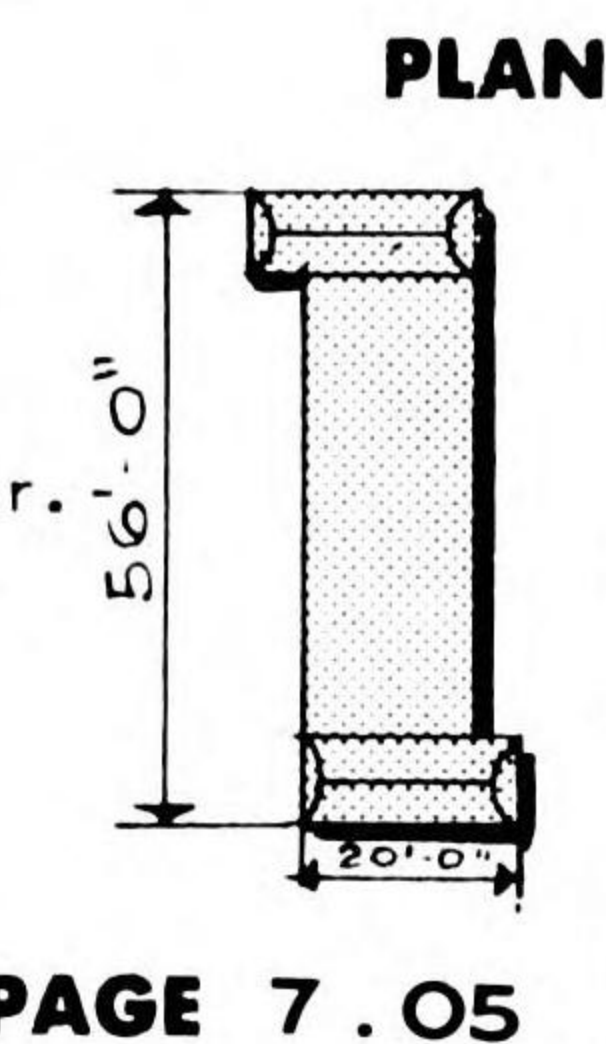
**DIMENSIONS** 12 feet x 18 feet  
**TYPE OF CONSTRUCTION** Wood framed concrete foundation  
**FUNCTION** Officer latrine  
**DISTINGUISHING CHARACTERISTIC** Gable roof  
**RELATIVE LOCATION** Servicing officer's quarters



### PERSONNEL SHELTER

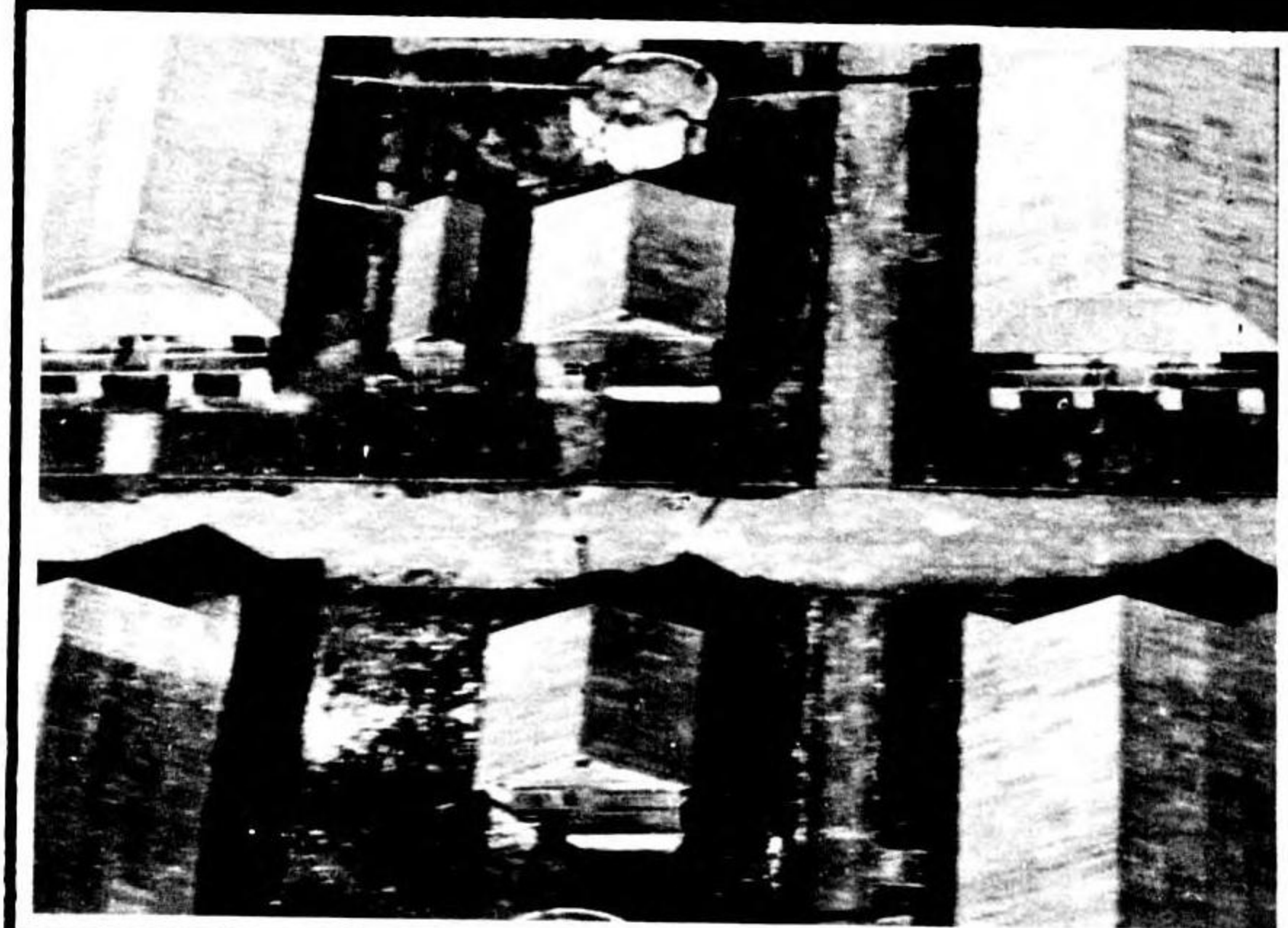
### REINFORCED CONCRETE

**DIMENSIONS** 20 feet x 56 feet  
**TYPE OF CONSTRUCTION** Heavily reinforced concrete  
**FUNCTION** Personnel air raid shelter. Emergency Radio station.  
**DISTINGUISHING CHARACTERISTIC** "Z" plan  
**RELATIVE LOCATION** Servicing barracks and hangars

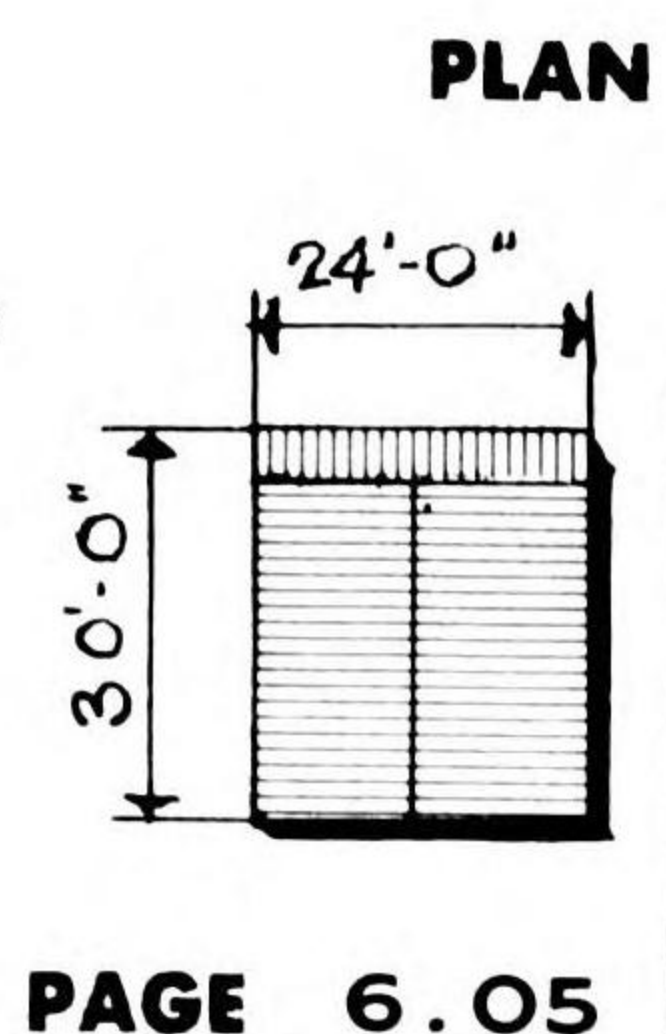


### BATH HOUSE

### BARRACKS



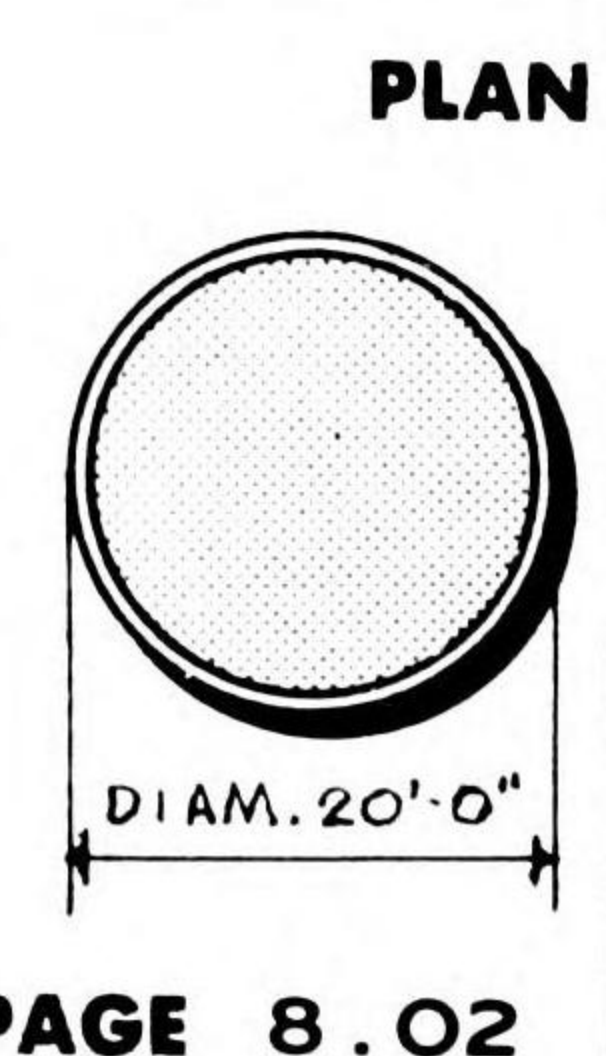
**DIMENSIONS** 24 feet x 30 feet  
**TYPE OF CONSTRUCTION** Wood framed concrete foundation  
**FUNCTION** Bath house  
**DISTINGUISHING CHARACTERISTIC** Gable roof  
**RELATIVE LOCATION** Servicing barracks



### WATER CISTERN

### 20 FOOT DIAMETER

**DIMENSIONS** 20 foot diameter  
**TYPE OF CONSTRUCTION** Reinforced concrete  
**FUNCTION** Water collection  
**DISTINGUISHING CHARACTERISTIC** Circular plan  
**RELATIVE LOCATION** Adjacent to large roof surfaces

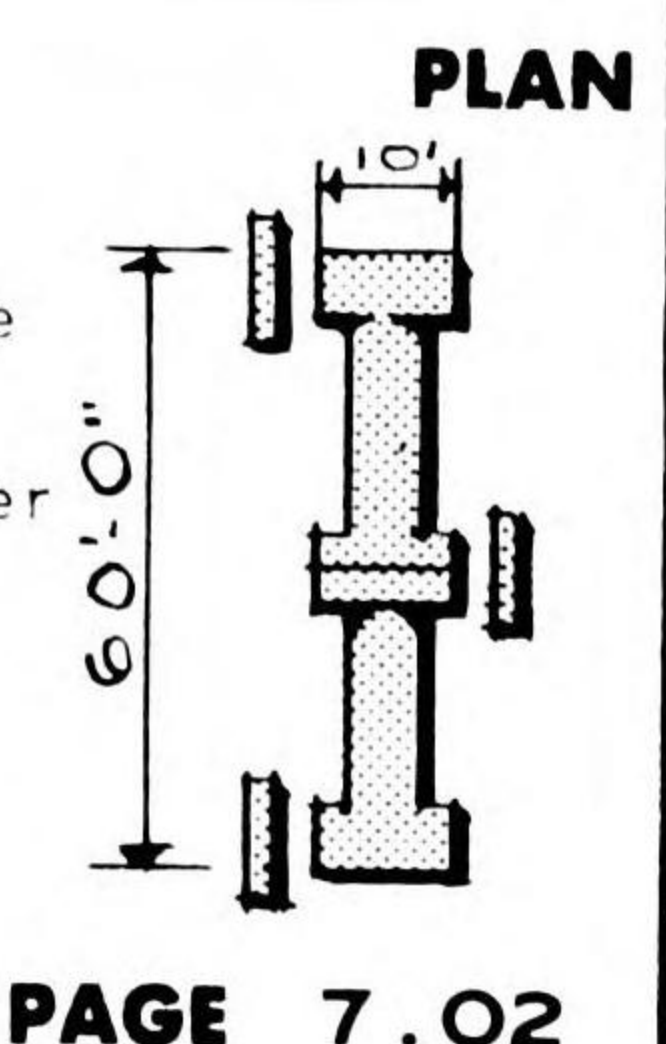


### PERSONNEL SHELTER

### REINFORCED CONCRETE



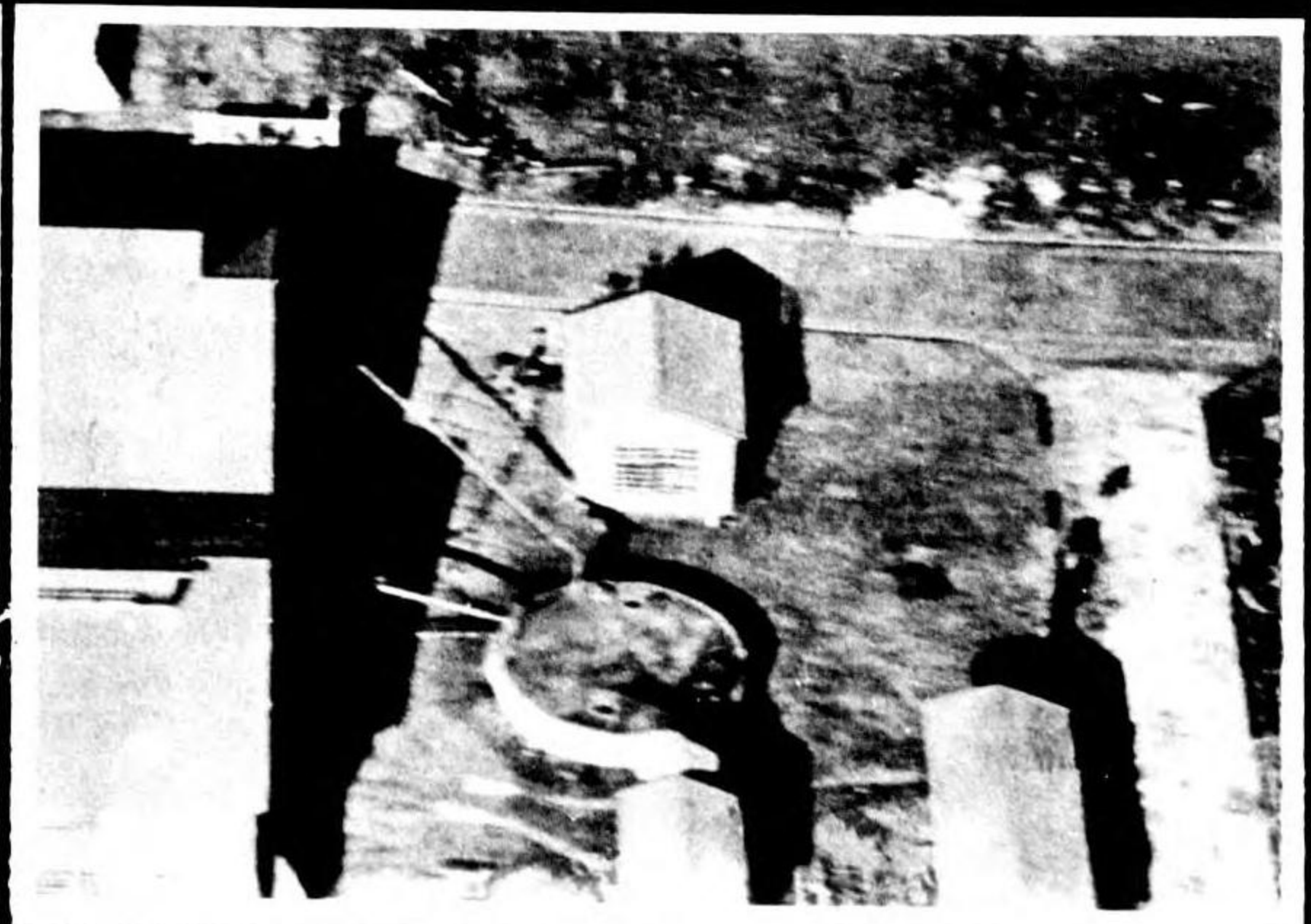
**DIMENSIONS** 10 feet x 60 feet  
**TYPE OF CONSTRUCTION** Heavily reinforced concrete  
**FUNCTION** Personnel air raid shelter  
**DISTINGUISHING CHARACTERISTIC** "I" shaped plan  
**RELATIVE LOCATION** Servicing barracks or hangars



### WATER CISTERN

### 46 FOOT DIAMETER

**DIMENSIONS** 46 foot diameter  
**TYPE OF CONSTRUCTION** Reinforced concrete  
**FUNCTION** Water reservoir  
**DISTINGUISHING CHARACTERISTIC** Circular plan  
**RELATIVE LOCATION** Adjacent to large roof surface





# SUMMARY OF STANDARD CONSTRUCTION

## JAPANESE MILITARY BUILDINGS

### SHRINE



### SHINTO

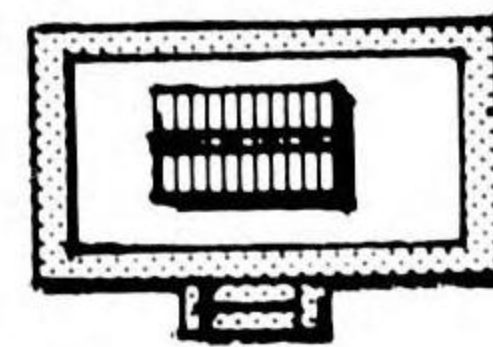
**DIMENSIONS** Variable **PLAN**

**TYPE OF CONSTRUCTION** Wood & masonry

**FUNCTION** Shrine

**DISTINGUISHING CHARACTERISTIC** Formal entrance

**RELATIVE LOCATION** Isolated from main housing areas **PAGE 9.02**



### ADMINISTRATION

### OPERATIONS BUILDING

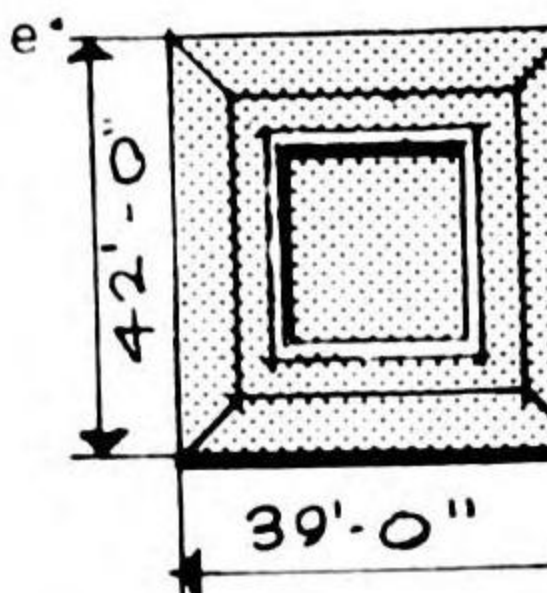
**DIMENSIONS** 39 feet x 42 feet **PLAN**

**TYPE OF CONSTRUCTION** Reinforced concrete

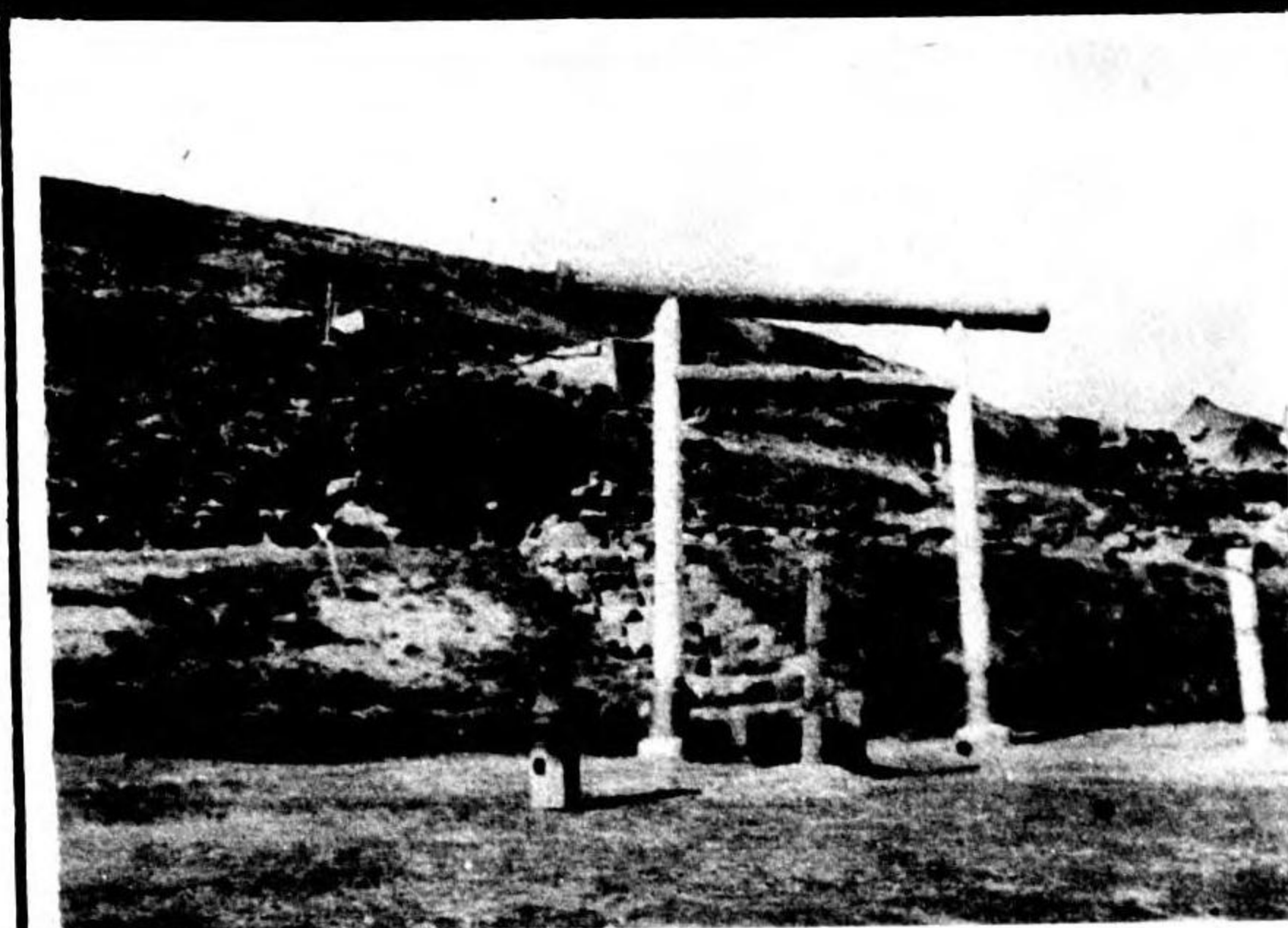
**FUNCTION** Air command hdqtrs.

**DISTINGUISHING CHARACTERISTIC** Square plan

**RELATIVE LOCATION** Edge of center portion of air strip **PAGE 10.05**



### SHRINE



### SHINTO GATE

**DIMENSIONS** Variable **PLAN**

**TYPE OF CONSTRUCTION** Wood or concrete

**FUNCTION** Gate to shrine

**DISTINGUISHING CHARACTERISTIC** Spans passage to shrine

**RELATIVE LOCATION** Isolated from main housing areas **PAGE 9.03**



### ADMINISTRATION

### OPERATIONS BUILDING

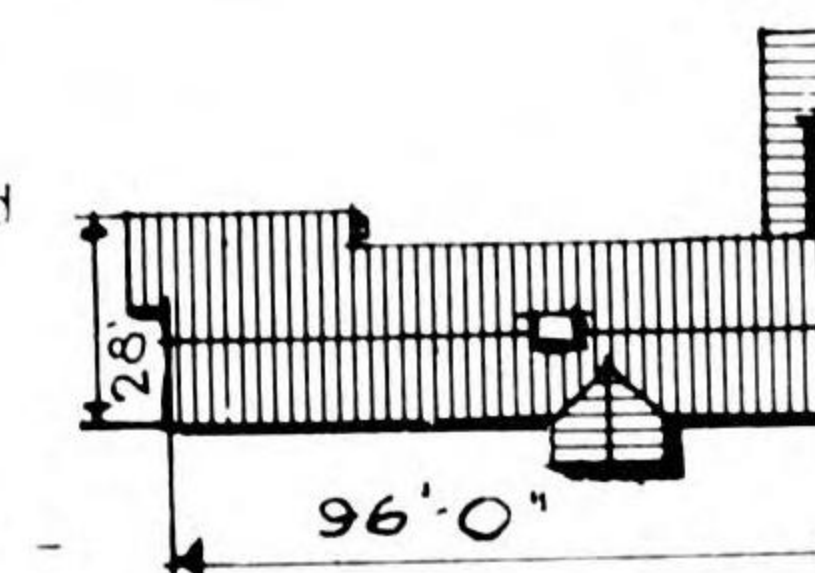
**DIMENSIONS** 28 feet x 96 feet **PLAN**

**TYPE OF CONSTRUCTION** Wood framed

**FUNCTION** Administration

**DISTINGUISHING CHARACTERISTIC** Gable roof - faces circular driveway

**RELATIVE LOCATION** Centrally located **PAGE 10.06**



### ADMINISTRATION

### TWO STORY CONCRETE



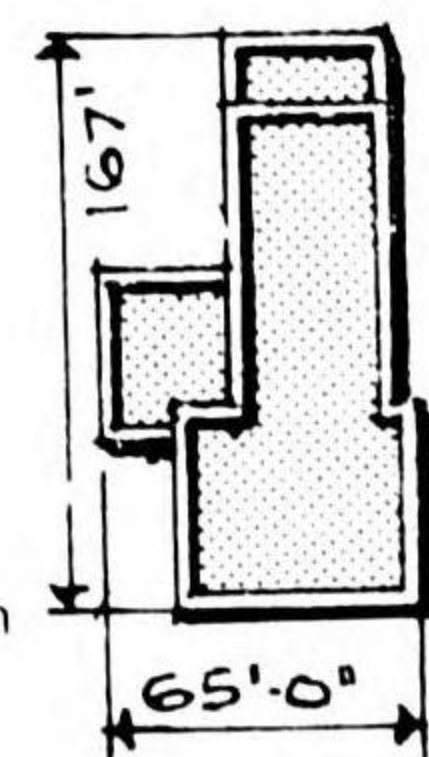
**DIMENSIONS** 65 feet x 167 feet **PLAN**

**TYPE OF CONSTRUCTION** Reinforced concrete

**FUNCTION** Administration

**DISTINGUISHING CHARACTERISTIC** 2-story - "T" in plan

**RELATIVE LOCATION** Centrally located **PAGE 10.02**



### ADMINISTRATION

### COMMAND POST

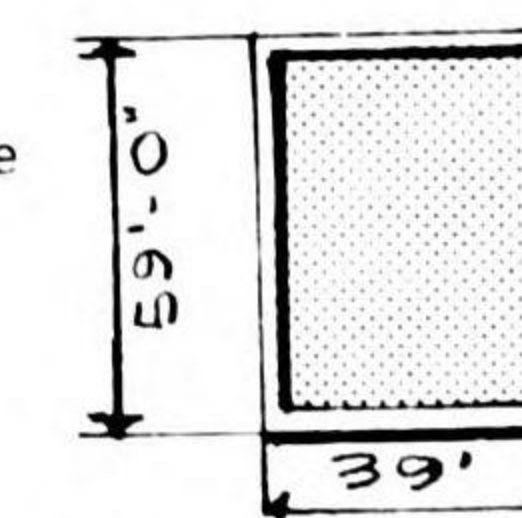
**DIMENSIONS** 39 feet x 59 feet **PLAN**

**TYPE OF CONSTRUCTION** Heavily reinforced concrete

**FUNCTION** Administration

**DISTINGUISHING CHARACTERISTIC** Flat roof, 20 foot height

**RELATIVE LOCATION** Centrally located **PAGE 10.07**





# SUMMARY OF STANDARD CONSTRUCTION

## JAPANESE MILITARY BUILDINGS

### ELECTRONICS DIRECTION FINDER BUILDING



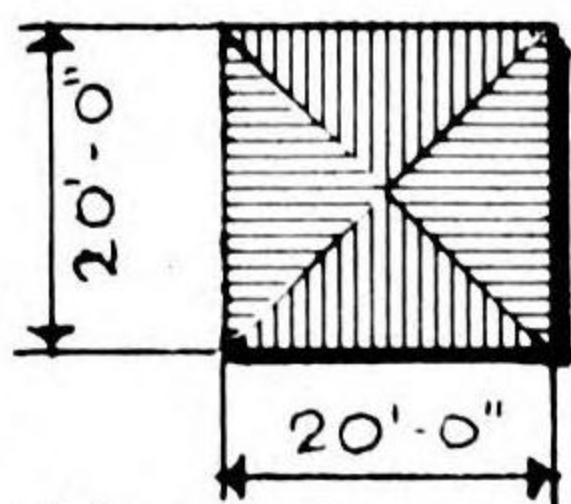
**DIMENSIONS** 20 feet by 20 feet **PLAN**

**TYPE OF CONSTRUCTION** Wood framed

**FUNCTION** Direction Finder station

**DISTINGUISHING CHARACTERISTIC** Square plan, 30 foot height, buttresses

**RELATIVE LOCATION** Cleared area **PAGE 11.02**



### ELECTRONICS

### D. F. CENTER

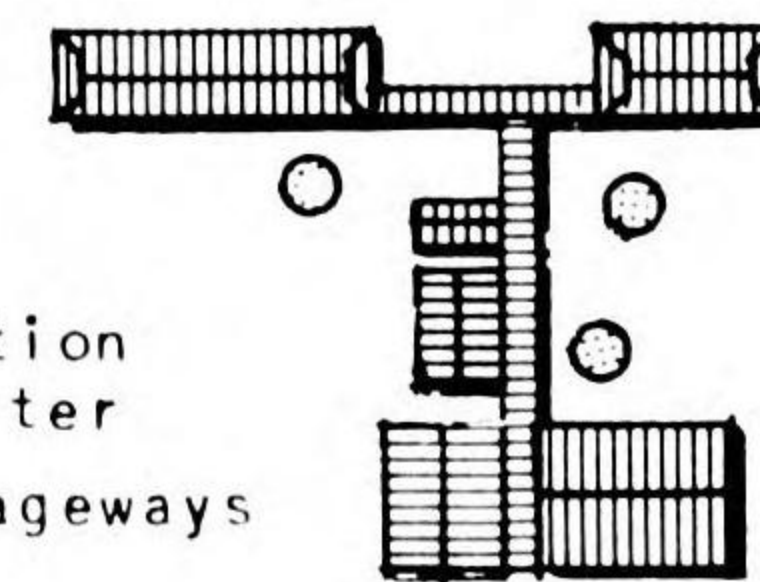
**DIMENSIONS** Approx. 180x260 feet **PLAN**

**TYPE OF CONSTRUCTION** Wood framed

**FUNCTION** D.F. and communication center

**DISTINGUISHING CHARACTERISTIC** Covered passageways and "T" plan

**RELATIVE LOCATION** Services 20x20 D.F. buildings **PAGE 3.04**



### ELECTRONICS GENERATOR BUILDING



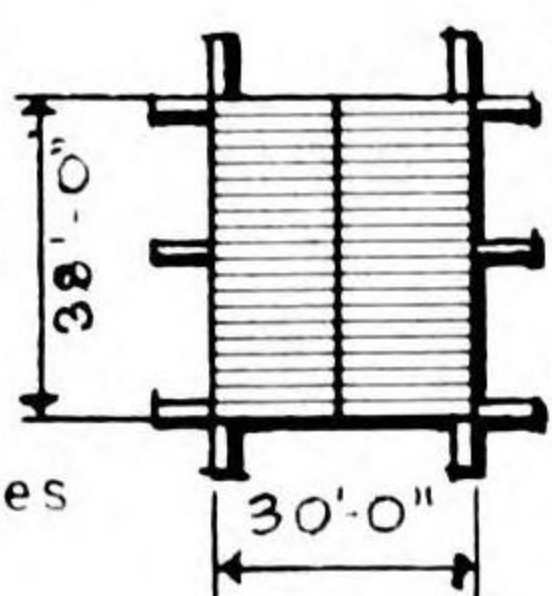
**DIMENSIONS** 30 feet by 38 feet **PLAN**

**TYPE OF CONSTRUCTION** Wood framed concrete foundation

**FUNCTION** D.F. generator housing

**DISTINGUISHING CHARACTERISTIC** Gable roof, buttresses

**RELATIVE LOCATION** Cleared area servicing D.F. bldgs. **PAGE 11.05**



### ELECTRONICS

### WEATHER STATION

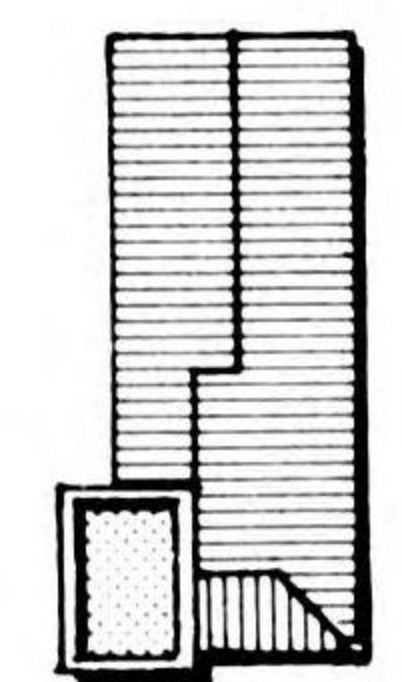
**DIMENSIONS** Variable **PLAN**

**TYPE OF CONSTRUCTION** Wood framed

**FUNCTION** Weather station

**DISTINGUISHING CHARACTERISTIC** 2-story platform small white shacks

**RELATIVE LOCATION** Isolated - or along shoreline **PAGE 11.06**



### ELECTRONICS ADCOCK BUILDING



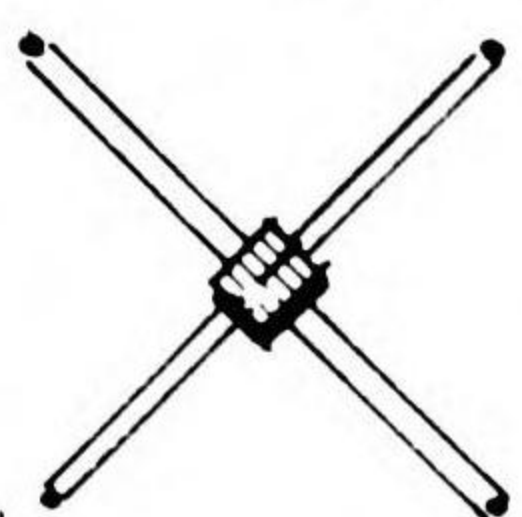
**DIMENSIONS** 20 feet x 20 feet **PLAN**

**TYPE OF CONSTRUCTION** Wood framed

**FUNCTION** Direction Finder station

**DISTINGUISHING CHARACTERISTIC** In clearing flanked by 4 stick masts

**RELATIVE LOCATION** Cleared area **PAGE 11.03**



### STORAGE

### REFRIGERATION BUILDING

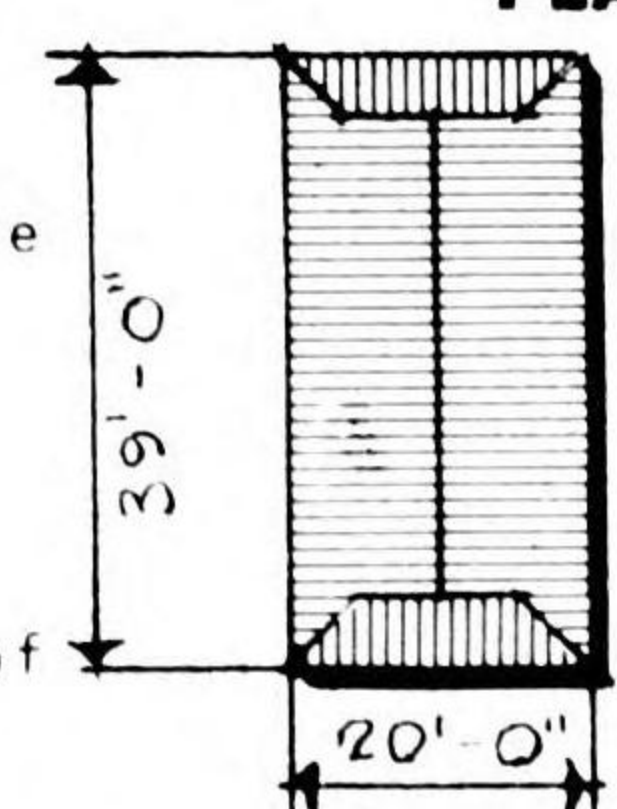
**DIMENSIONS** 20 feet x 39 feet **PLAN**

**TYPE OF CONSTRUCTION** Wood and concrete

**FUNCTION** Cold storage

**DISTINGUISHING CHARACTERISTIC** Clip hipped roof

**RELATIVE LOCATION** Services galley **PAGE 12.03**





# SUMMARY OF STANDARD CONSTRUCTION

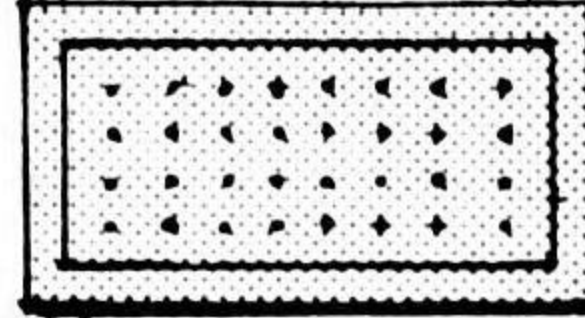
## JAPANESE MILITARY BUILDINGS

### STORAGE RESERVOIR AND SETTLING TANK



**DIMENSIONS** Variable - 70' x 200' average **PLAN**

**TYPE OF CONSTRUCTION** Concrete



**FUNCTION** Water reservoir and settling tank

**DISTINGUISHING CHARACTERISTIC** Rows of ventilators on earth covered roof

**RELATIVE LOCATION** Level ground centrally located **PAGE 12.04**

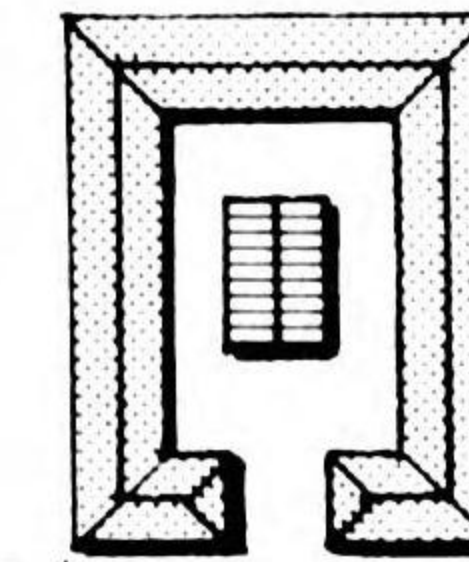
### STORAGE

### EARTH REVETTED

**DIMENSIONS** Variable

**PLAN**

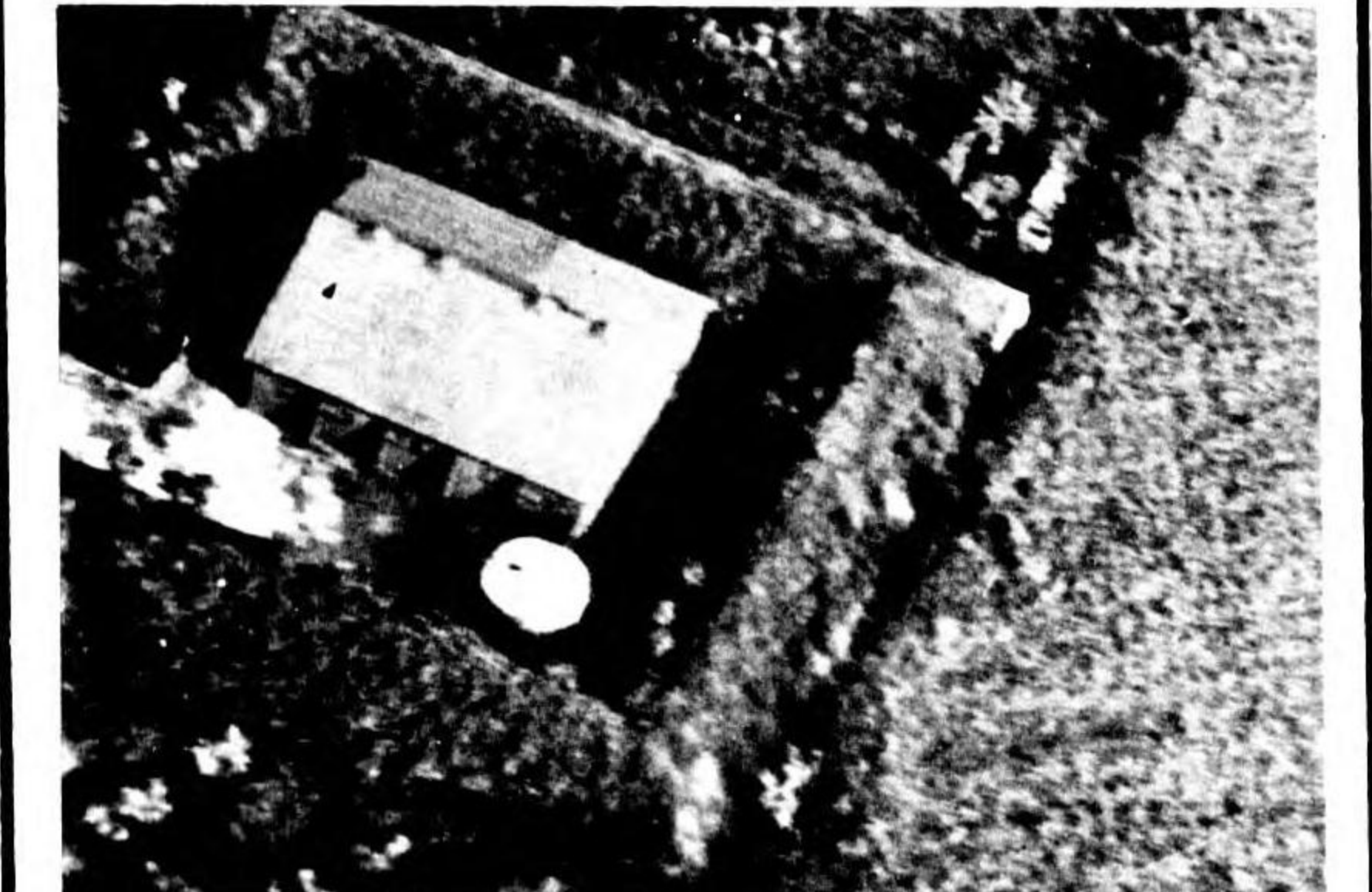
**TYPE OF CONSTRUCTION** Wood frame



**FUNCTION** Ammunition storage

**DISTINGUISHING CHARACTERISTIC** Heavy earth revetment

**RELATIVE LOCATION** Servicing seaplane ramp or airstrip **PAGE 12.09**



### STORAGE

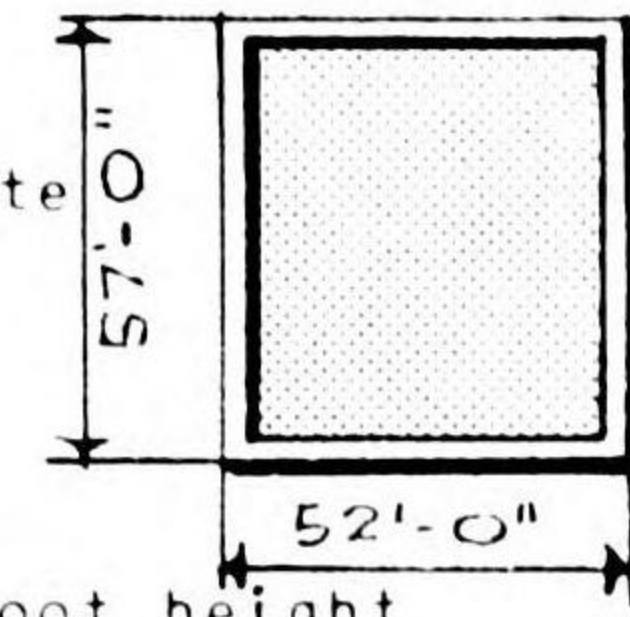
### FUEL



**DIMENSIONS** 52 feet x 57 feet

**PLAN**

**TYPE OF CONSTRUCTION** Reinforced concrete



**FUNCTION** Fuel storage

**DISTINGUISHING CHARACTERISTIC** Square plan 21 foot height

**RELATIVE LOCATION** Isolated **PAGE 12.06**

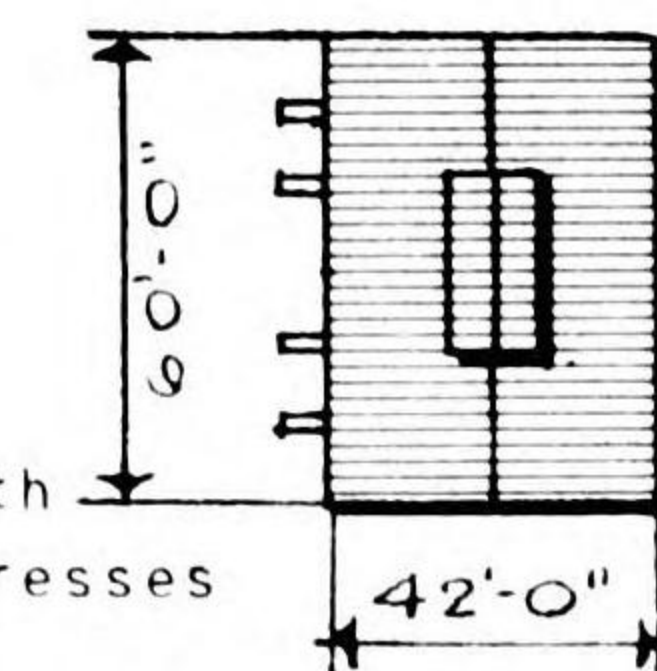
### STORAGE

### FOOD STORAGE

**DIMENSIONS** 42 feet by 60 feet

**PLAN**

**TYPE OF CONSTRUCTION** Wood frame



**FUNCTION** Food storage

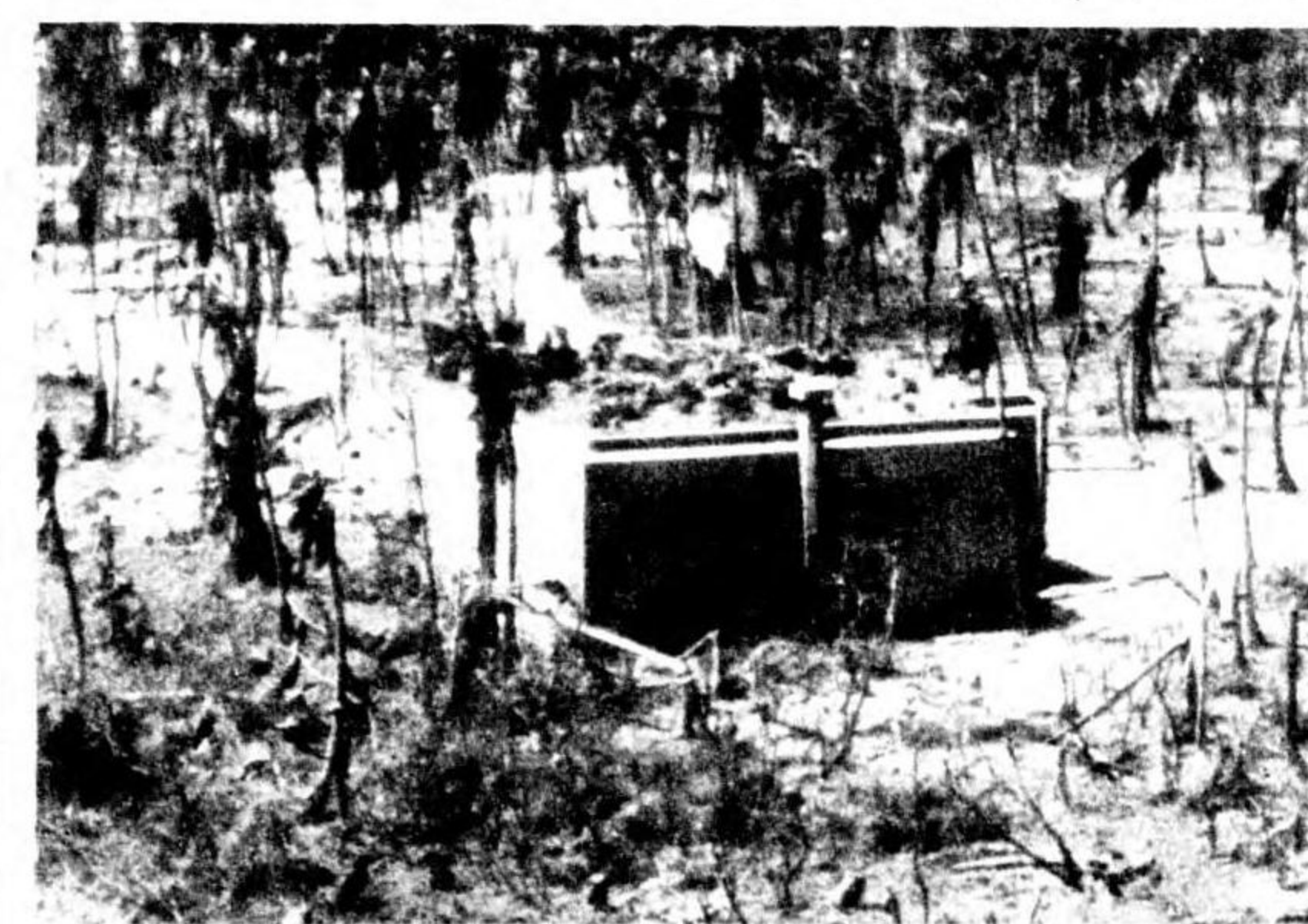
**DISTINGUISHING CHARACTERISTIC** Gable roof with monitor, buttresses

**RELATIVE LOCATION** Storage area **PAGE 12.10**



### STORAGE

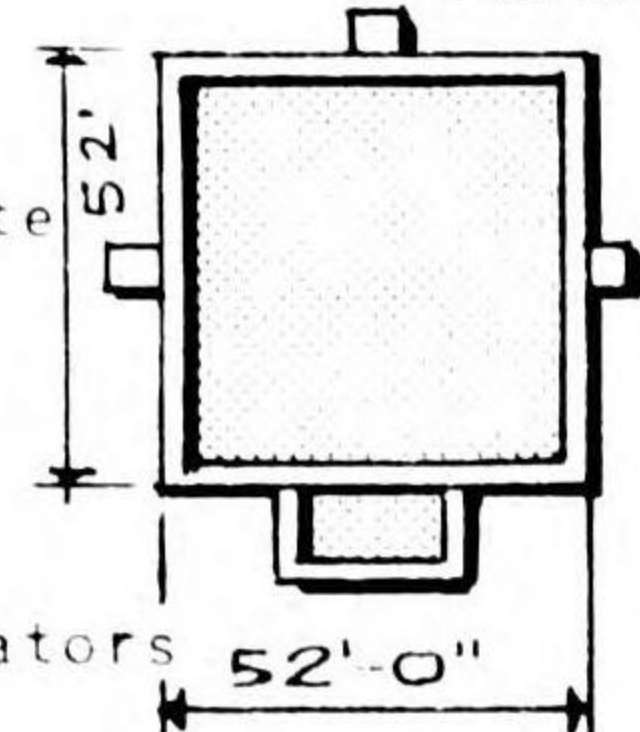
### AMMUNITION



**DIMENSIONS** 52 feet x 52 feet

**PLAN**

**TYPE OF CONSTRUCTION** Reinforced concrete



**FUNCTION** Ammunition storage

**DISTINGUISHING CHARACTERISTIC** Square plan with porch and ventilators

**RELATIVE LOCATION** Isolated **PAGE 12.08**

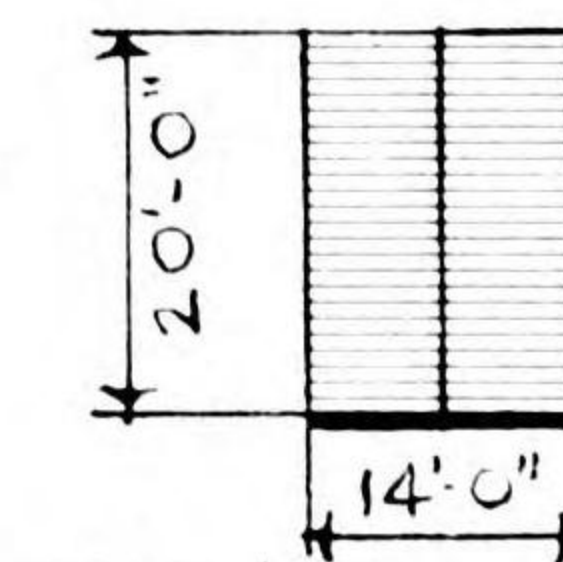
### STORAGE

### FOOD STORAGE

**DIMENSIONS** 14 feet x 20 feet

**PLAN**

**TYPE OF CONSTRUCTION** Wood frame, corr. iron siding



**FUNCTION** Food storage

**DISTINGUISHING CHARACTERISTIC** Gable roof, shed over door

**RELATIVE LOCATION** Storage area **PAGE 12.11**





# SUMMARY OF STANDARD CONSTRUCTION

## JAPANESE MILITARY BUILDINGS

### SHOP

### PROPELLER



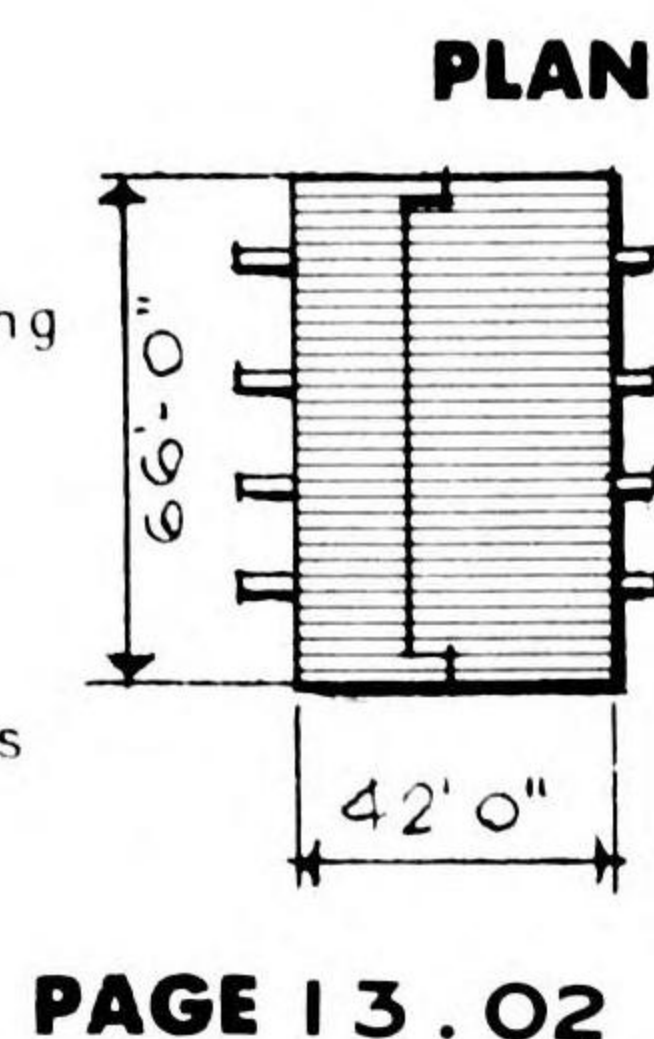
**DIMENSIONS** 42 feet x 66 feet

**TYPE OF CONSTRUCTION** Wood framed, corr. iron roof and siding

**FUNCTION** Propeller shop

**DISTINGUISHING CHARACTERISTIC** Extended ridge light, buttresses

**RELATIVE LOCATION** Shop area



**PAGE** 13.02

### GALLEY

### ENLISTED

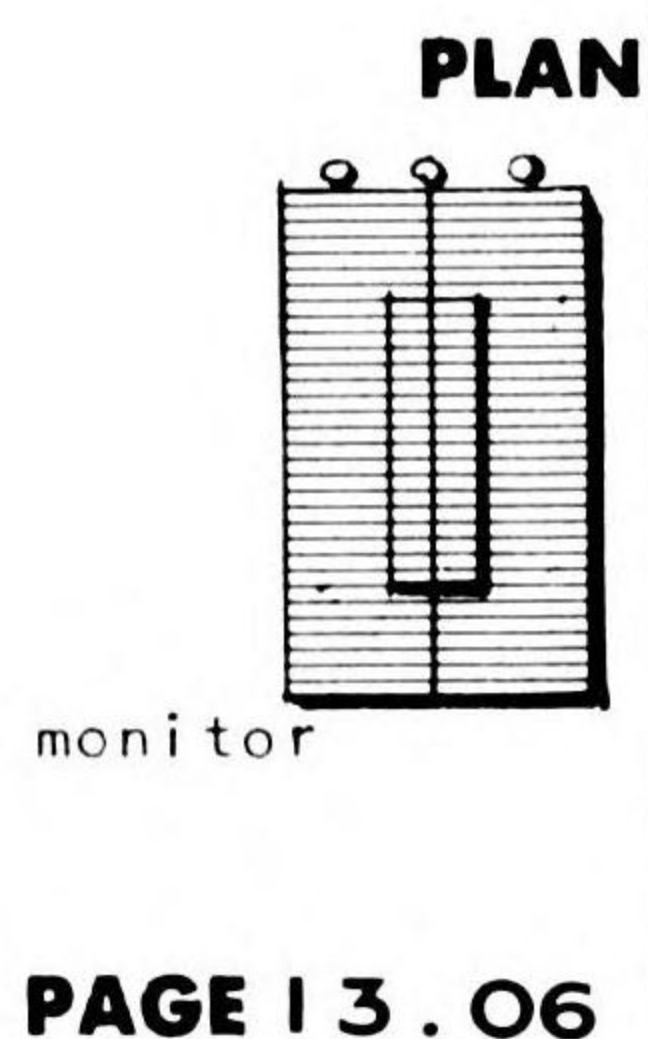
**DIMENSIONS** Variable

**TYPE OF CONSTRUCTION** Wood frame

**FUNCTION** Galley

**DISTINGUISHING CHARACTERISTIC** Row of stacks servicing stoves, monitor

**RELATIVE LOCATION** Services mess hall

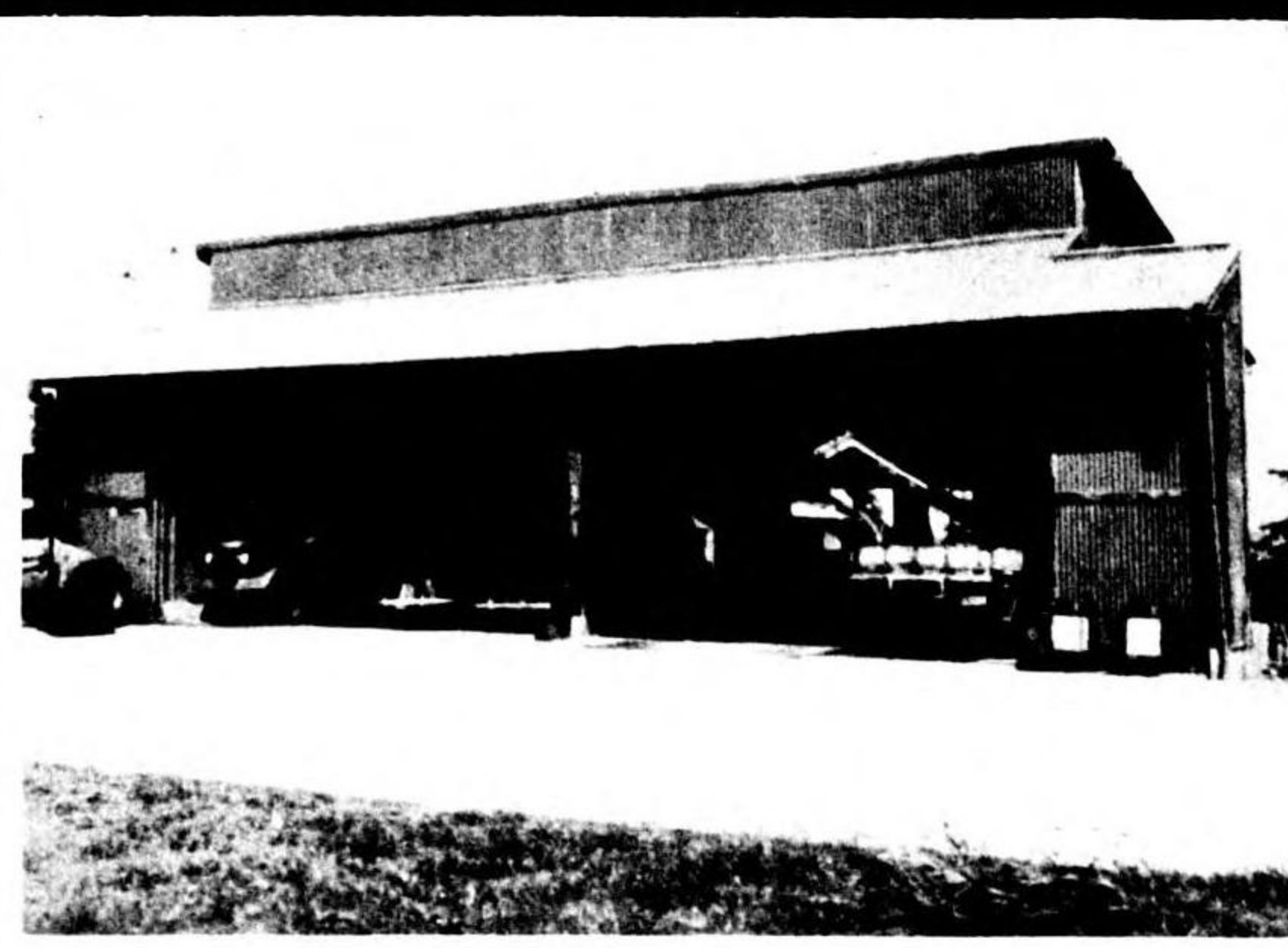


**PAGE** 13.06



### SHOP

### MOTOR VEHICLE GARAGE



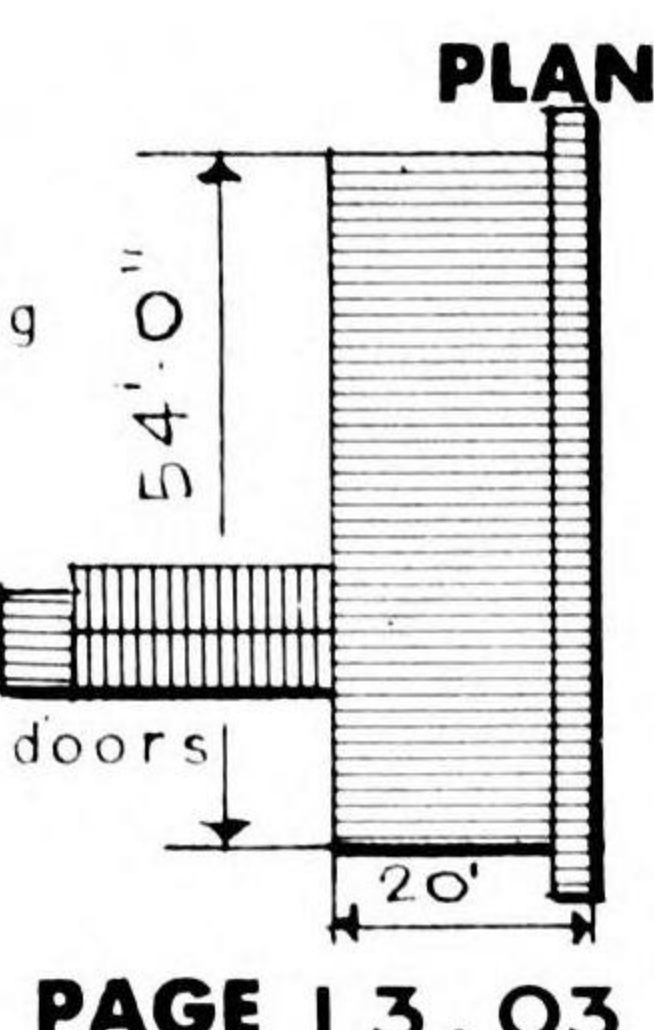
**DIMENSIONS** 20 feet x 54 feet

**TYPE OF CONSTRUCTION** Wood framed, corr. iron roof and siding

**FUNCTION** Motor vehicle garage

**DISTINGUISHING CHARACTERISTIC** Shed roof, extended sliding doors

**RELATIVE LOCATION** Shop area



**PAGE** 13.03

### POWER PLANT

### DISTRIBUTION STATION

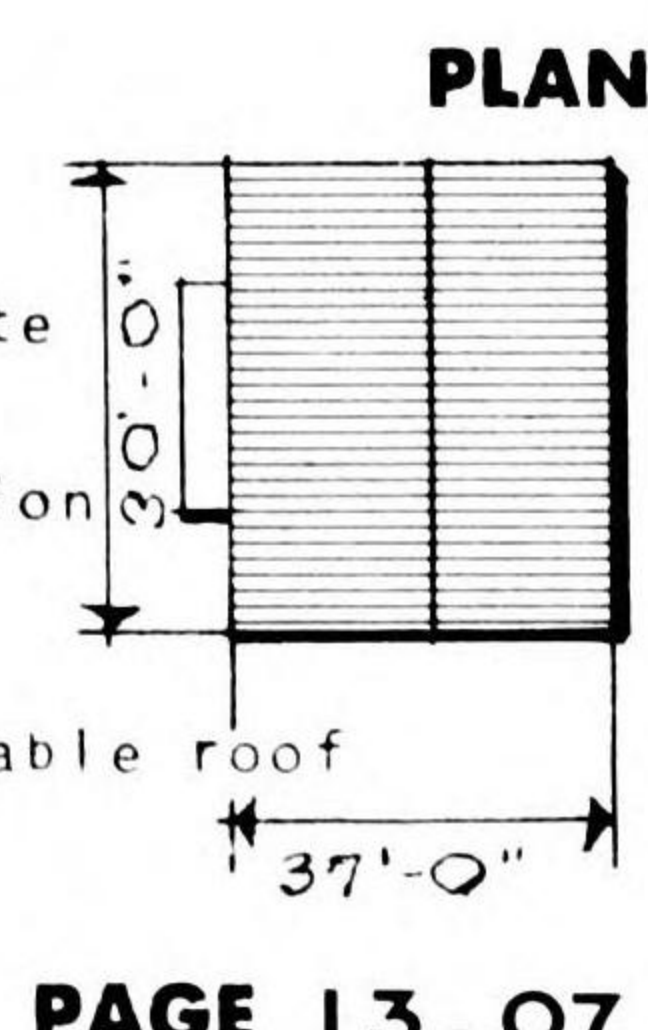
**DIMENSIONS** 30 feet x 37 feet

**TYPE OF CONSTRUCTION** Reinforced concrete

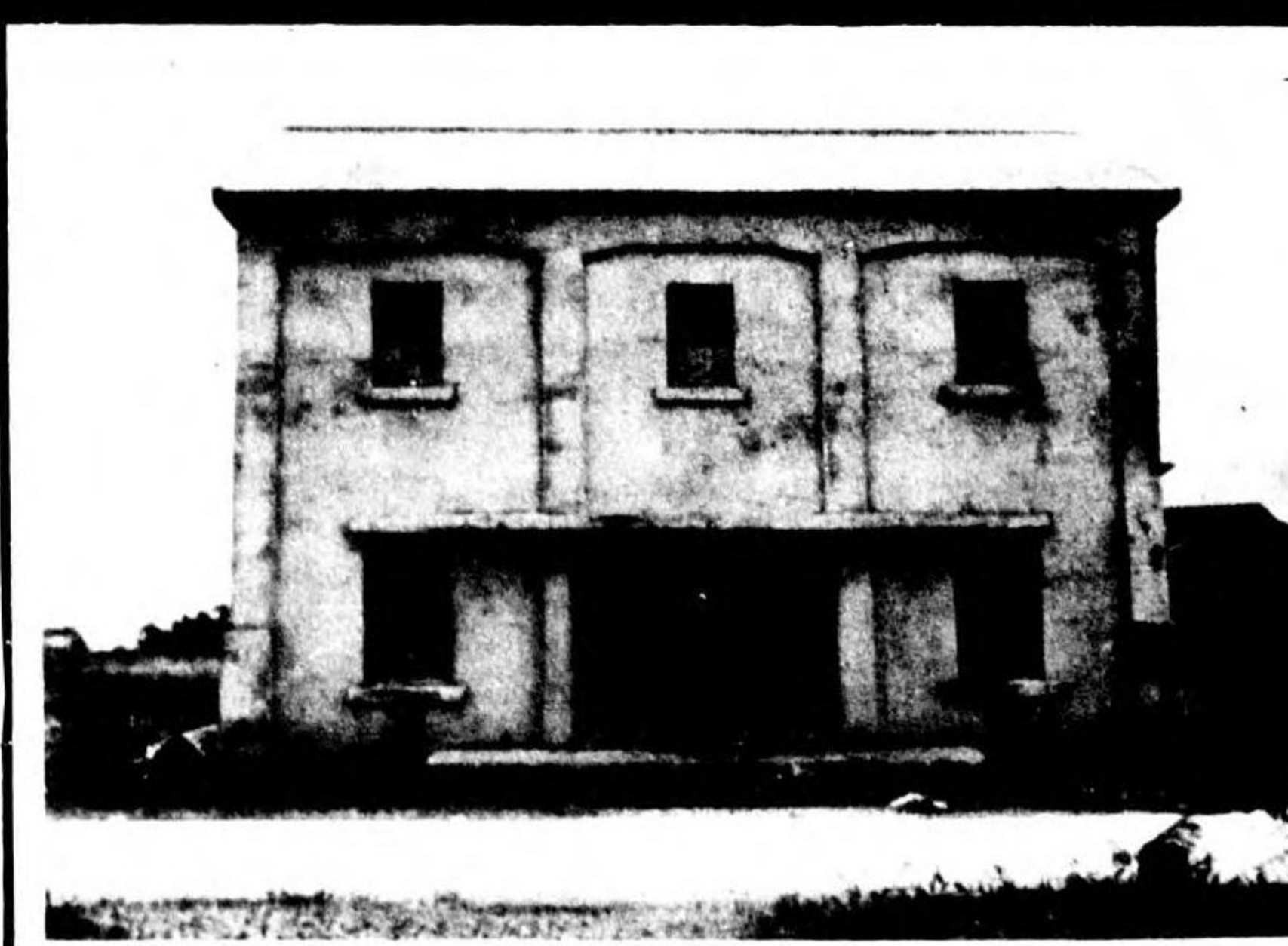
**FUNCTION** Power distribution station

**DISTINGUISHING CHARACTERISTIC** 2-story height, gable roof

**RELATIVE LOCATION** Shop area



**PAGE** 13.07



### OXYGEN PLANT

### GENERATING BUILDING



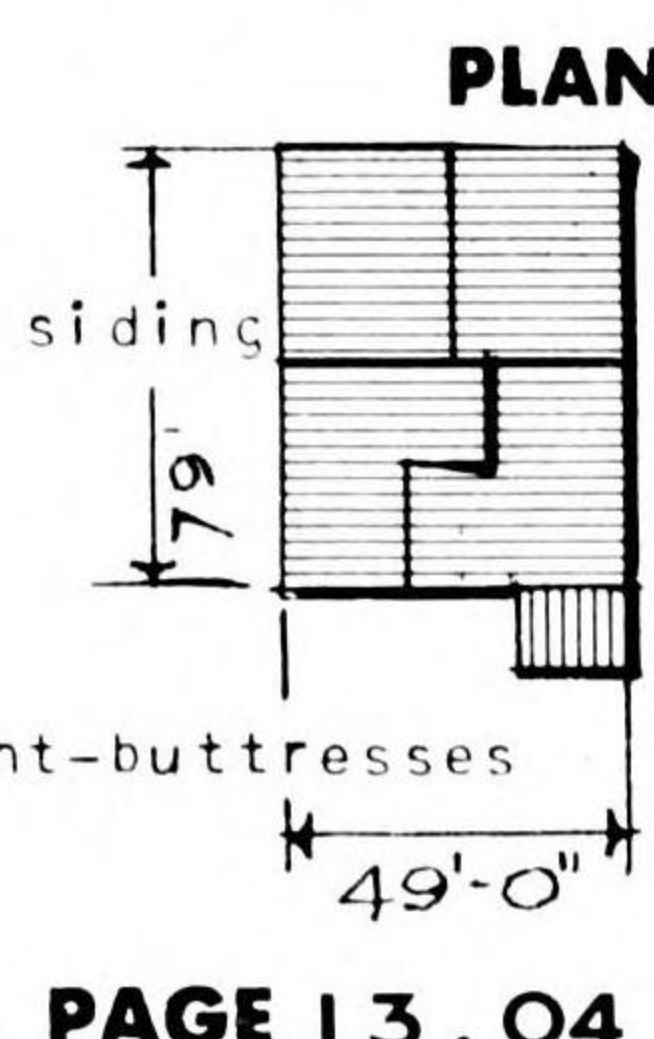
**DIMENSIONS** 49 feet x 79 feet

**TYPE OF CONSTRUCTION** Wood or concrete, corr. iron roof & siding

**FUNCTION** Oxygen generating plant

**DISTINGUISHING CHARACTERISTIC** Reverse ridge light-buttresses

**RELATIVE LOCATION** Shop area



**PAGE** 13.04

### POWER PLANT

### GENERATOR BUILDING

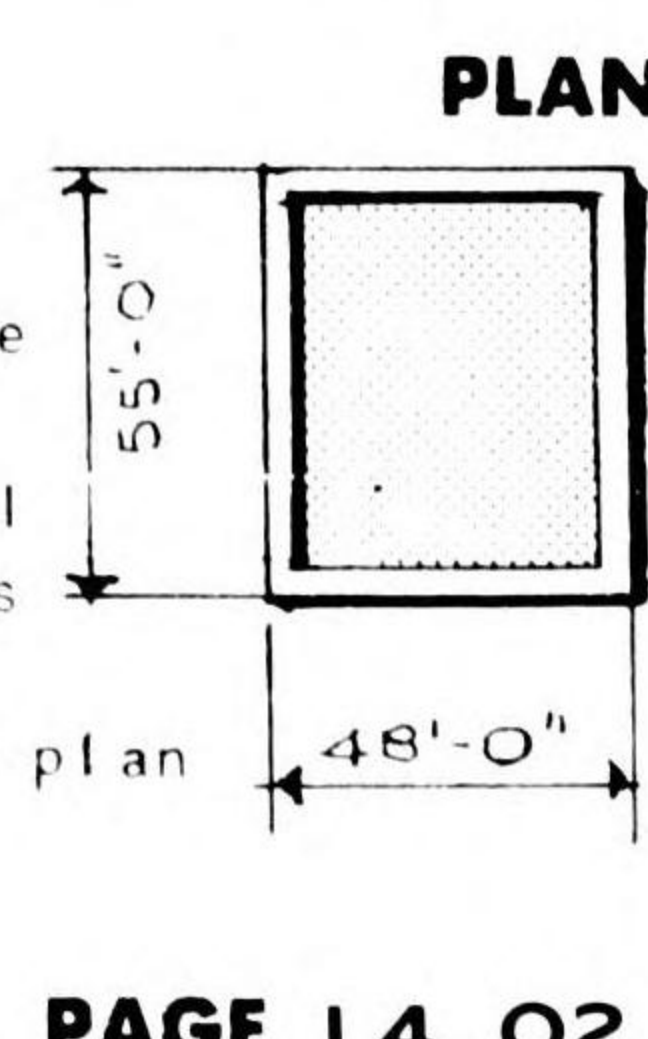
**DIMENSIONS** 48 feet x 55 feet

**TYPE OF CONSTRUCTION** Reinforced concrete

**FUNCTION** Houses two 100 KVA diesel generators

**DISTINGUISHING CHARACTERISTIC** Flat roof, square plan

**RELATIVE LOCATION** Variable - always in a 4-bldg. group



**PAGE** 14.02

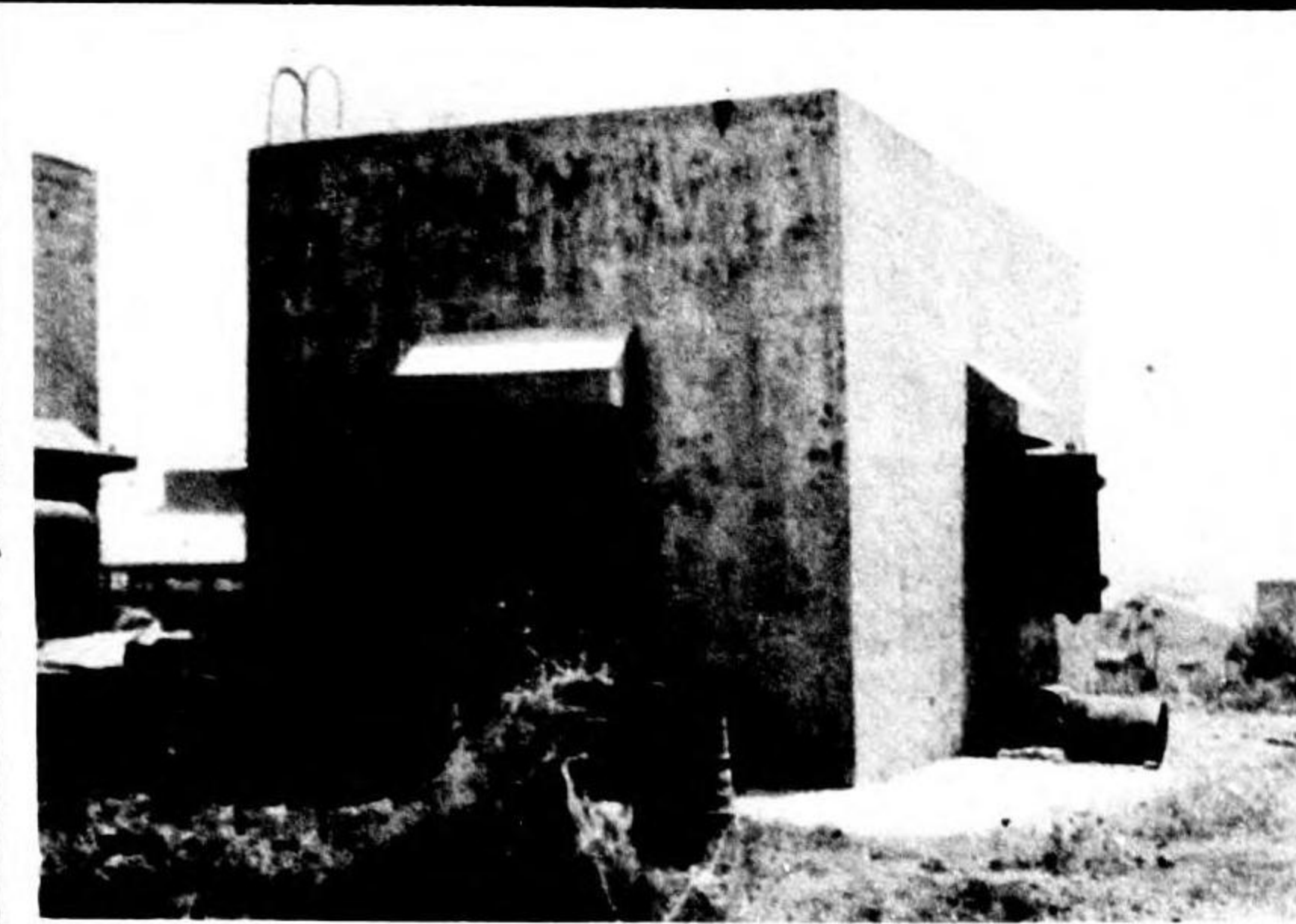




# SUMMARY OF STANDARD CONSTRUCTION

## JAPANESE MILITARY BUILDINGS

### POWER PLANT



### OIL STORAGE BUILDING

**DIMENSIONS** 19 feet x 30 feet

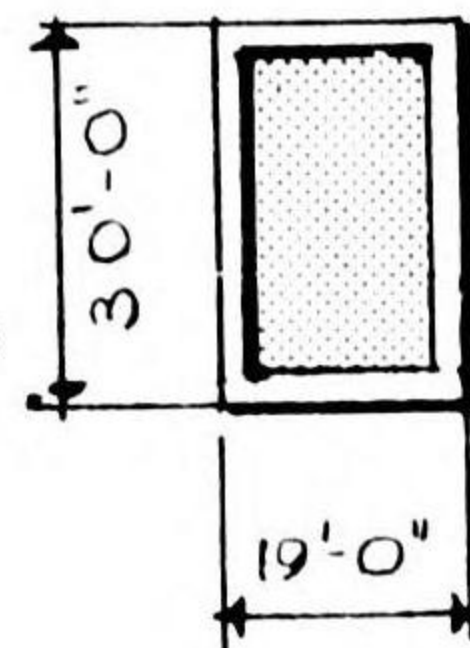
**TYPE OF CONSTRUCTION** Reinforced concrete

**FUNCTION** Oil storage for power plant, gen. bldg.

**DISTINGUISHING CHARACTERISTIC** Flat roof

**RELATIVE LOCATION** Services power plant gen. bldg.

**PLAN**



**PAGE 14.05**

### HANGAR

**DIMENSIONS** 92 feet x 107 feet

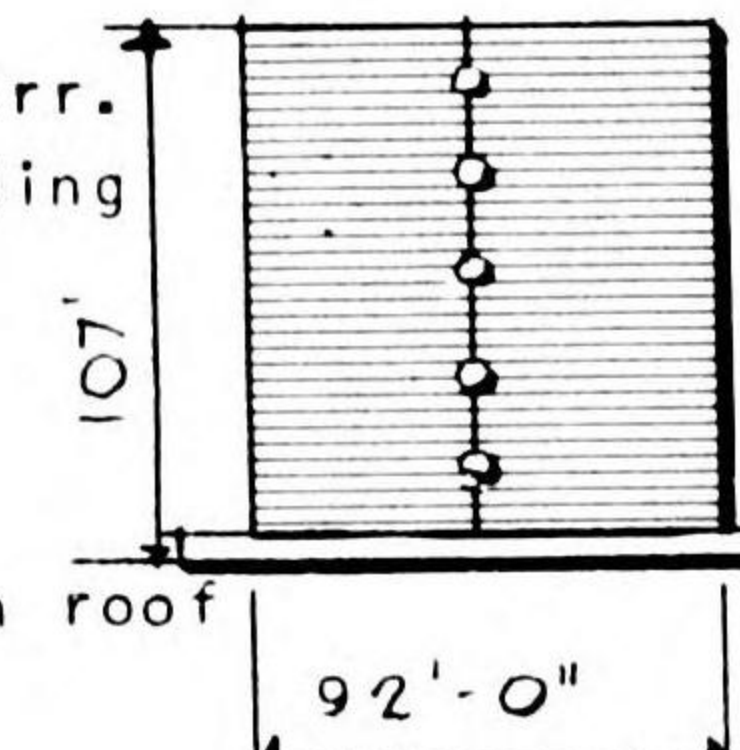
**TYPE OF CONSTRUCTION** Steel framed corr. iron roof & siding

**FUNCTION** Hangar

**DISTINGUISHING CHARACTERISTIC** Gable roof, ventilators on roof

**RELATIVE LOCATION** Services air strip

**PLAN**



**PAGE 15.07**

### STEEL FRAME



### POWER PLANT



### WATER STORAGE BUILDING

**DIMENSIONS** 30 feet x 36 feet

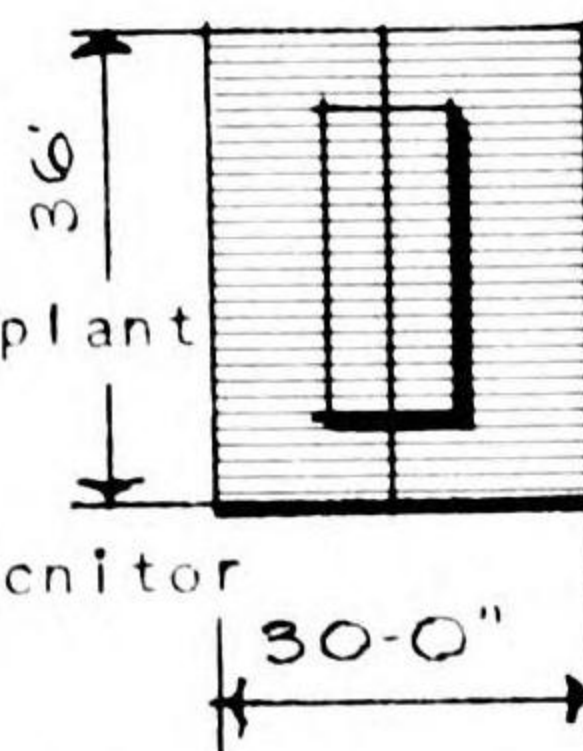
**TYPE OF CONSTRUCTION** Concrete and wood

**FUNCTION** Water storage for power plant

**DISTINGUISHING CHARACTERISTIC** Gable roof with monitor

**RELATIVE LOCATION** Services power plant gen. bldg.

**PLAN**



**PAGE 14.04**

### HANGAR

**DIMENSIONS** 55 feet x 90 feet

**TYPE OF CONSTRUCTION** Wood framed

**FUNCTION** Repair hangar

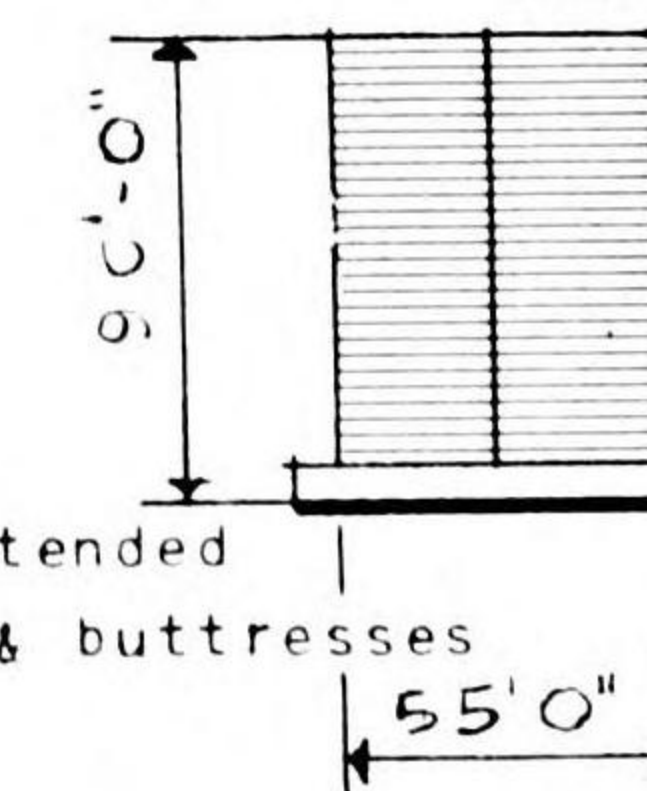
**DISTINGUISHING CHARACTERISTIC** Gable roof, extended sliding doors & buttresses

**RELATIVE LOCATION** Hangar area

### WOOD FRAMED, REPAIR



**PLAN**



**PAGE 15.09**

### HANGAR



### STEEL FRAME, PREFABRICATED

**DIMENSIONS** 140' span, 101' or 180' length

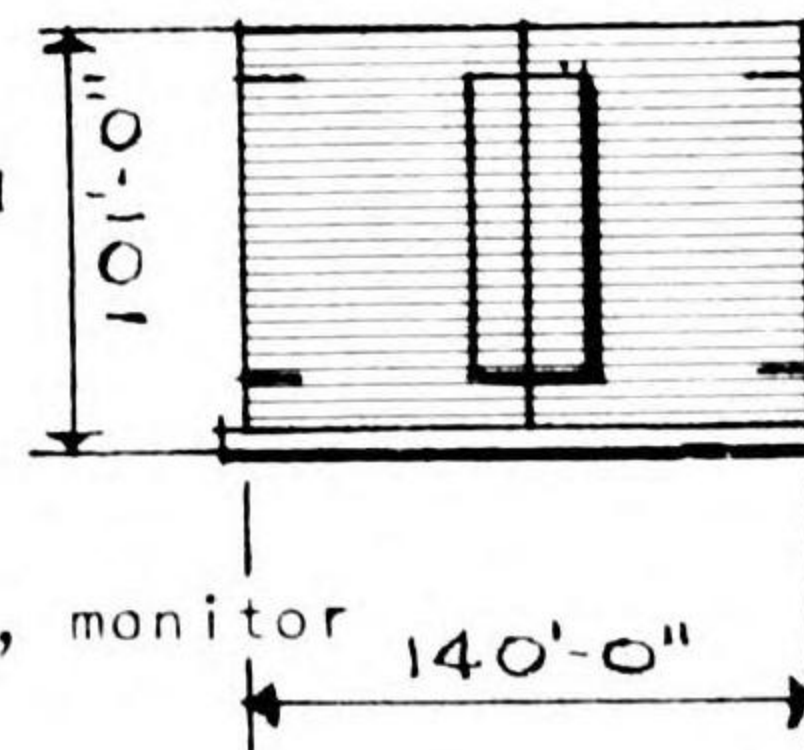
**TYPE OF CONSTRUCTION** Prefabricated skeletal steel

**FUNCTION** Hangar

**DISTINGUISHING CHARACTERISTIC** Arched roof, monitor

**RELATIVE LOCATION** Services air strip

**PLAN**



**PAGE 15.02**

### HANGAR

**DIMENSIONS** 83 feet x 103 feet

**TYPE OF CONSTRUCTION** Wood framed

**FUNCTION** Repair hangar

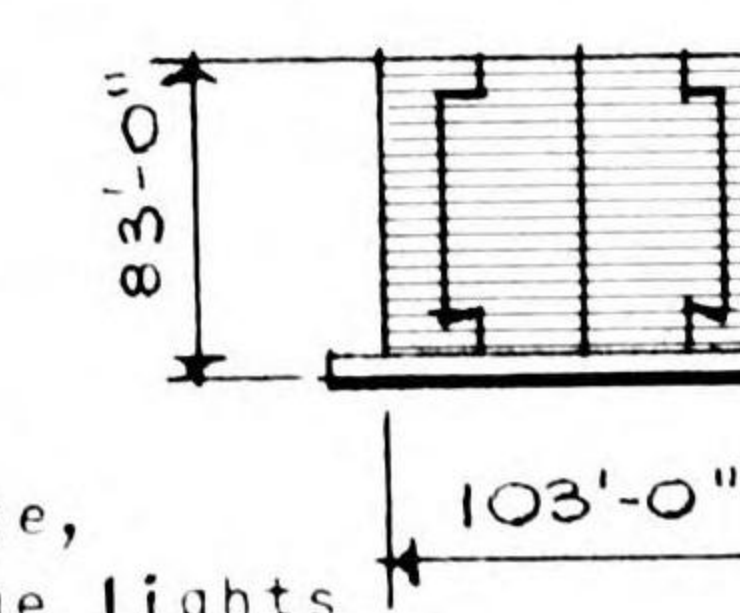
**DISTINGUISHING CHARACTERISTIC** Double ridge, extend ridge lights

**RELATIVE LOCATION** Hangar area

### DOUBLE EXTENDED RIDGE, REPAIR



**PLAN**

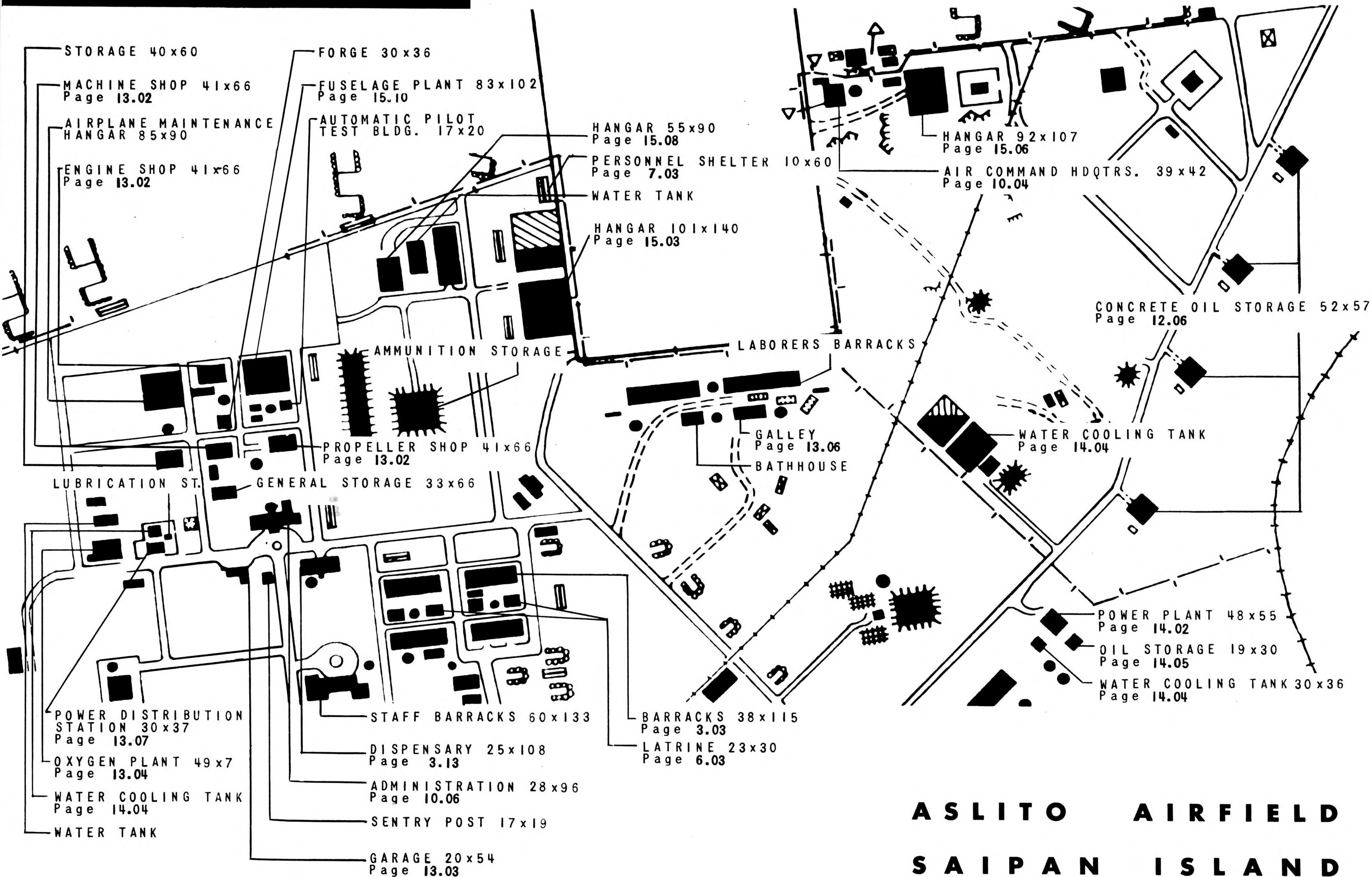


**PAGE 15.10**



# ASLITO AIRFIELD

## SAIPAN ISLAND, MARIANAS

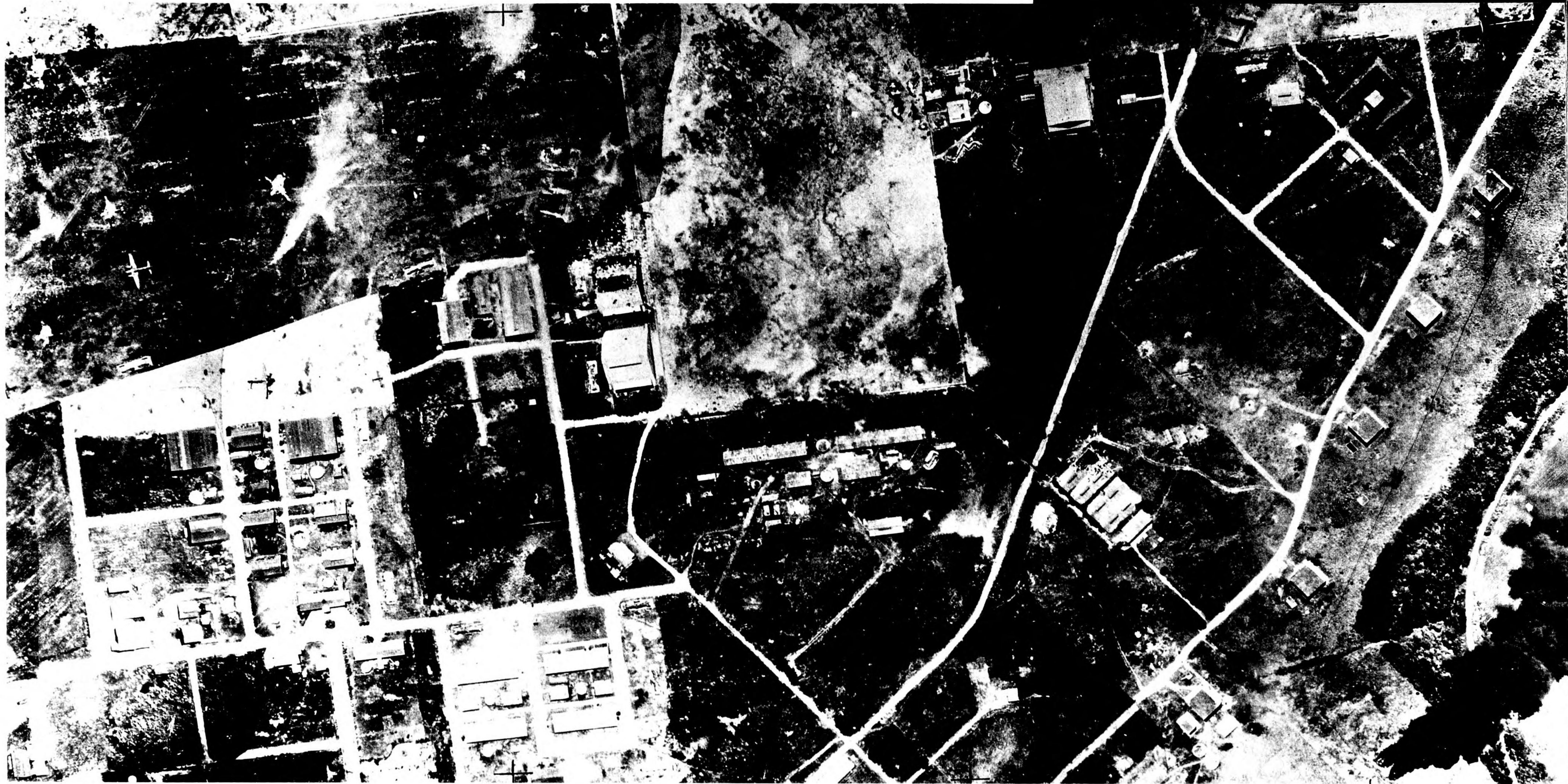


ASLITO AIRFIELD  
SAIPAN ISLAND



# ASLITO AIRFIELD

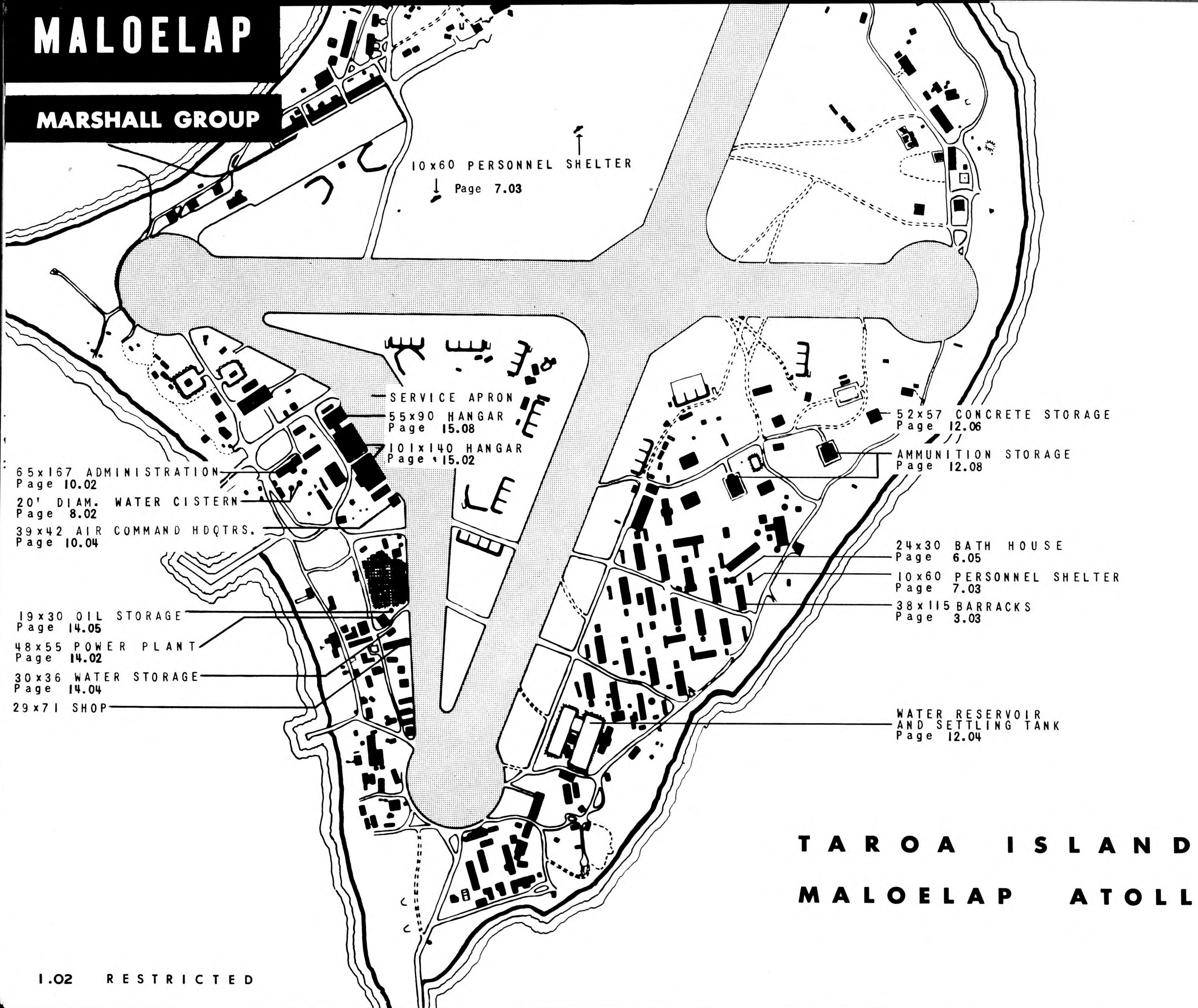
SAIPAN ISLAND, MARIANAS





# MALOELAP

## MARSHALL GROUP



T A R O A I S L A N D  
M A L O E L A P A T O L L



# MALOELAP

MARSHALL GROUP

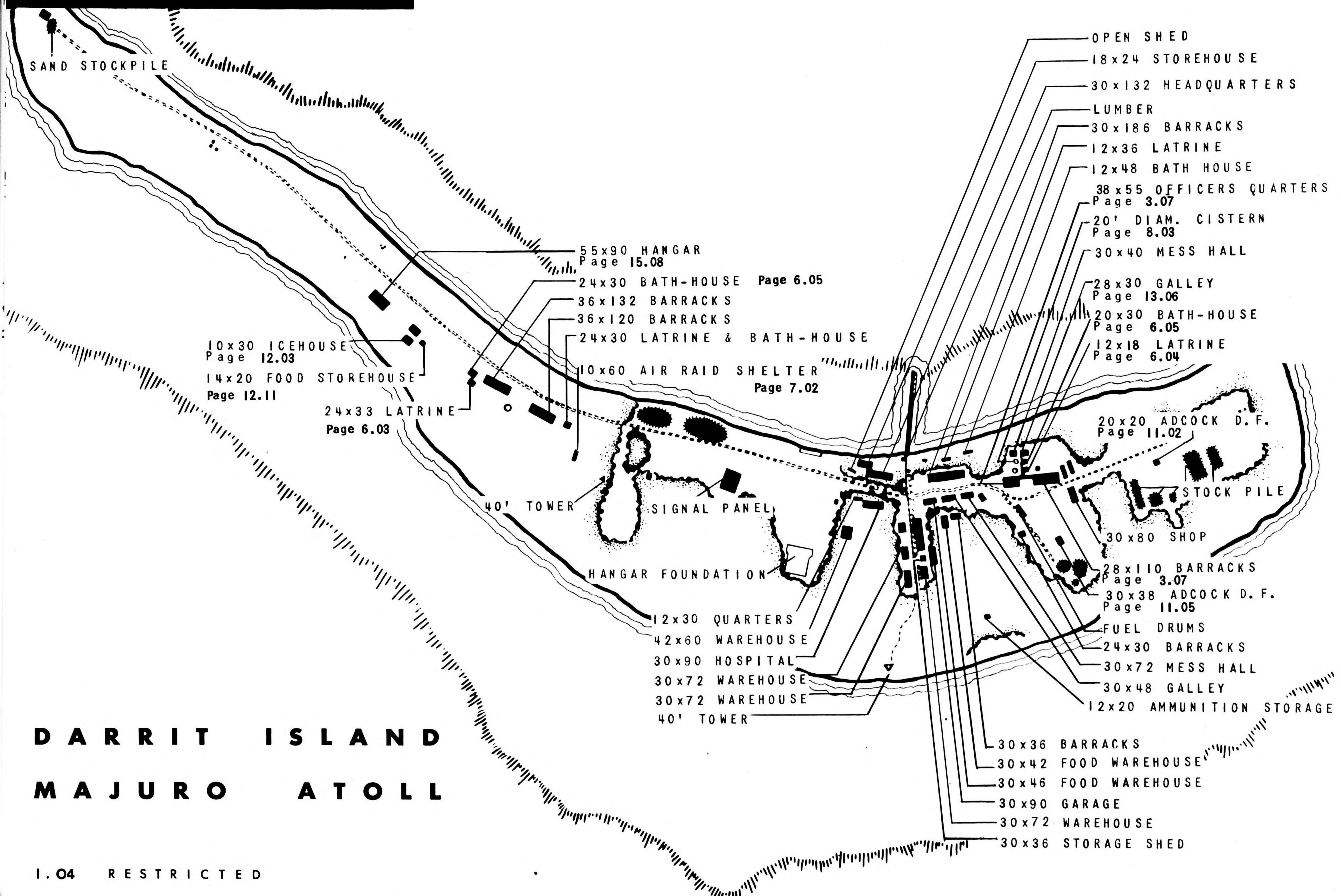


RESTRICTED 1.03



# DARRIT ISLAND

## MAJURO ATOLL, MARSHALLS



# DARRIT ISLAND MAJURO ATOLL

55x90 HANGAR  
Page 15.08

24x30 BATH-HOUSE Page 6.05

36x132 BARRACKS

36x120 BARRACKS

24x30 LATRINE & BATH-HOUSE

10x60 AIR RAID SHELTER  
Page 7.02

10x30 ICEHOUSE  
Page 12.03

14x20 FOOD STOREHOUSE  
Page 12.11

24x33 LATRINE  
Page 6.03

40' TOWER

SIGNAL PANEL

HANGAR FOUNDATION

12x30 QUARTERS

42x60 WAREHOUSE

30x90 HOSPITAL

30x72 WAREHOUSE

30x72 WAREHOUSE

40' TOWER

OPEN SHED

18x24 STOREHOUSE

30x132 HEADQUARTERS

LUMBER

30x186 BARRACKS

12x36 LATRINE

12x48 BATH HOUSE

38x55 OFFICERS QUARTERS  
Page 3.07

20' DIAM. CISTERN  
Page 8.03

30x40 MESS HALL

28x30 GALLEY  
Page 13.06

20x30 BATH-HOUSE  
Page 6.05

12x18 LATRINE  
Page 6.04

20x20 ADCOCK D. F.  
Page 11.02

STOCK PILE

30x80 SHOP

28x110 BARRACKS  
Page 3.07

30x38 ADCOCK D. F.  
Page 11.05

FUEL DRUMS

24x30 BARRACKS

30x72 MESS HALL

30x48 GALLEY

12x20 AMMUNITION STORAGE

30x36 BARRACKS

30x42 FOOD WAREHOUSE

30x46 FOOD WAREHOUSE

30x90 GARAGE

30x72 WAREHOUSE

30x36 STORAGE SHED



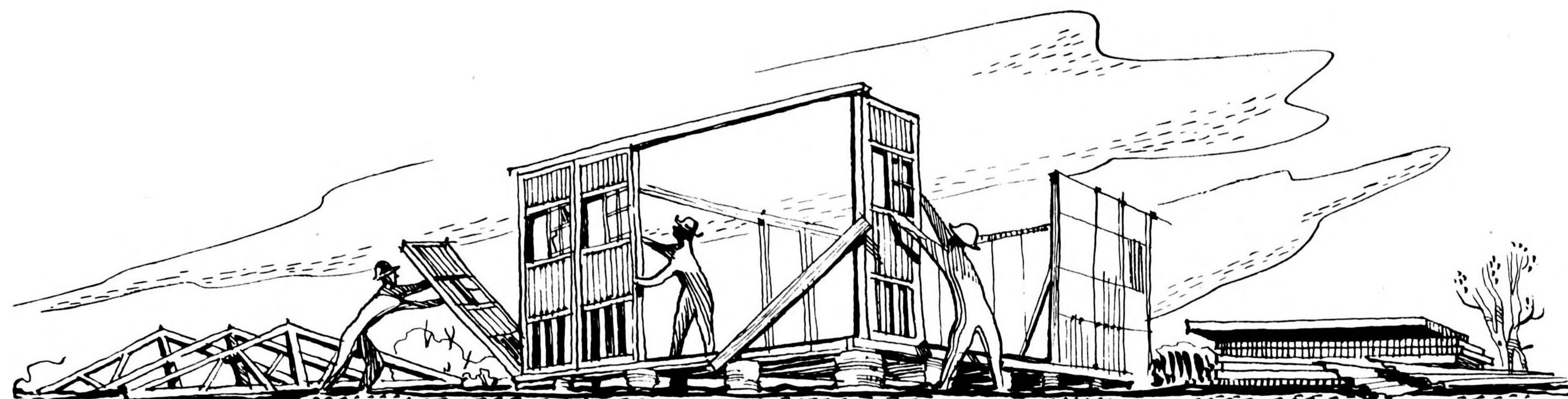
# DARRIT ISLAND

MAJURO ATOLL, MARSHALLS



RESTRICTED 1.05





## J A P A N E S E P R E F A B R I C A T I O N

The Japanese employ prefabrication extensively as a means of providing semi-permanent housing for personnel and equipment. The modular system of standard dimensioned prefabricated panels makes an easily and speedily erected structure. Captured original working drawings and Prisoner of War reports verify the planned use of the prefabricated truss, floor, wall and roof panels illustrated in this publication.

The 3 by 12 foot wall panel is the most common form, containing a series of vertical slit vents at its base, and a pair of sliding, four-light windows 6 feet above the base. These panels are set on a continuous sill which rests, usually, on piers cut from chunks of coconut log.

Floor panels are omitted in the case of storage and shop structures, but are set on similar piers when the prefabricated structure is to be used as a barracks. Prisoners of War report that, although the panels were punched for nut and bolt fastenings, nailing proved to be faster in emergencies and entirely adequate. Dismantling and reassembling is possible, and the panels are often reused.

Prefabricated half-trusses are common and are scabbed together at the ridge and lower chord. Spans vary but are dimensioned in multiples of three feet (ex. 27 feet, 30 feet).

Asphalt roofing on prefabricated roof panels proved inadequate in tropical climates and has been replaced by the widely used corrugated galvanized iron overlapping sheets.

Barrack lengths vary, usually limited only by the site. Spans up to 30 feet have been observed. A twelve foot wall panel, six feet in width, appears on captured drawings, but there has been no evidence of its use in the field.

Prefabrication thus far discussed occurs primarily as temporary construction, is never set on continuous concrete footings, and is designed as a readily erected, easily transported means of housing.

Steel forms of prefabrication appear in the trusses of the larger skeletal framed hangars and are discussed in that section of the publication.



# PREFABRICATION



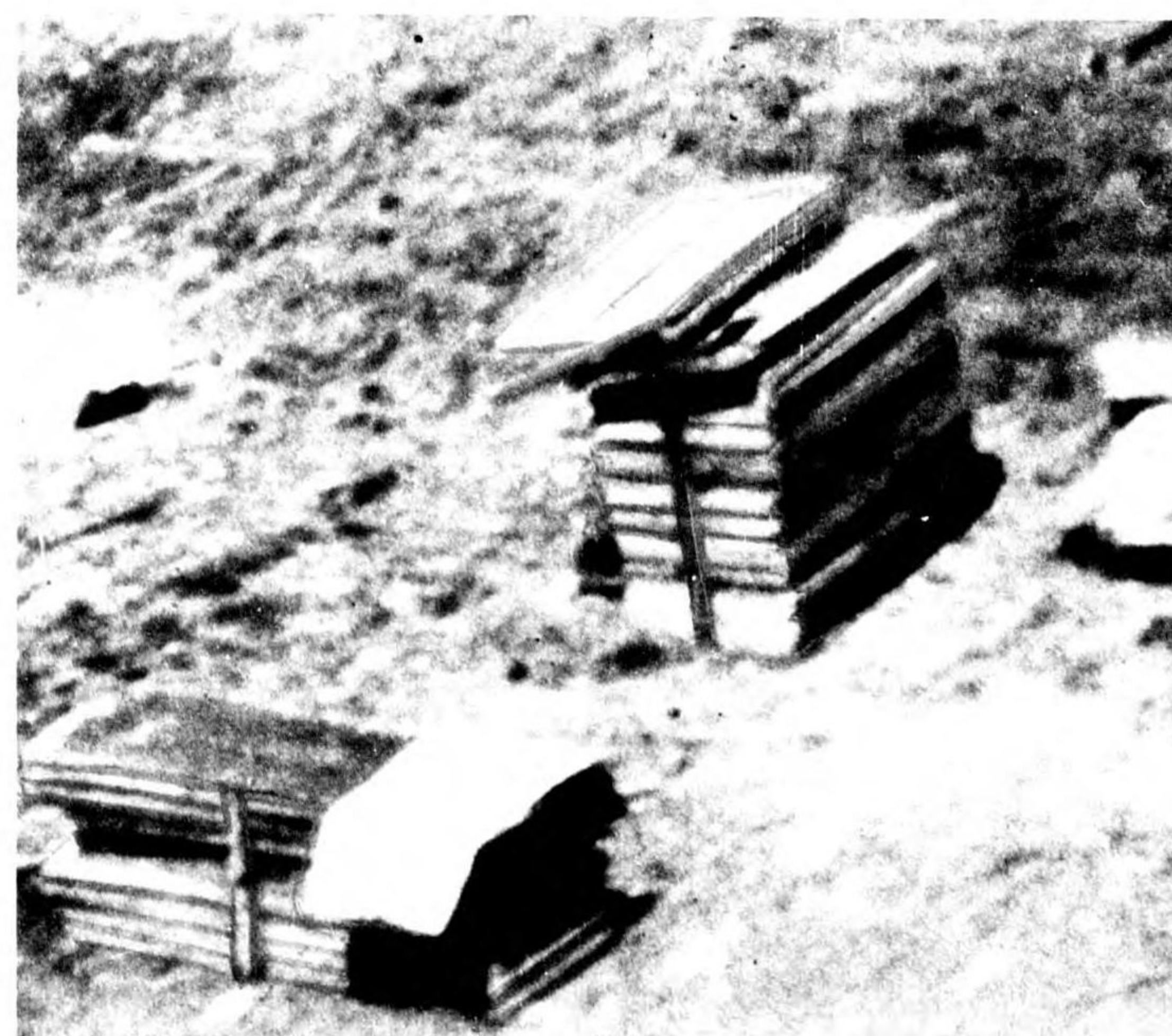
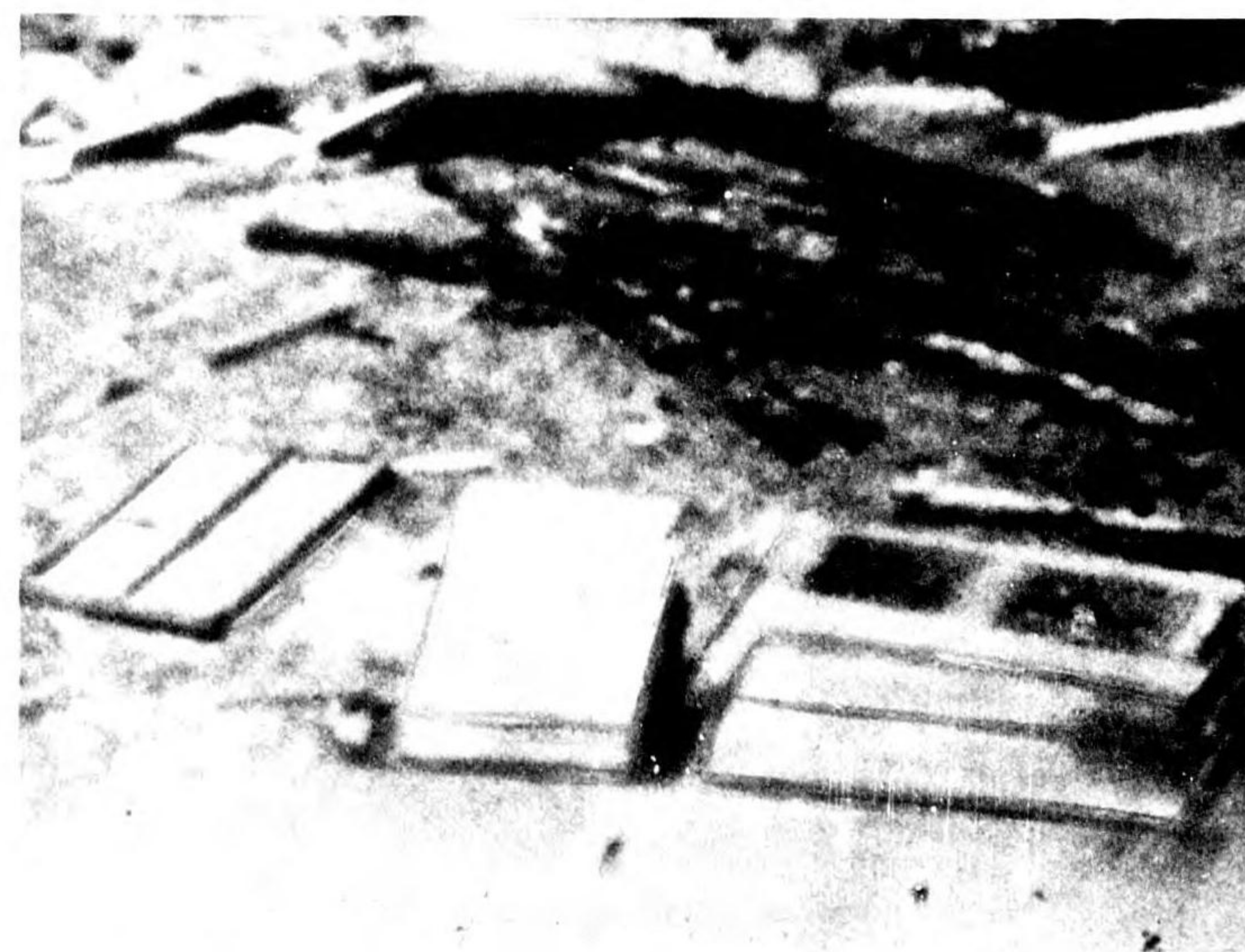
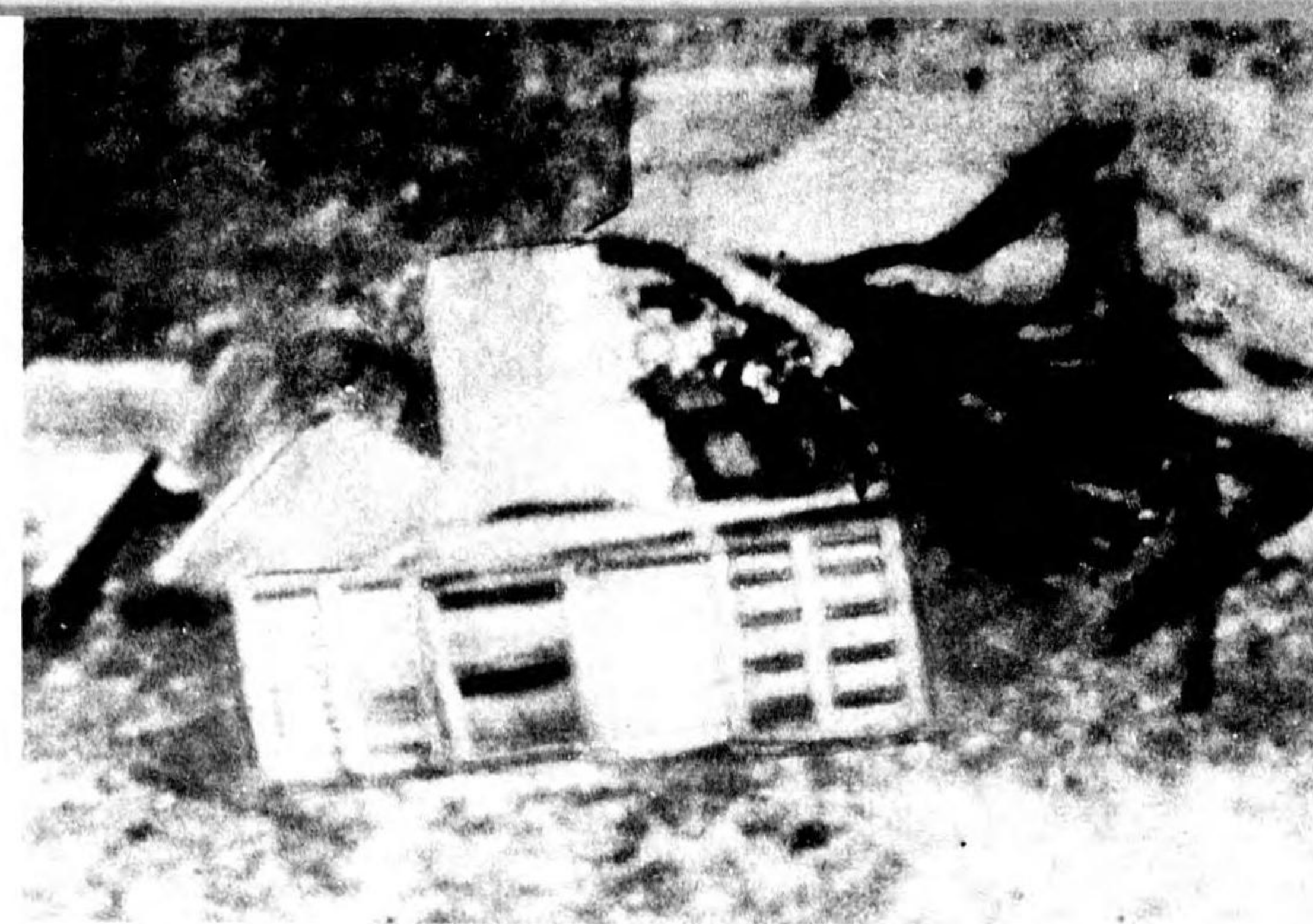
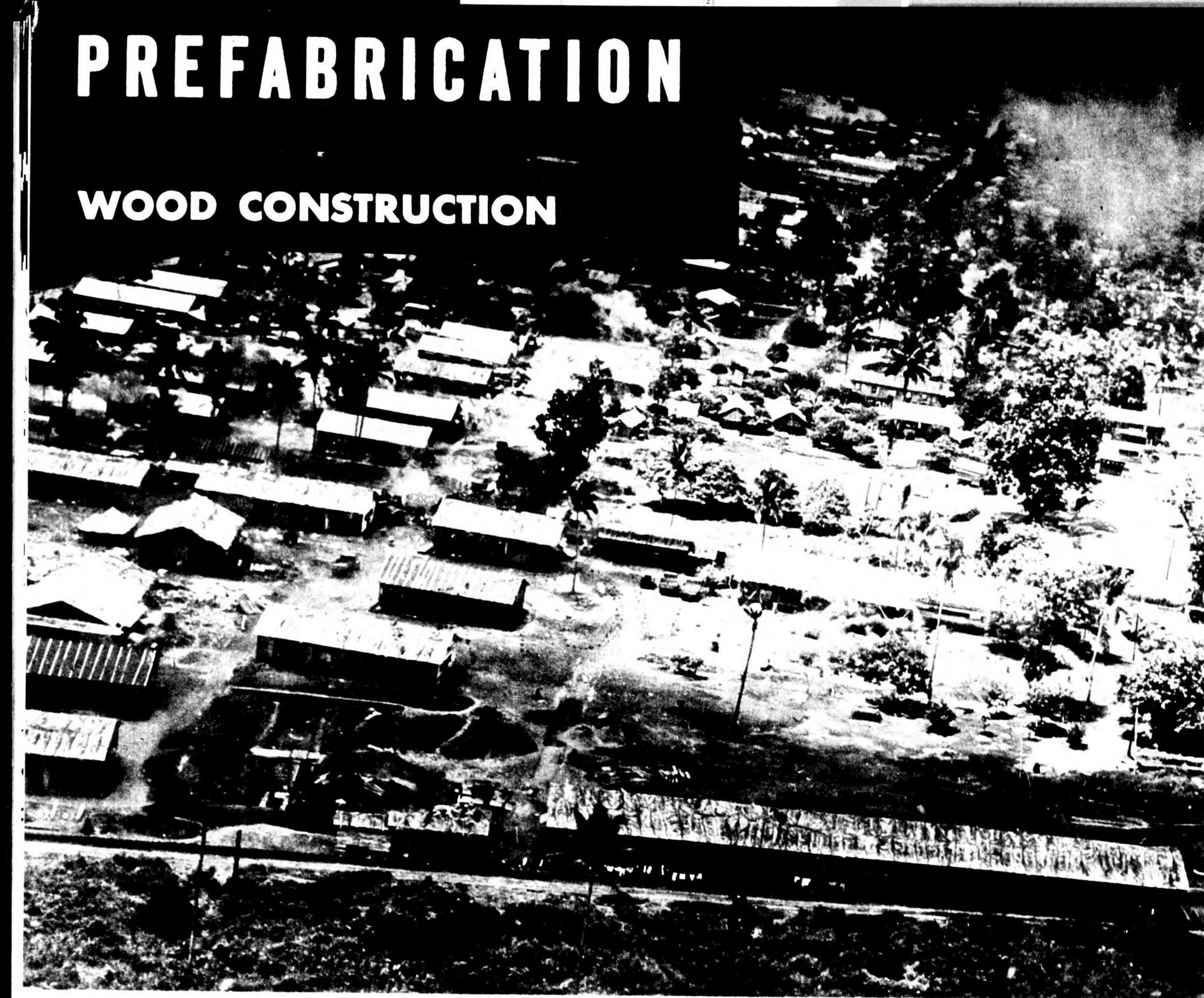
...SOME LEVELS ... AGE BUILDING ...

...FACTORY ...



# PREFABRICATION

## WOOD CONSTRUCTION

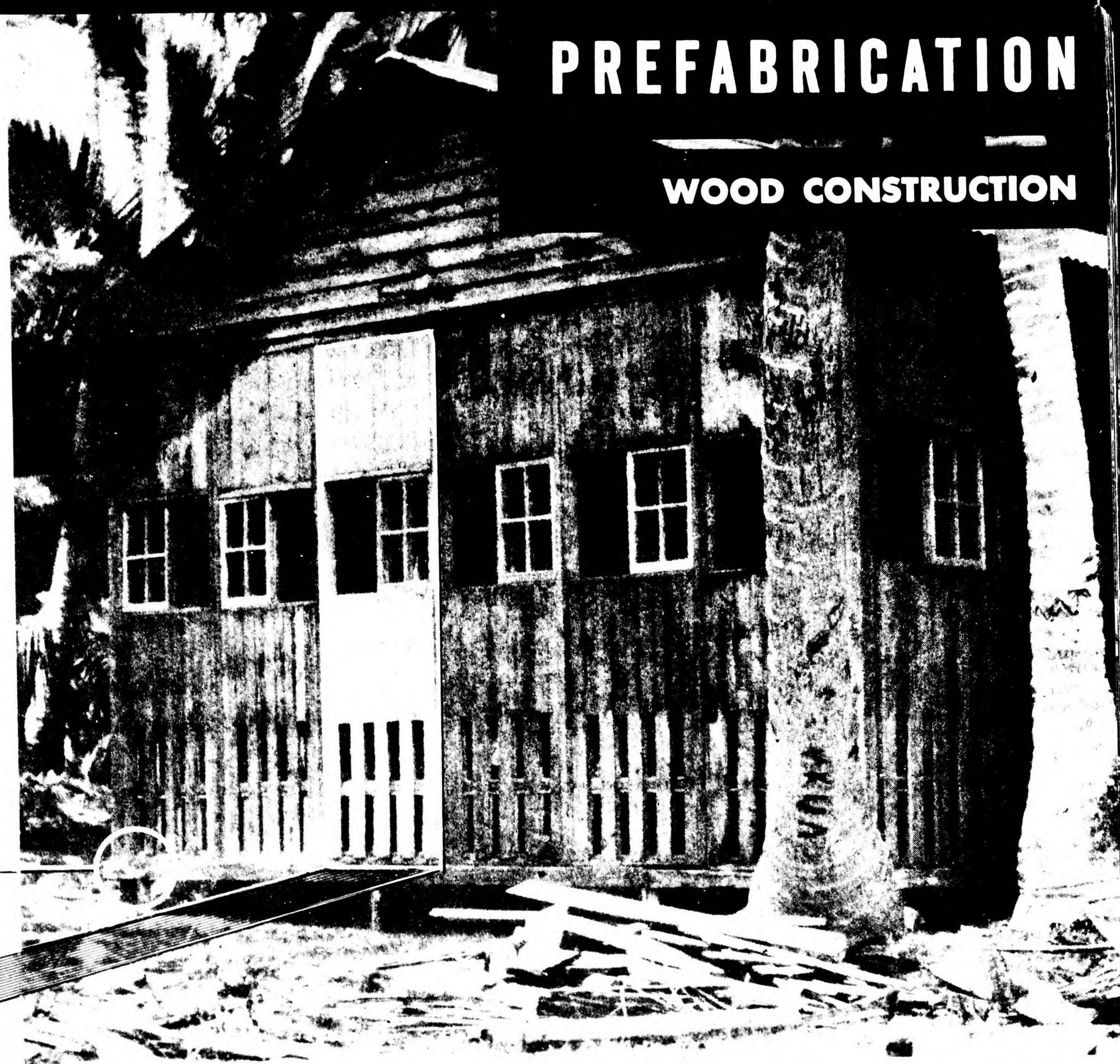
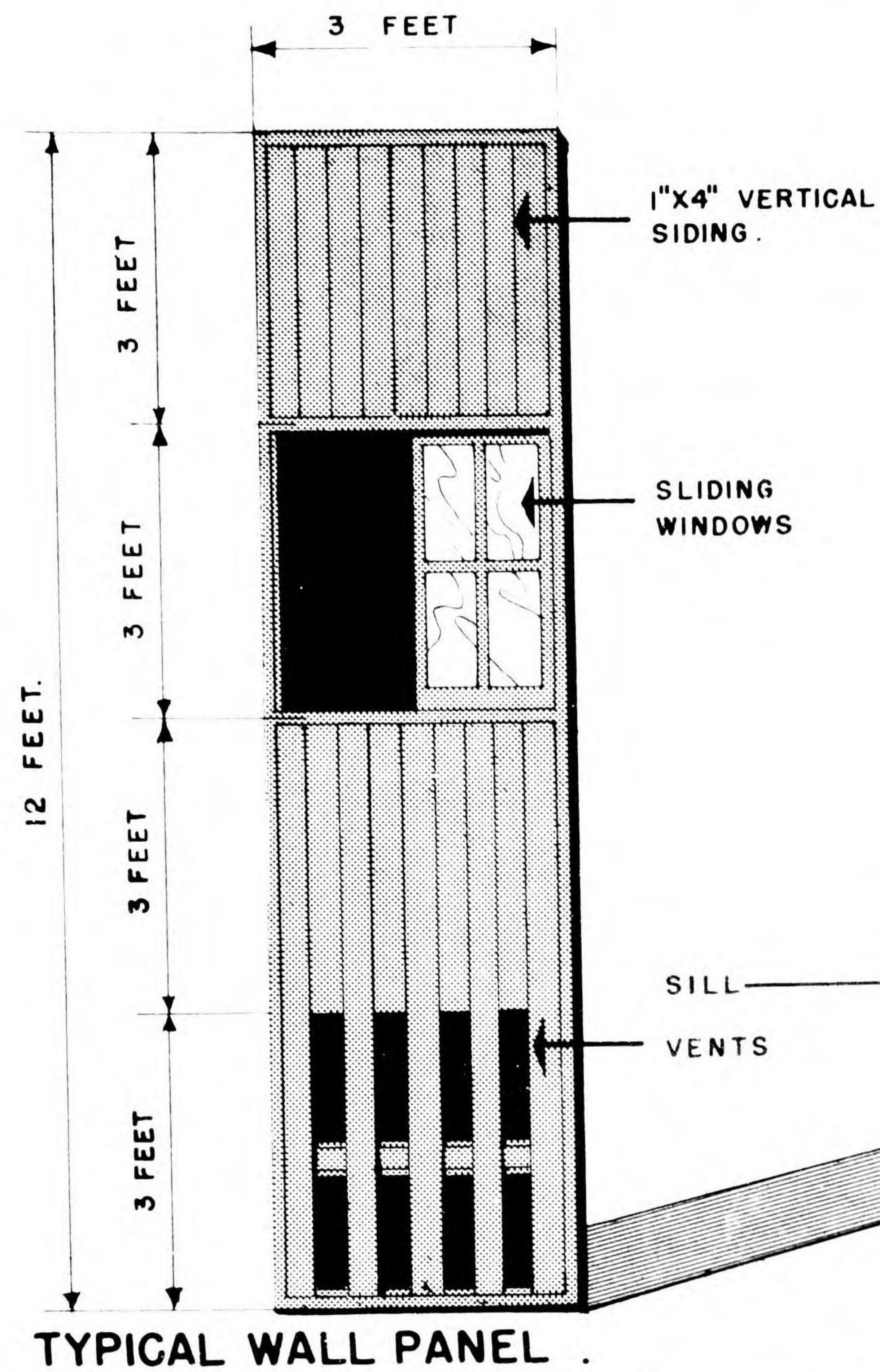


BUILDING MATERIALS  
W O T J E I S L A N D

PREFABRICATED BARRACKS



### PREFABRICATION PANEL



18' X 30' STORAGE BUILDING . . . NAURU



The prefabricated panel stock piles on Motje Island are typical of the standard modular system employed throughout the South Pacific.

2.02. The prefabricated barracks on Rabaul supplement existing domestic housing, and service Vunakenau Airfield. Note the use of the standard wall panel and the palm fronds on the corrugated galvanized iron roof surfaces, used primarily in cutting down heat absorption.

2.03. Nauru Island contained this illustration of the use of the standard 3 by 12 foot panel. Mindanao Airfield personnel are housed in the prefabricated barracks group shown at left.





## HOUSING AND PERSONNEL ESTIMATES

The occurrence of a number of equally dimensioned, one-story structures laid out geometrically as a group and serviced by one or two smaller units per structure, is usually an indication of barracks. This comparatively foolproof key to housing can be used to advantage in the compiling of Photographic Interpretation Personnel Estimates.

Incomplete, or an entire lack of information from other sources, may make even a relatively general personnel estimate of great value. Assuming that complete photographic coverage on all construction is available of a permanently established camp or base, the interpreter can approach the problem using two independent principles as checks against each other:

1. Estimate the complement of men required to operate the installations observed, such as Defenses, Communications, Radio, Radar, Harbor Installations, Meteorological Units, Construction Units, Hospital Units, Engineers, and Headquarters Units.

If the camp or base is operating under comparatively normal conditions, Japanese and American Tables of Organization, and intelligence records of personnel present at similar installations that have been captured, should provide ample information for the preparation of a Personnel Estimate.

2. Making a personnel estimate on the basis of the housing present, is practicable under the same circumstances in the following manner:

(a) Interpret and eliminate all special function construction, such as garages, hangars, warehouses, storage bldgs., radio shacks, machine shops, communication centers, bath houses, hospitals, galleys, power plants and any other special function structures that definitely are not housing. (b) Calculate the floor space of all remaining housing and tents for personnel. (c) Calculate the probable amount of floor space per man and divide it into the total housing floor space available.

The Japanese allow approximately 50 square feet of floor space per man. This figure can be used successfully for the purpose of this estimate. Buildings that existed before occupation, as well as native buildings, may be sorted by use of earlier coverage of the area under estimate.

Checks may be made by comparing results against the installation method and by comparison with a comparable U. S. base or camp.

In the case of a well-established base, it can be said that 42 percent of all construction is housing.

Familiarity with housing, as presented in the following pages, should aid in the primary interpretation as well as in the compiling of a reasonably accurate personnel estimate.



An aerial, black and white photograph showing a large complex of rectangular barracks buildings arranged in two parallel rows. The buildings are light-colored with dark roofs. The area is surrounded by a mix of vegetation and paved surfaces. The word "BARRACKS" is printed in large, white, bold, sans-serif capital letters across the upper right portion of the image.

# BARRACKS

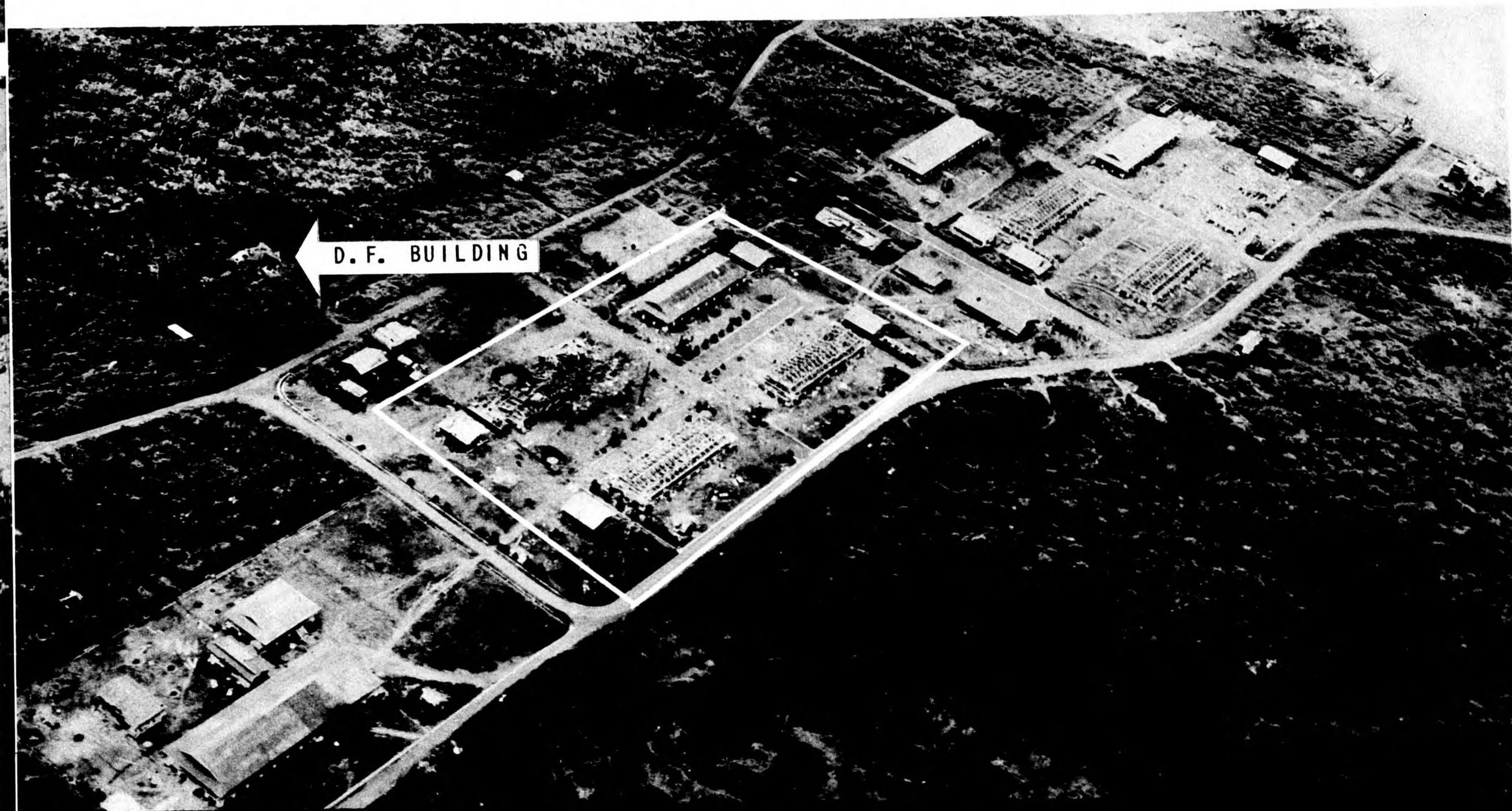
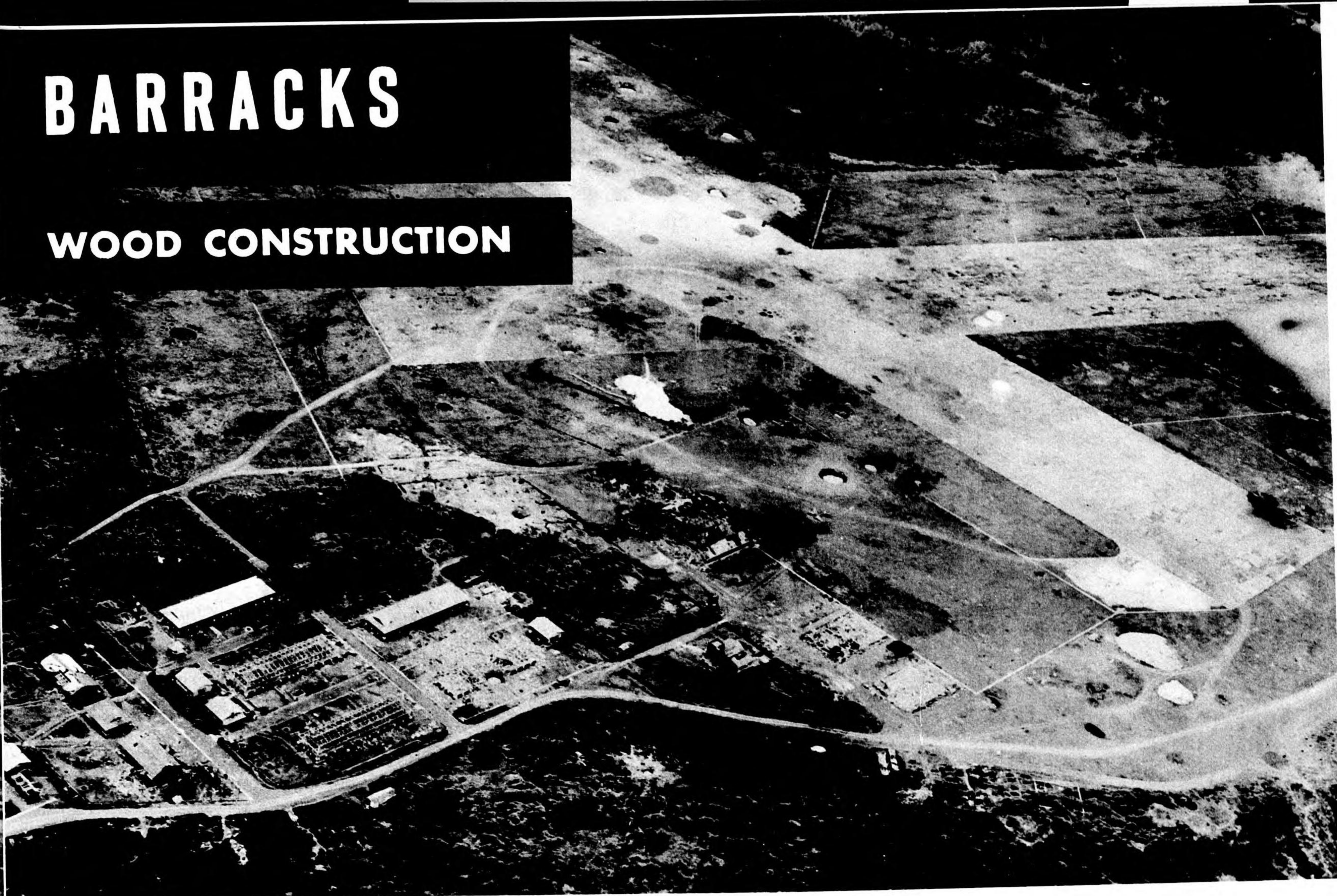
BARRACKS AREA—ASLITO AIRFIELD, SAIPAN

RESTRICTED 3.01

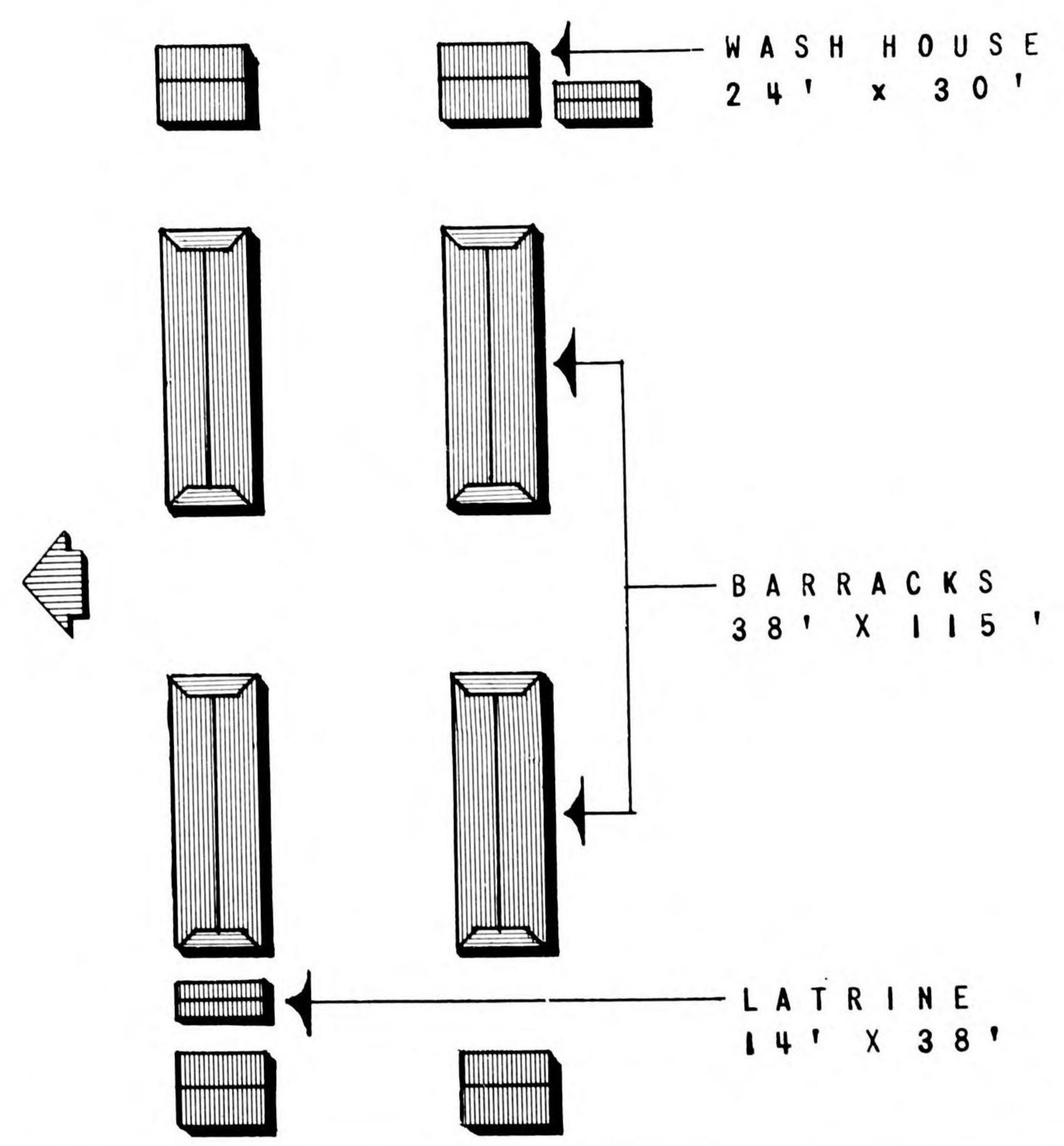
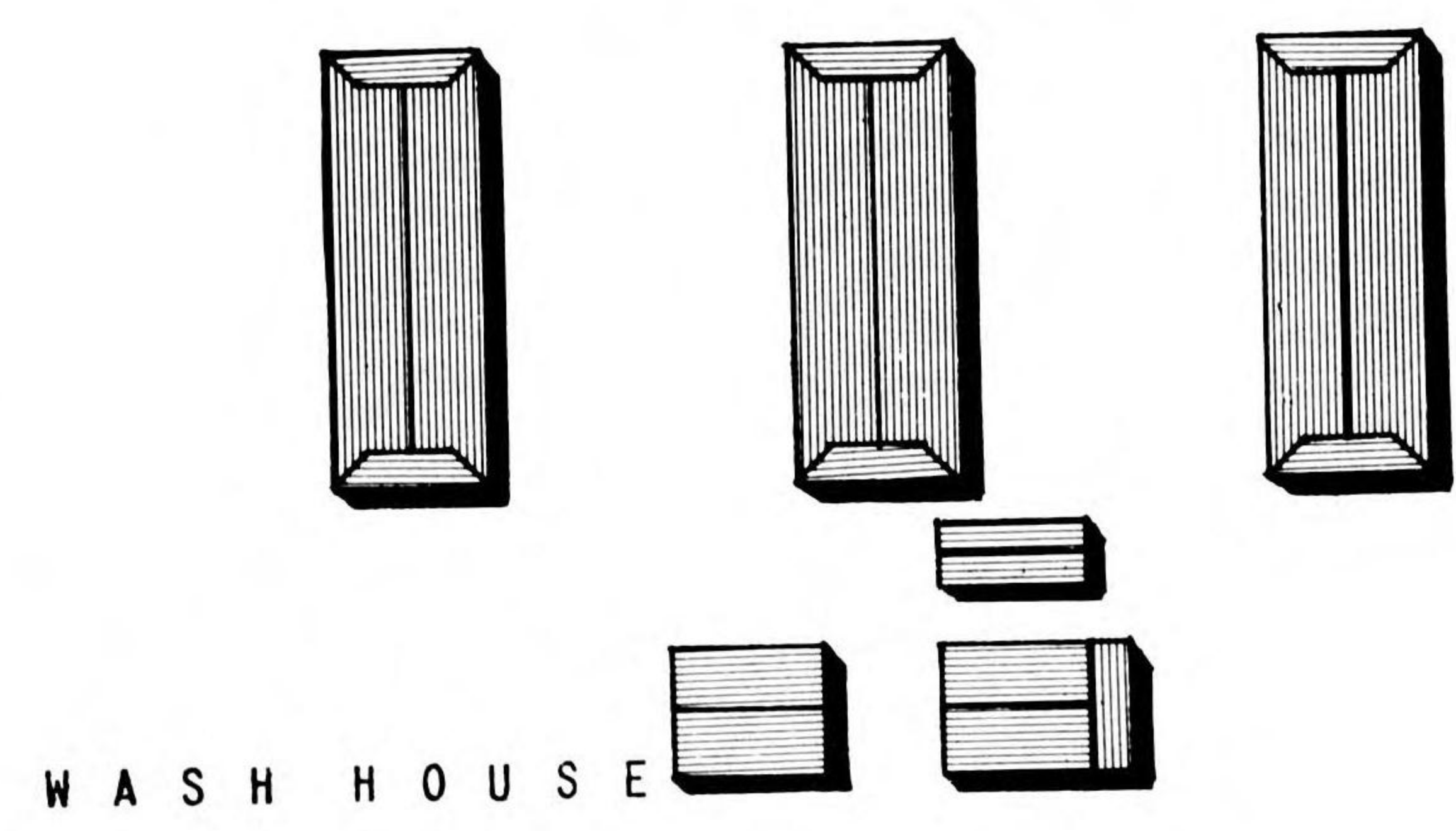
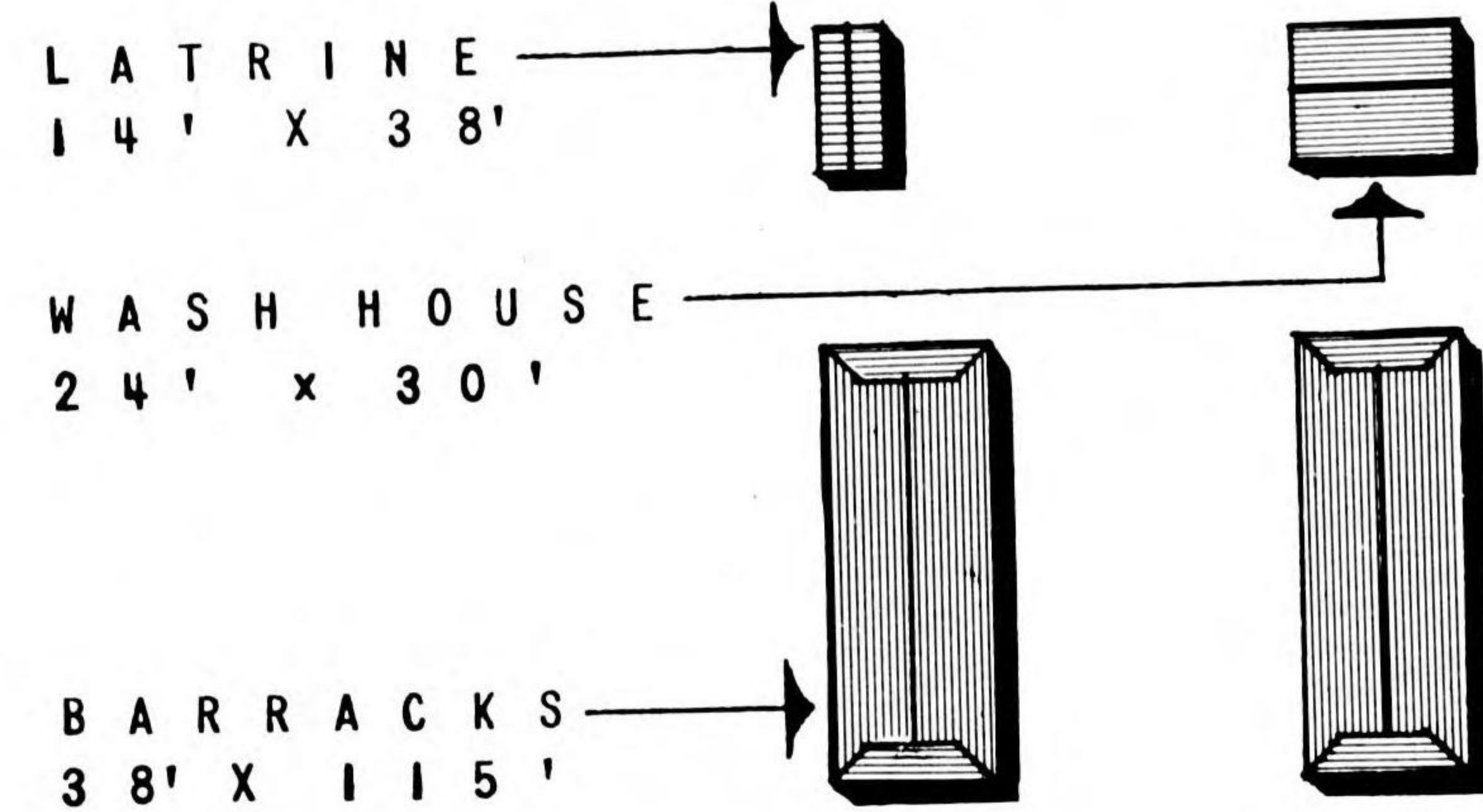


# BARRACKS

WOOD CONSTRUCTION



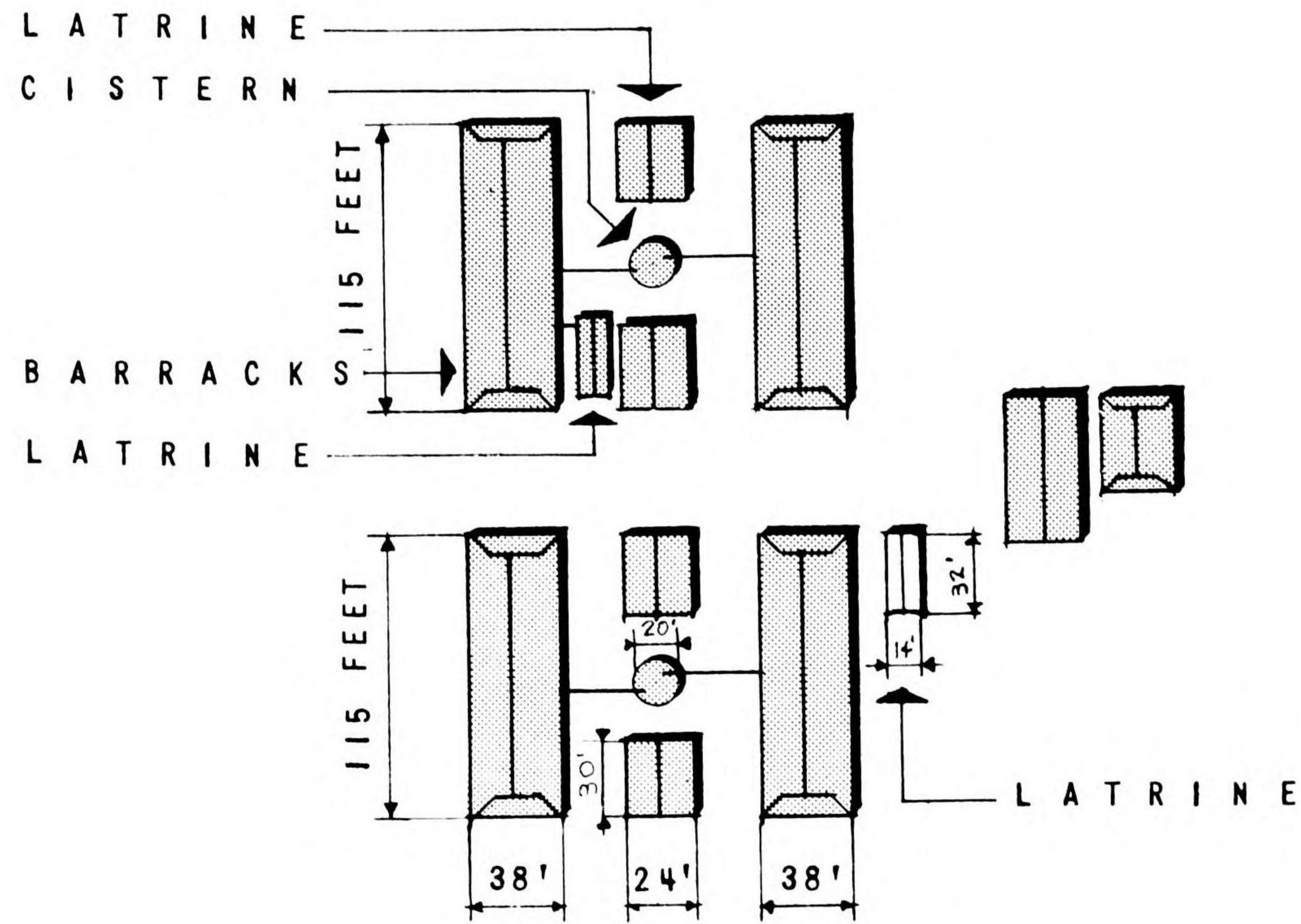
## PONAPE ISLAND





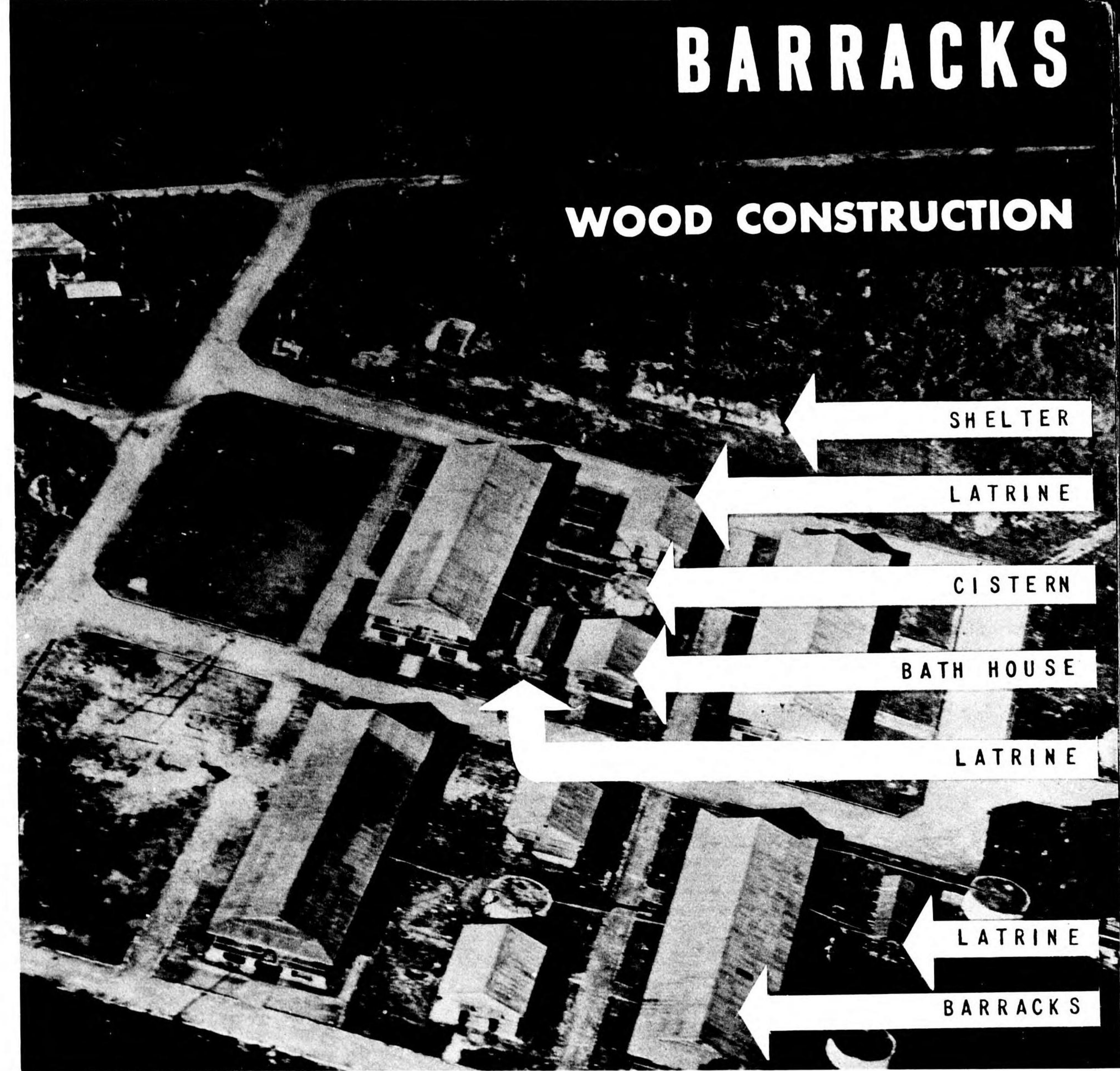
# SAIPAN ISLAND BARRACKS

The Aslito Airfield barracks group, as well as the Ponape layout, are typical of Military housing arrangements. The damaged barracks of the Ponape layout contained a transmitter servicing the annotated Direction Finder Building.

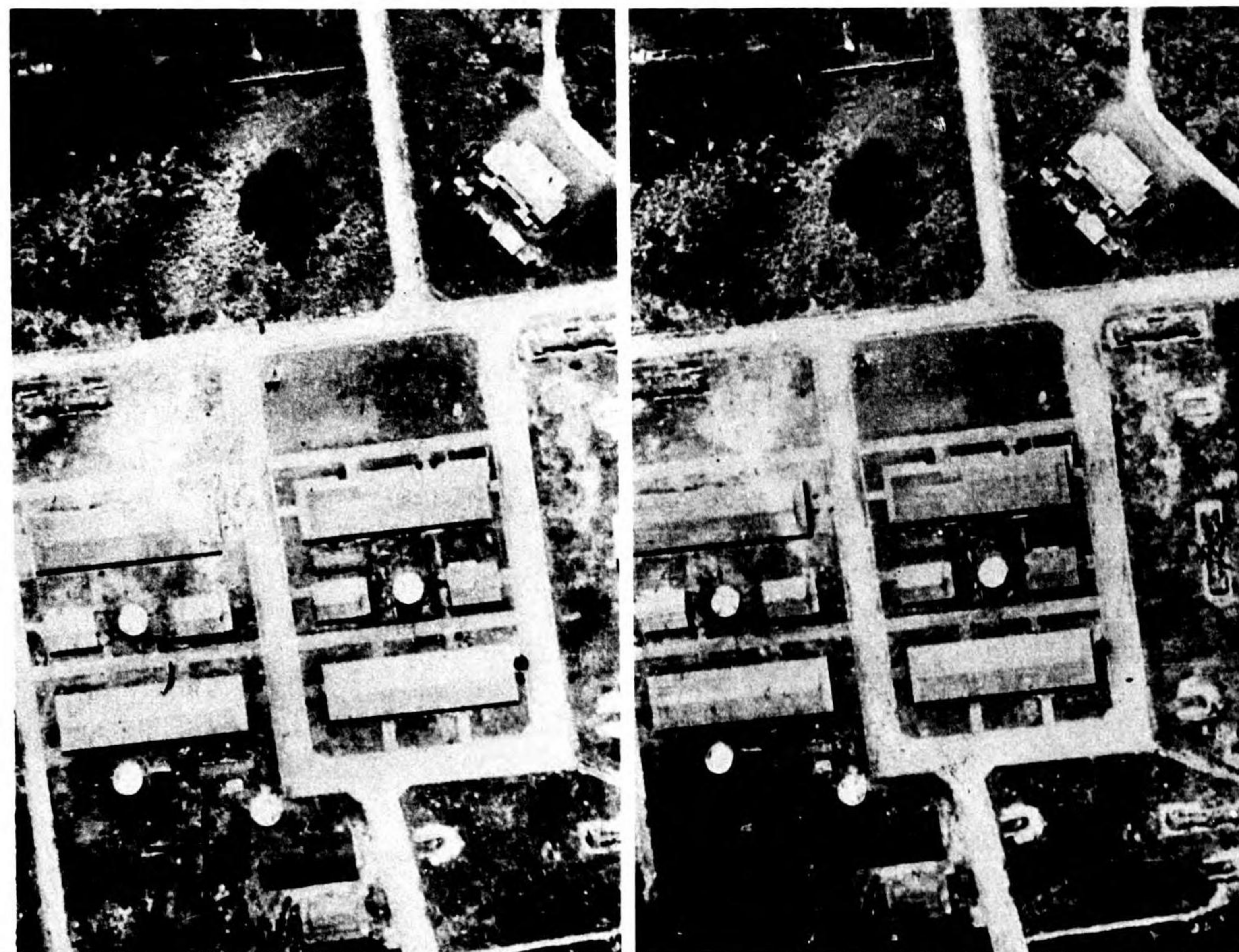


# BARRACKS

## WOOD CONSTRUCTION



TYPICAL BARRACKS ARRANGEMENT . . . SAIPAN





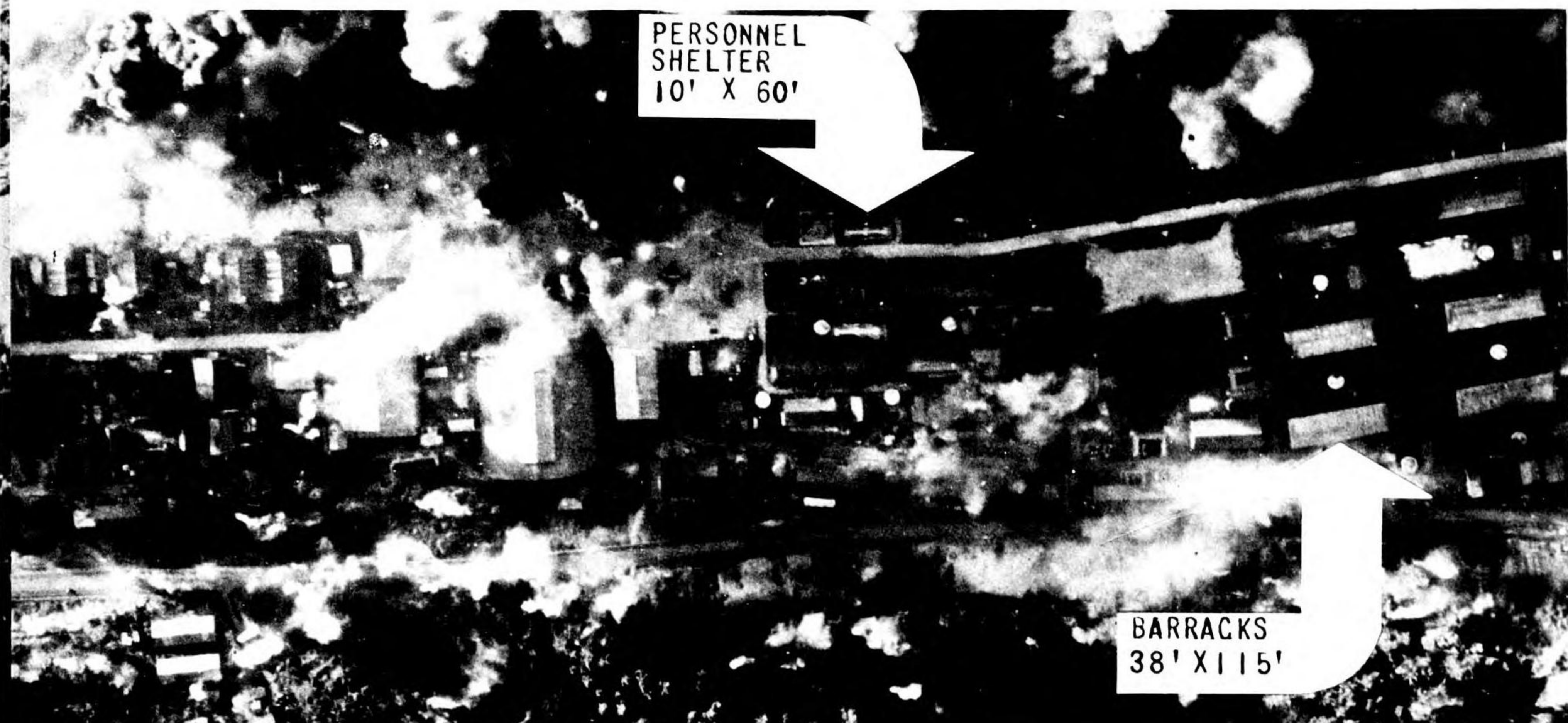
# BARRACKS

## WOOD CONSTRUCTION



PERSONNEL  
SHELTER

P R E F A B R I C A T E D      B A R R A C K S      R A B A U L



PERSONNEL  
SHELTER  
10' X 60'

BARRACKS  
38' X 115'



3.04 RESTRICTED BARRACKS TRUK

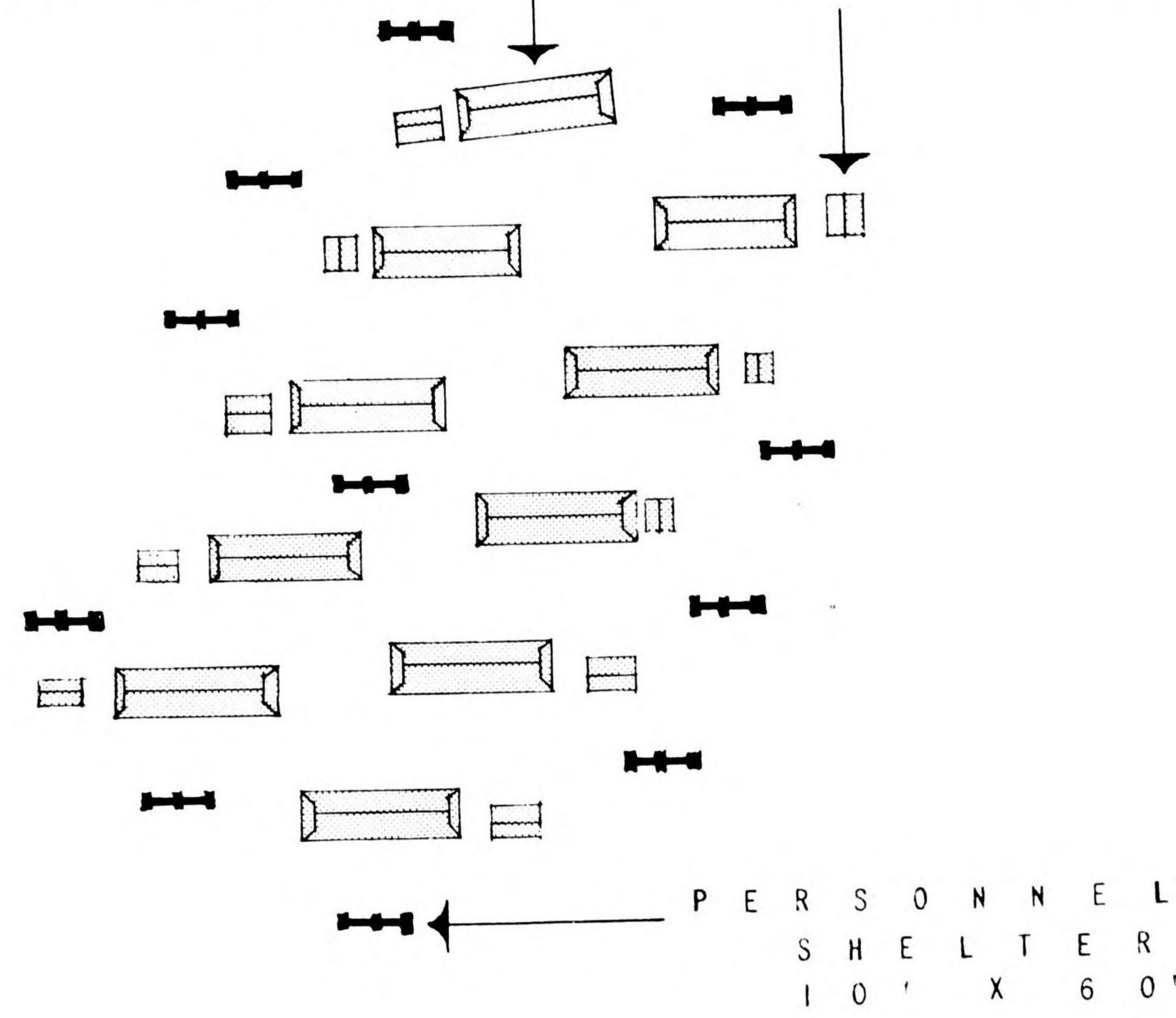
NAVY BARRACKS KISKA





S C A L E : 1 : 1 5 0 0 0

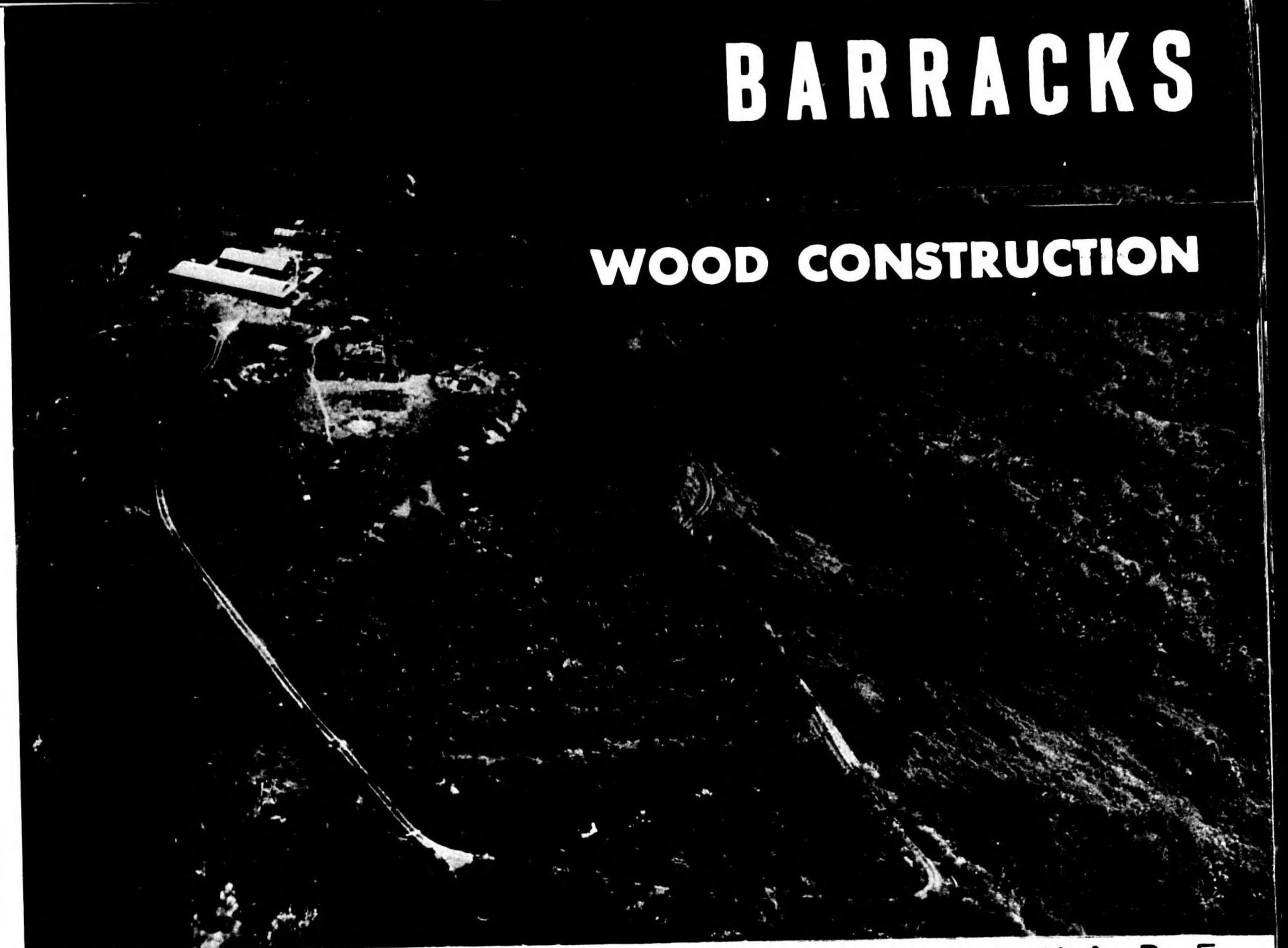
BARRACKS 38' x 115'      WASH HOUSE AND LATRINE



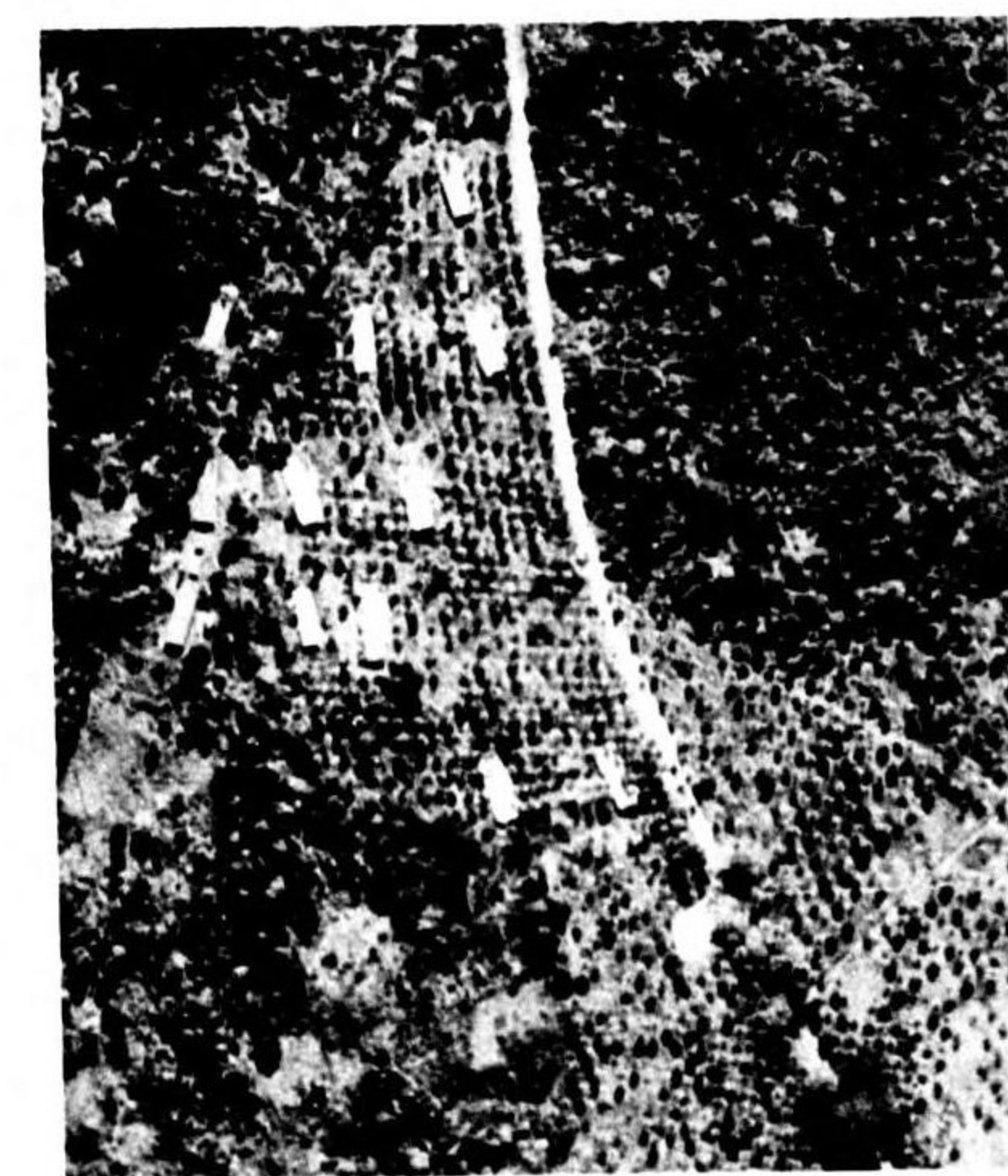
BARRACKS . . . M A L O E L A P

# BARRACKS

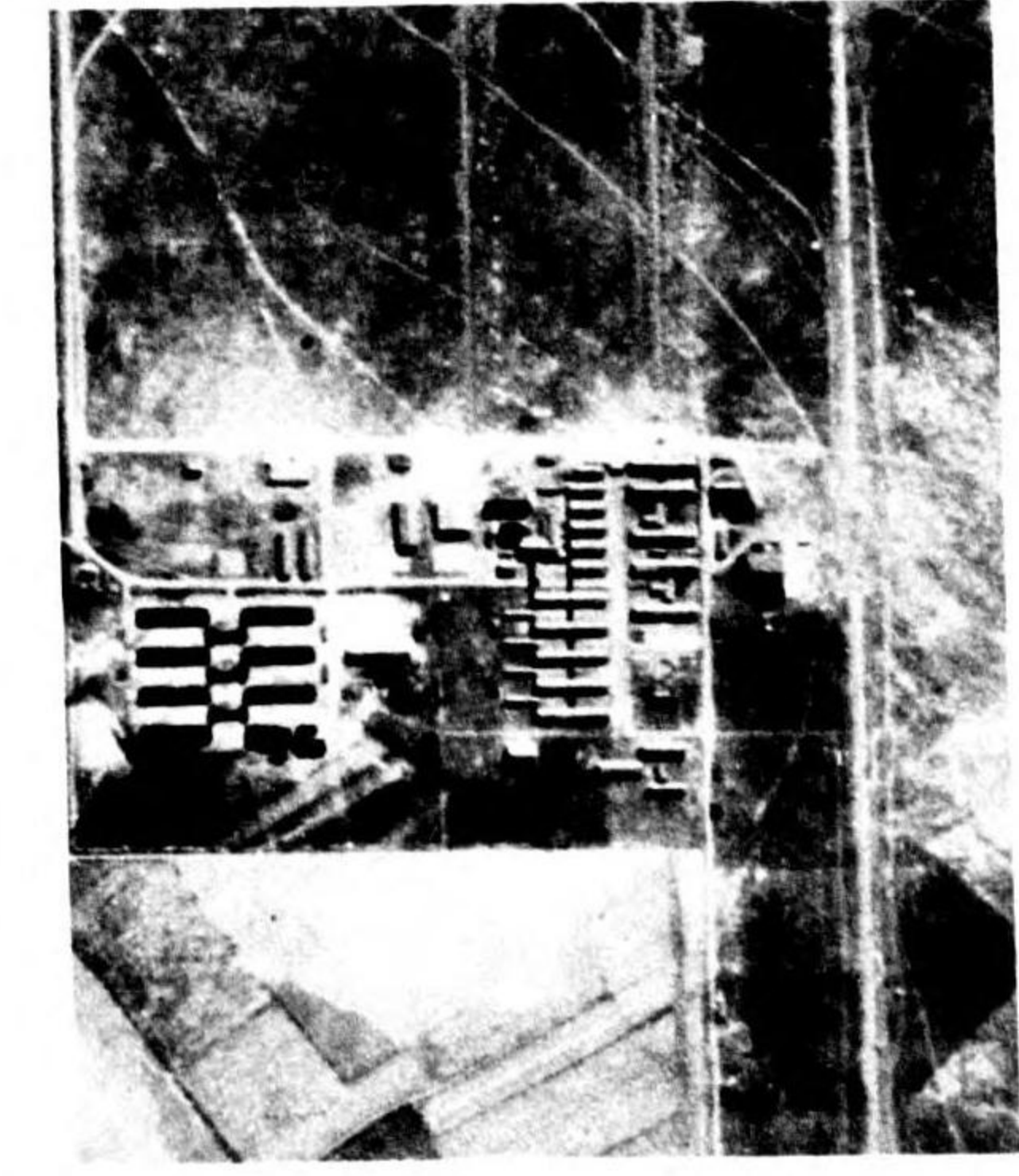
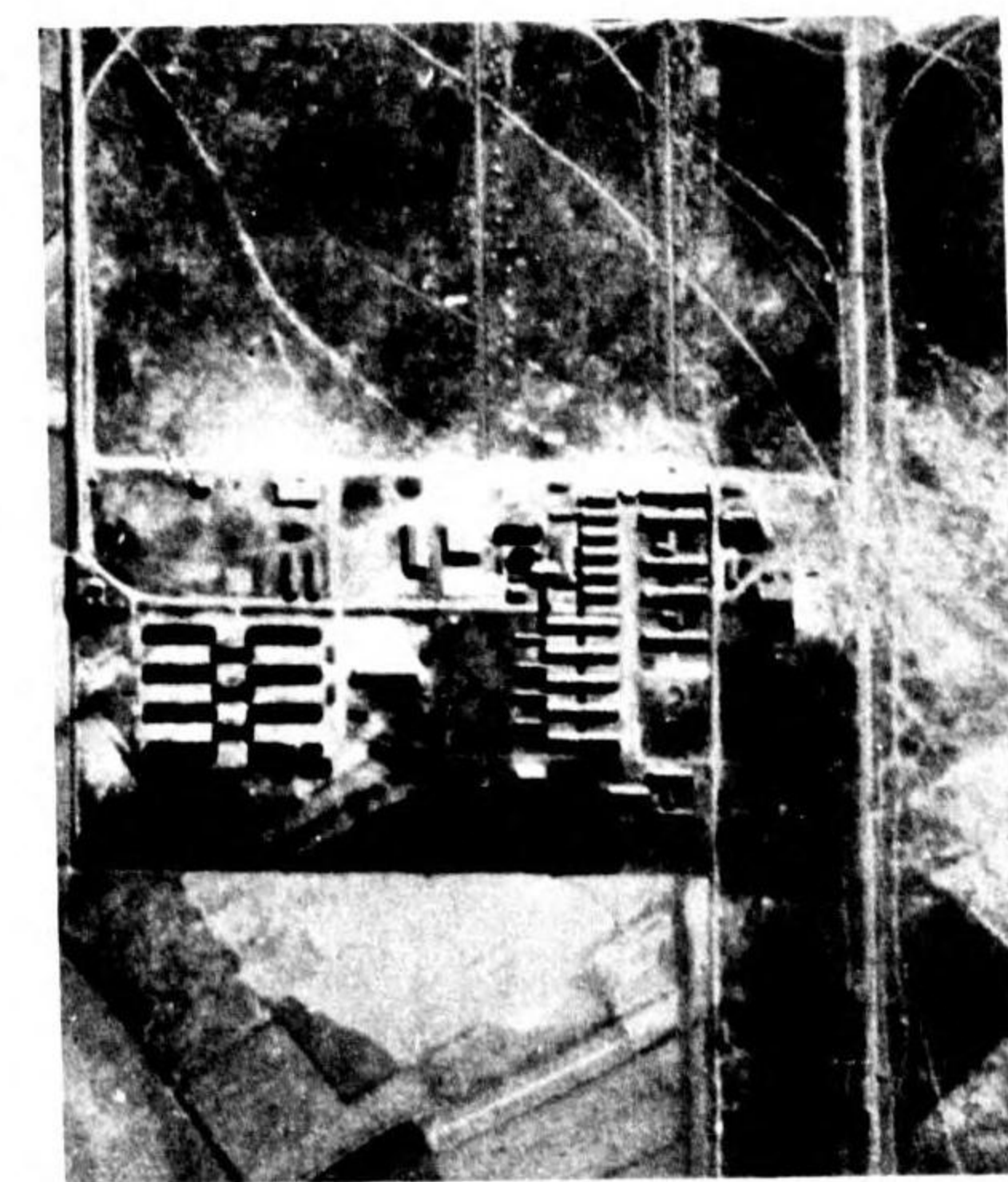
## WOOD CONSTRUCTION



BARRACKS - 127 MM BATTERY · P O N A P E



K A V I E N G · N E W I R E L A N D

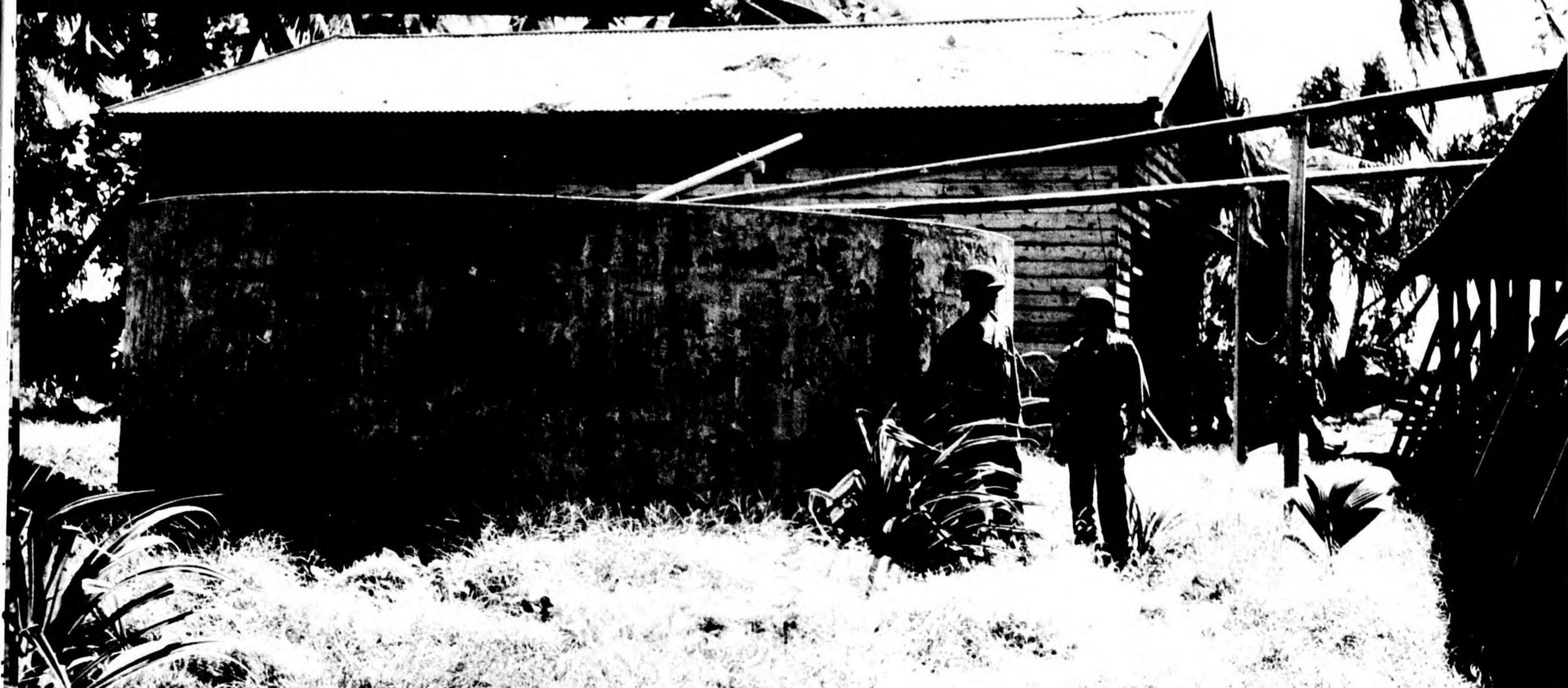


T O Y O H A R U A I R D R O M E · B U R M A

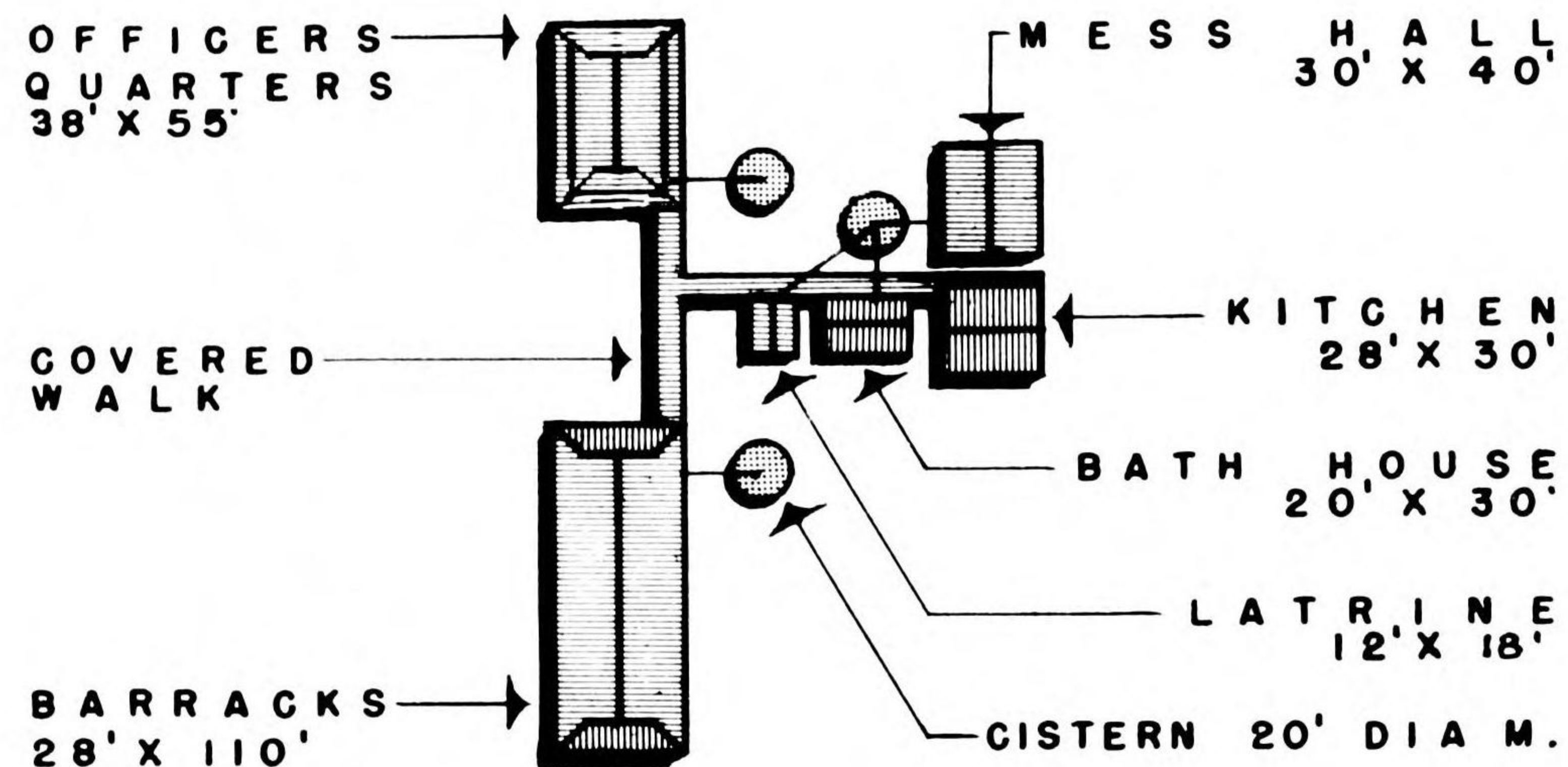


# BARRACKS

## WOOD CONSTRUCTION



# WATER COLLECTION SYSTEM



This "T" formation of buildings houses personnel operating the D. F. equipment in the near vicinity. See page 11.03, 11.04, and 11.05 for illustrations of similar formations performing the same function.

## BARRACKS GROUP MAJURO



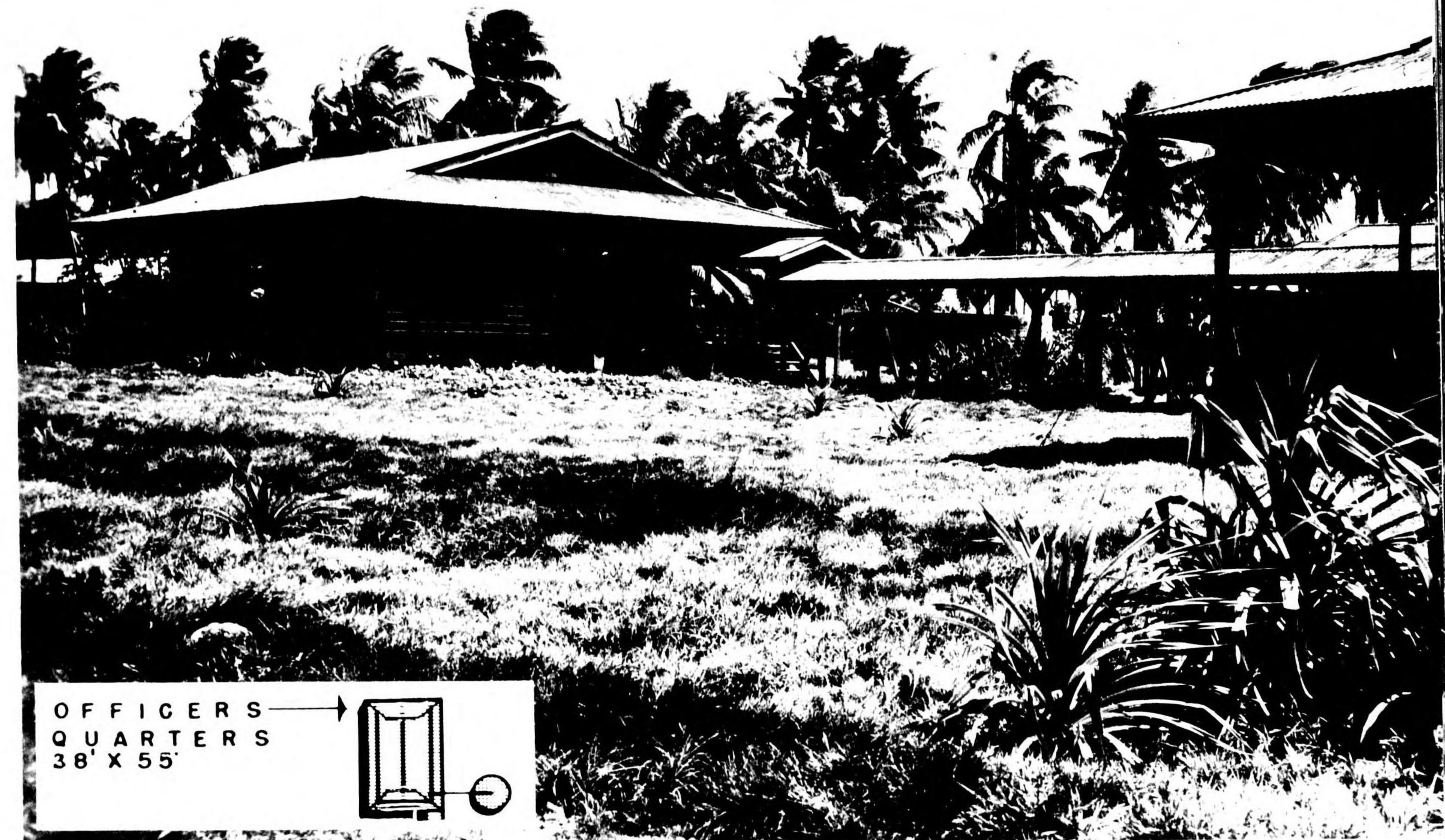
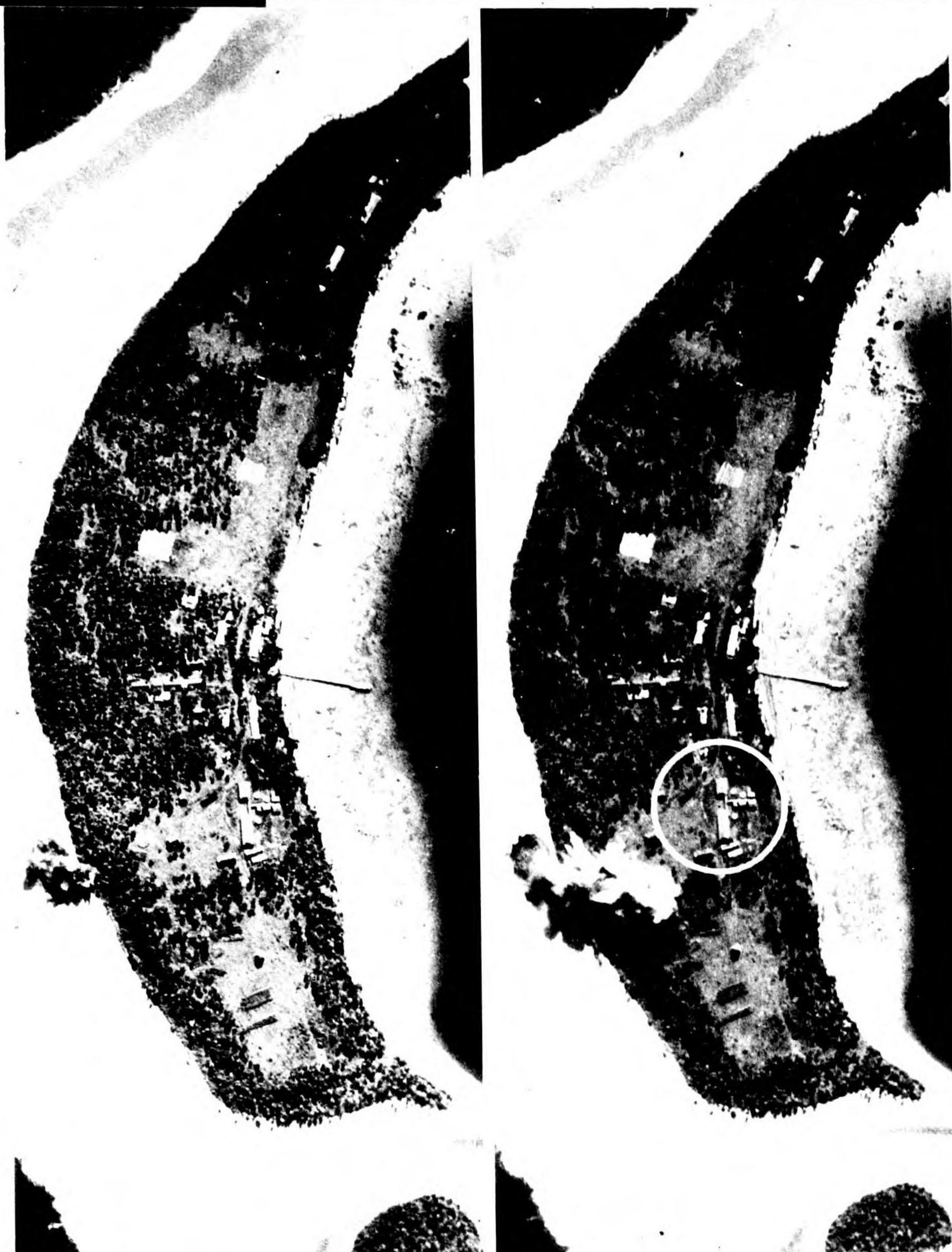
## CONCRETE CISTERNS

## MAJURO

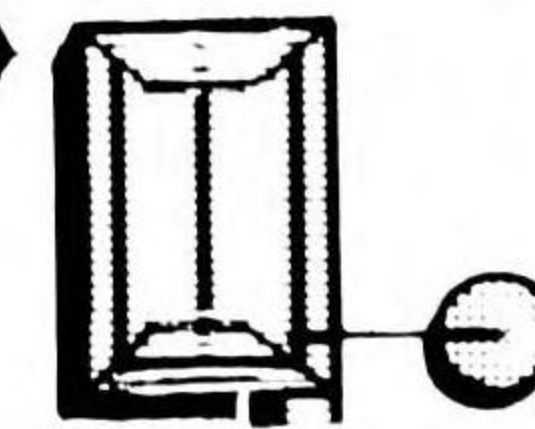


# BARRACKS

## WOOD CONSTRUCTION



OFFICERS  
QUARTERS  
38' X 55'

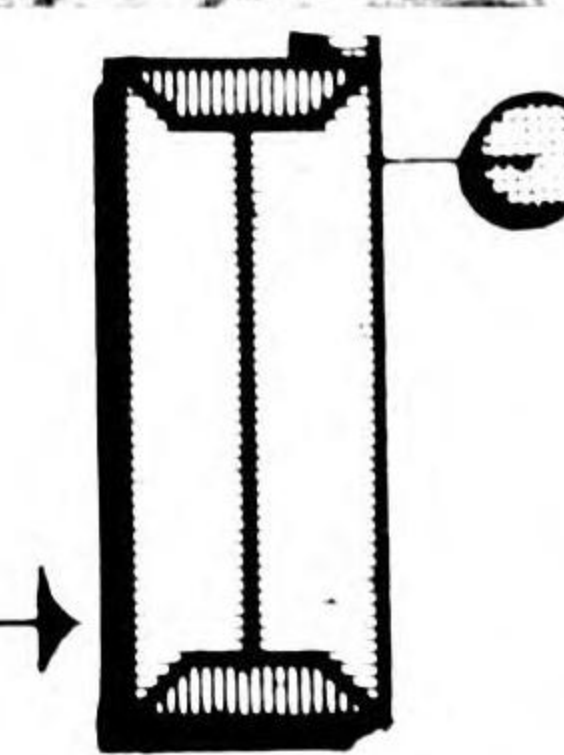


DARRIT ISLAND  
OFFICERS QUARTERS

The 38 by 55 foot clipped hip roofed structure houses officer personnel. A 6 foot porch wraps around the partitioned interior. Rain water from the corrugated iron roof surfaces is collected in the adjacent 20 foot diameter concrete water cisterns. Note the bathhouse, latrine, galley and mess hall servicing the quarters.



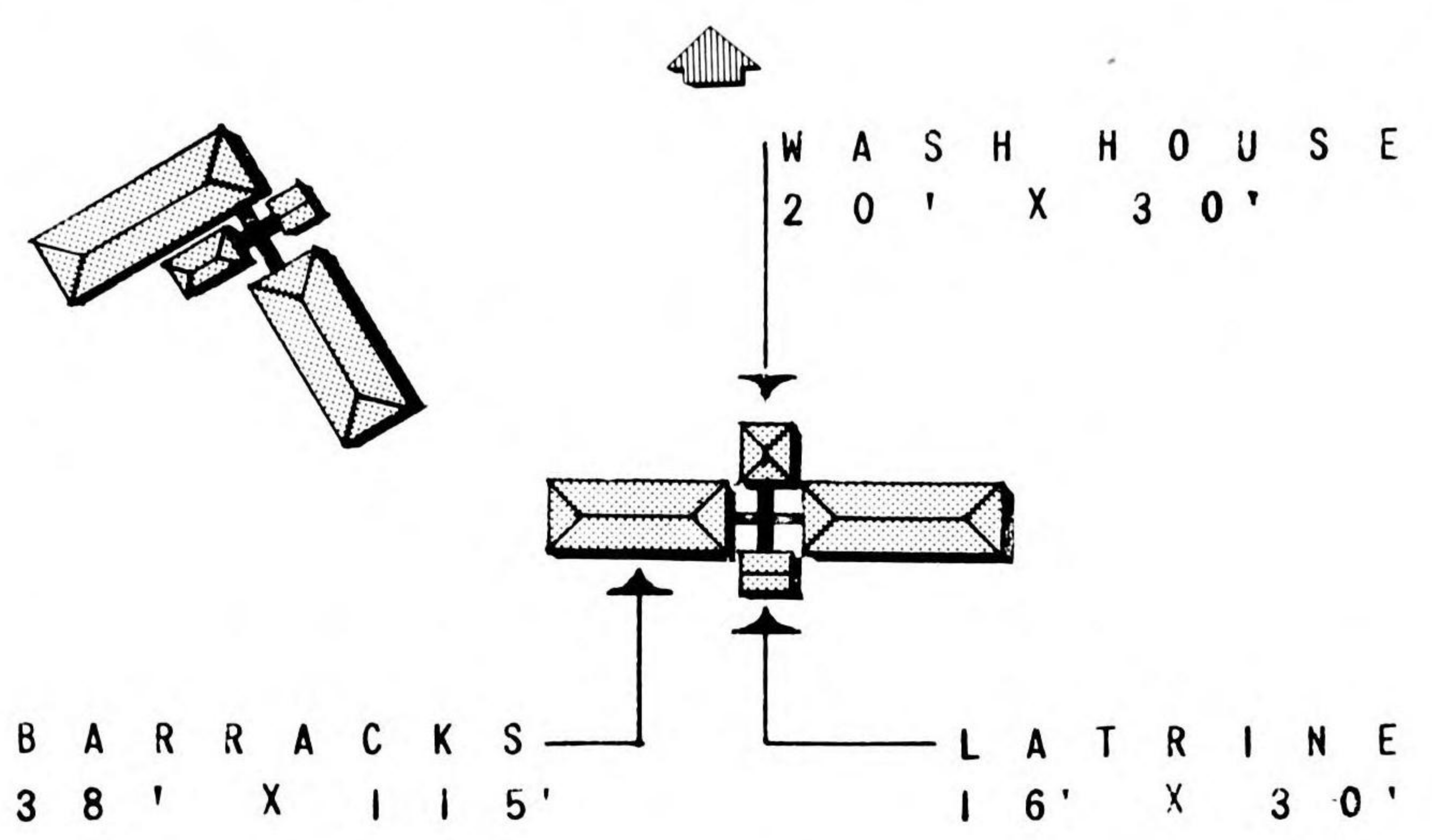
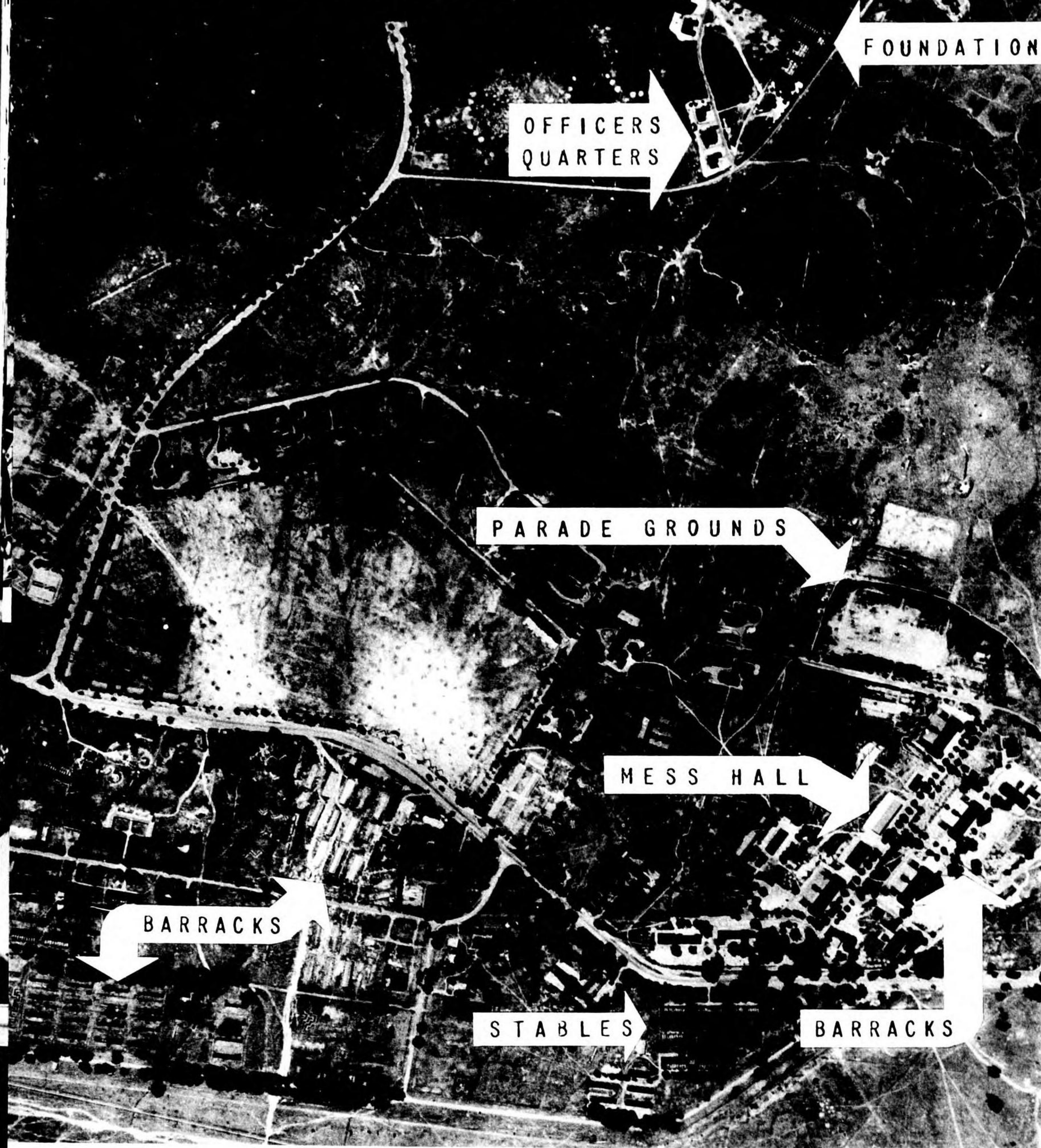
BARRACKS  
38' X 110'





# BARRACKS

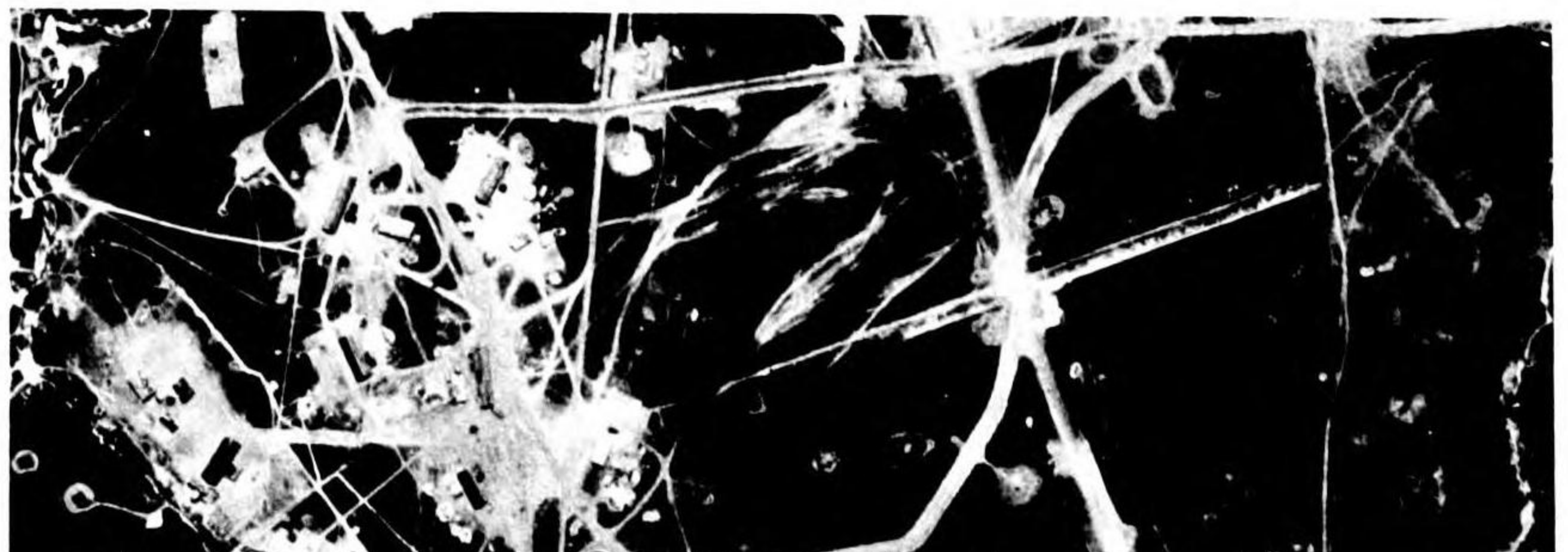
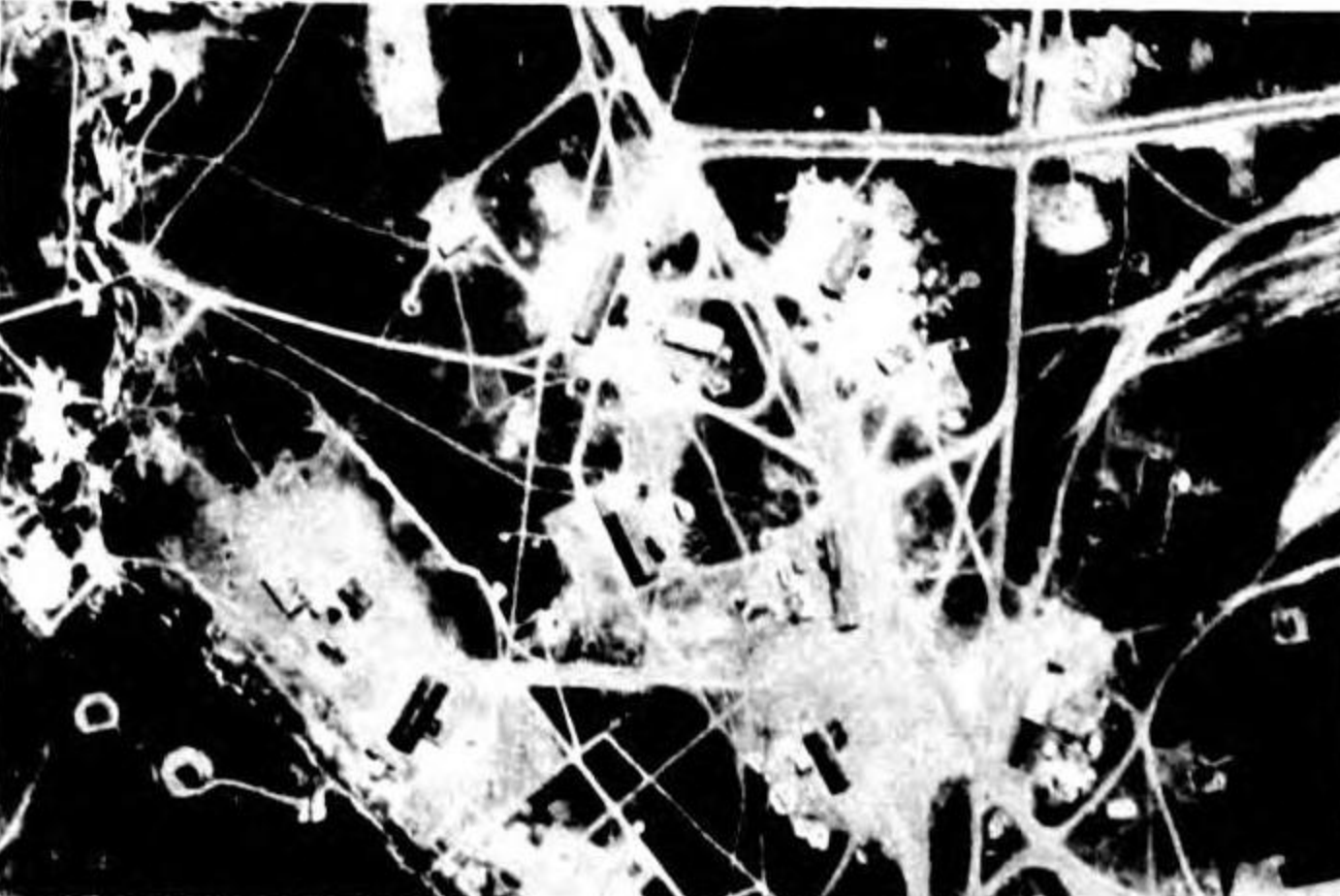
## WOOD CONSTRUCTION



MINGALADON · BURMA

MATUYAMA

FORMOSA



A R M Y . C A M P - B U R M A

This Burma Military establishment is typical of large layouts and illustrates housing for officer and enlisted personnel. Segregation is comparable to U.S. Army Camp planning in mainland training areas. Note that in all cases, barracks are serviced by combination latrine and bathhouse structures. The Matuyama stereo-pair illustrates units housing gun battery personnel.

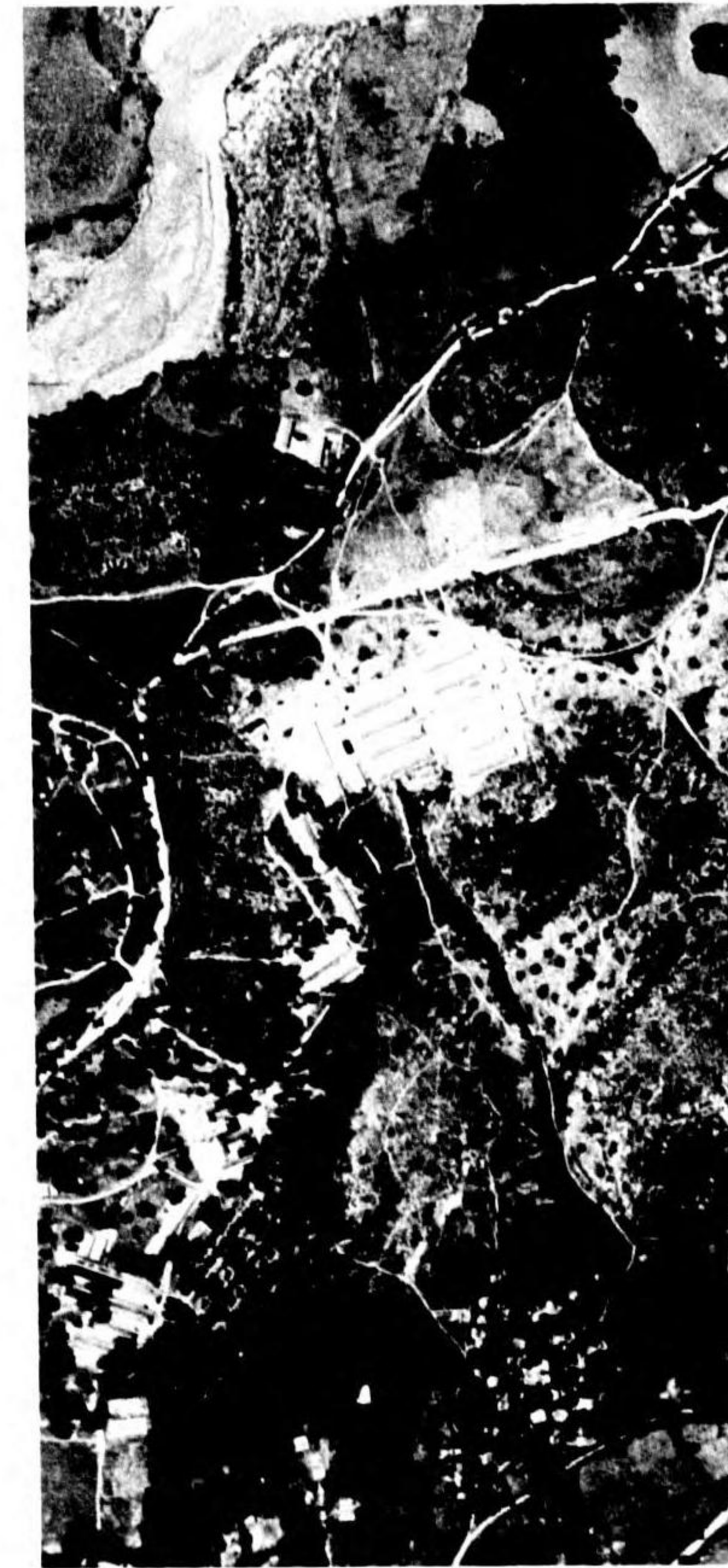
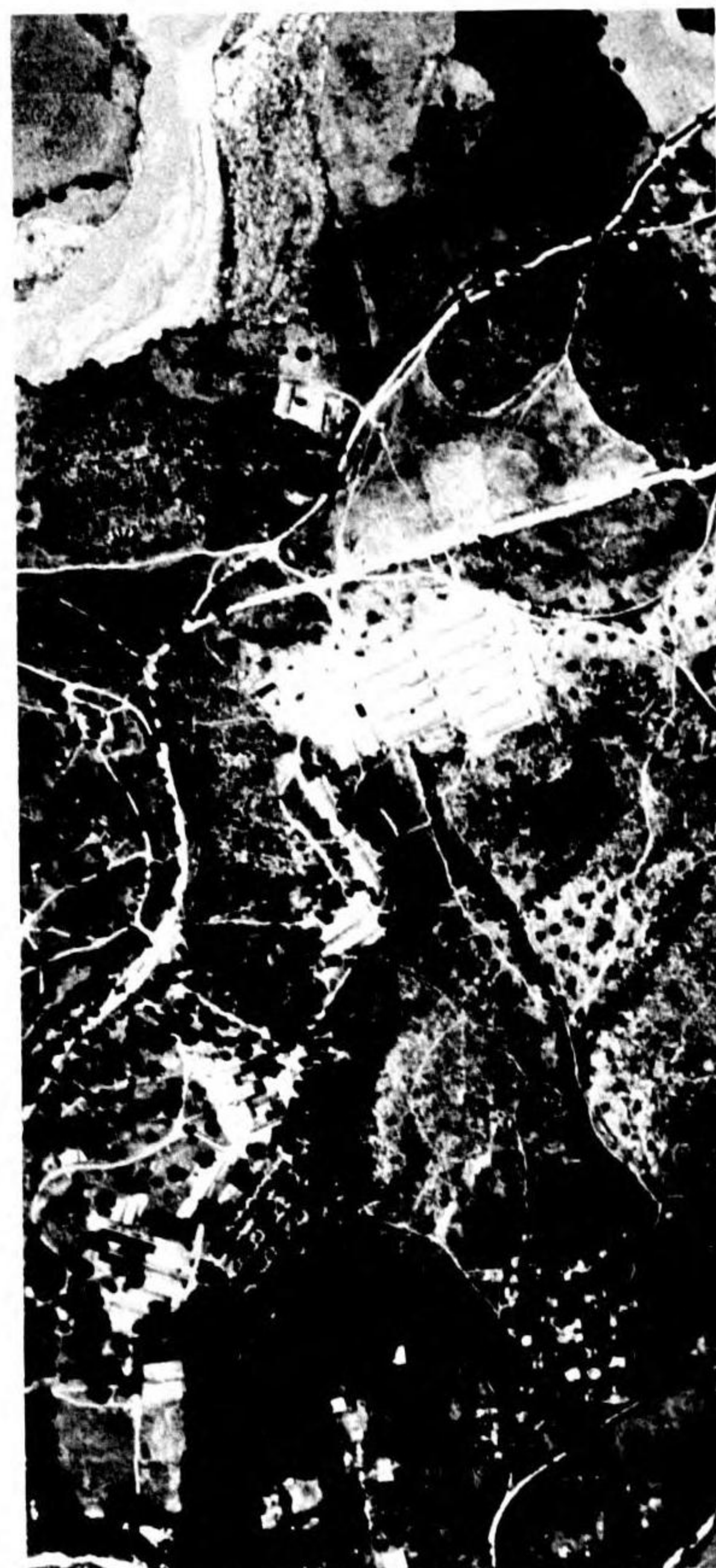
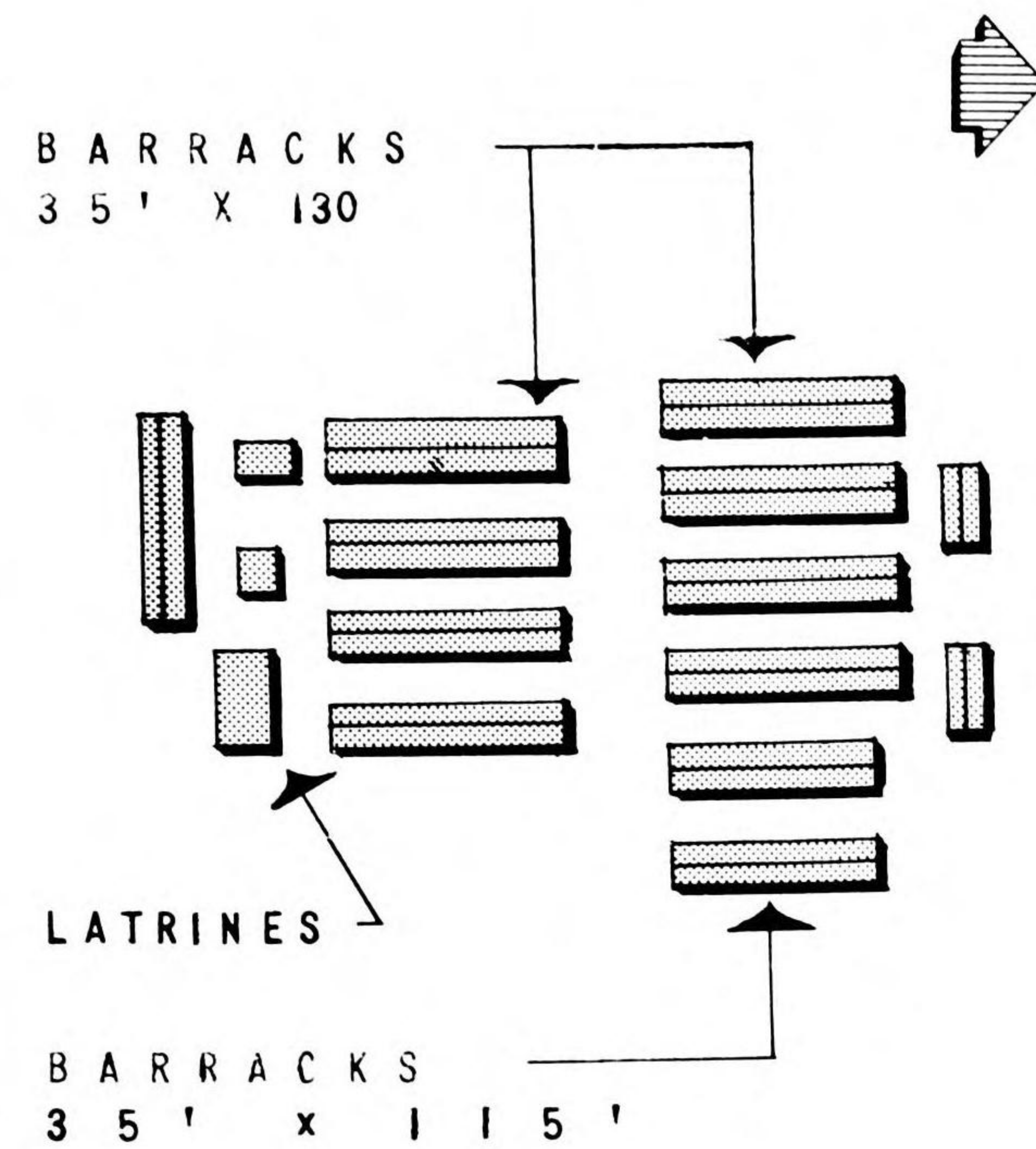


# BARRACKS

## WOOD CONSTRUCTION

### BARRACKS PLANNING STUDY

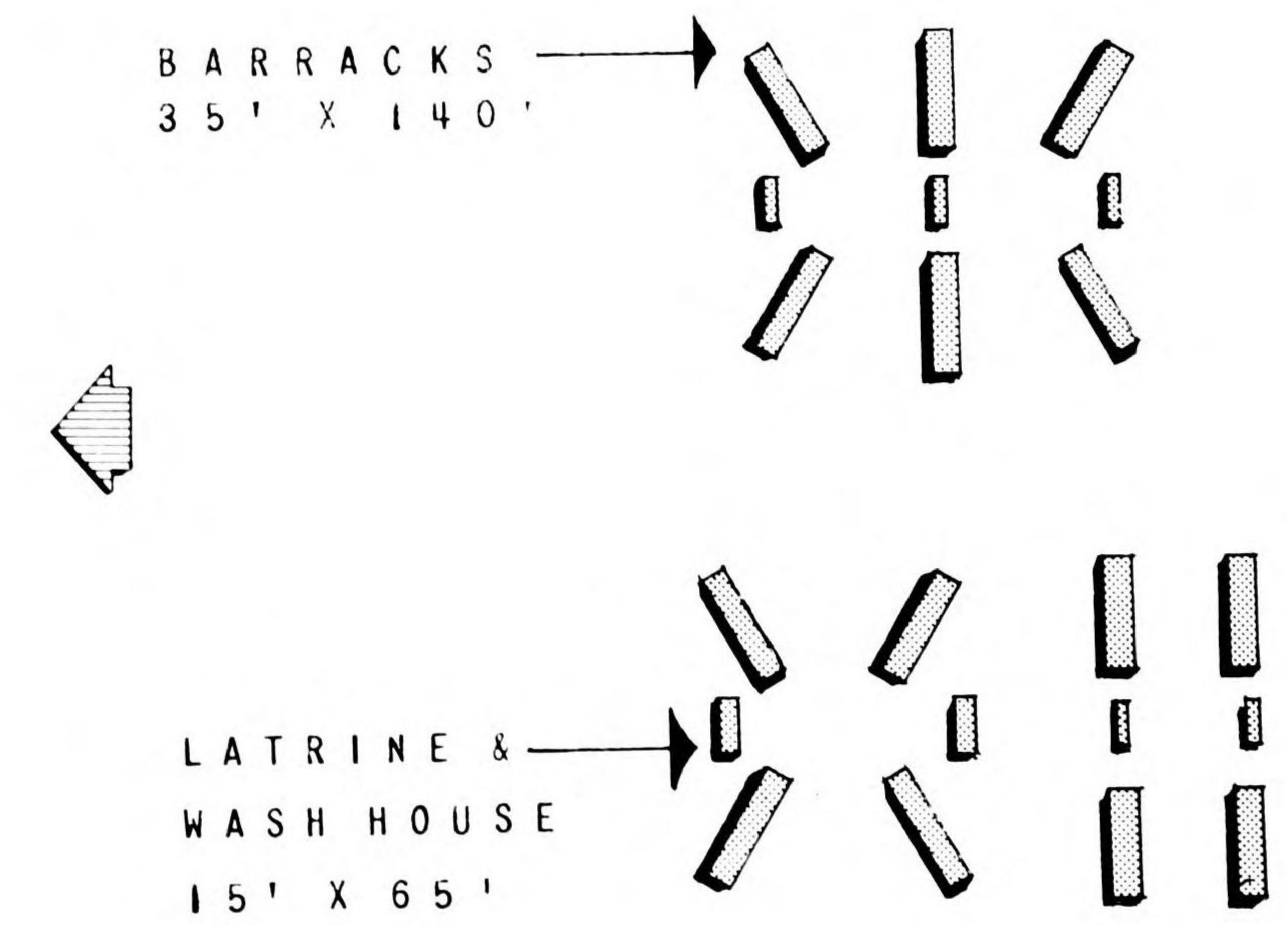
PYINMANA - - - BURMA



**P** yinmana and Suiteiryo illustrate typical large housing units. Wash houses service the barracks. The large buildings, similar in plan, adjacent to the barracks groups are mess halls and galleys. These barracks house close to 100 men, figuring 50 square feet of floor space per man.



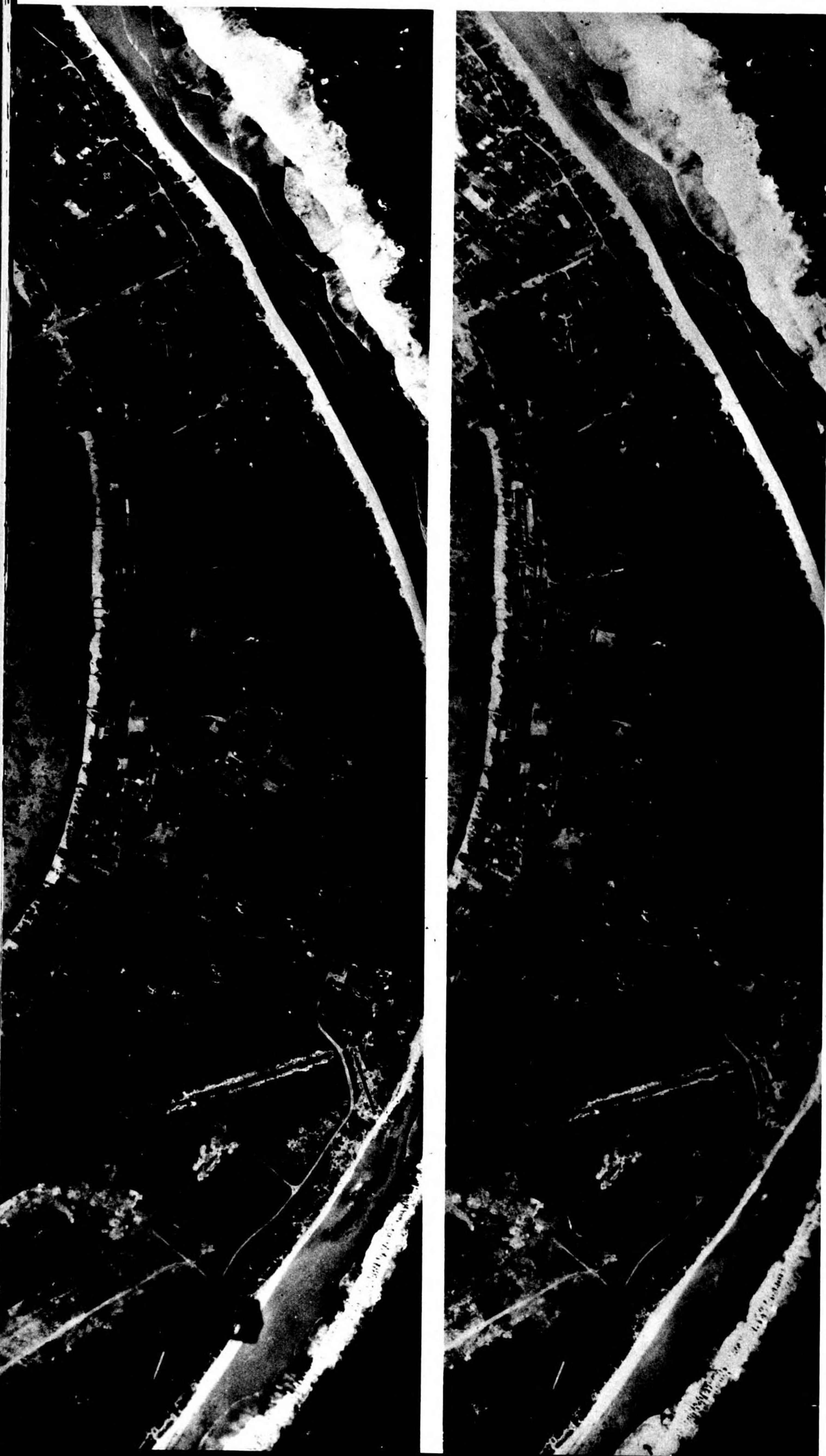
SUITEIRYO FORMOSA





# BARRACKS

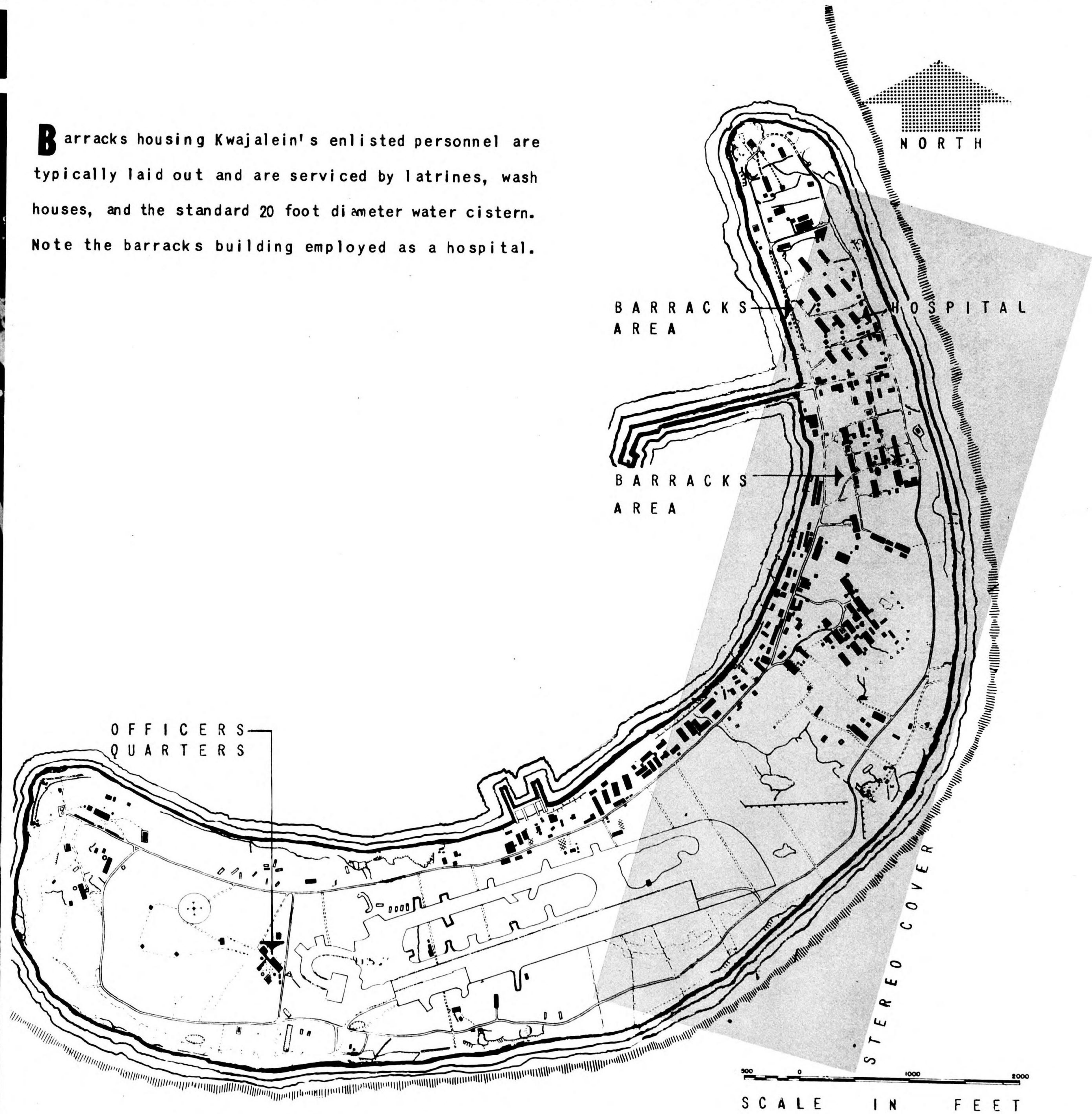
## WOOD CONSTRUCTION



3.10 RESTRICTED

## BARRACKS ARRANGEMENT STUDY

**B**arracks housing Kwajalein's enlisted personnel are typically laid out and are serviced by latrines, wash houses, and the standard 20 foot diameter water cistern. Note the barracks building employed as a hospital.



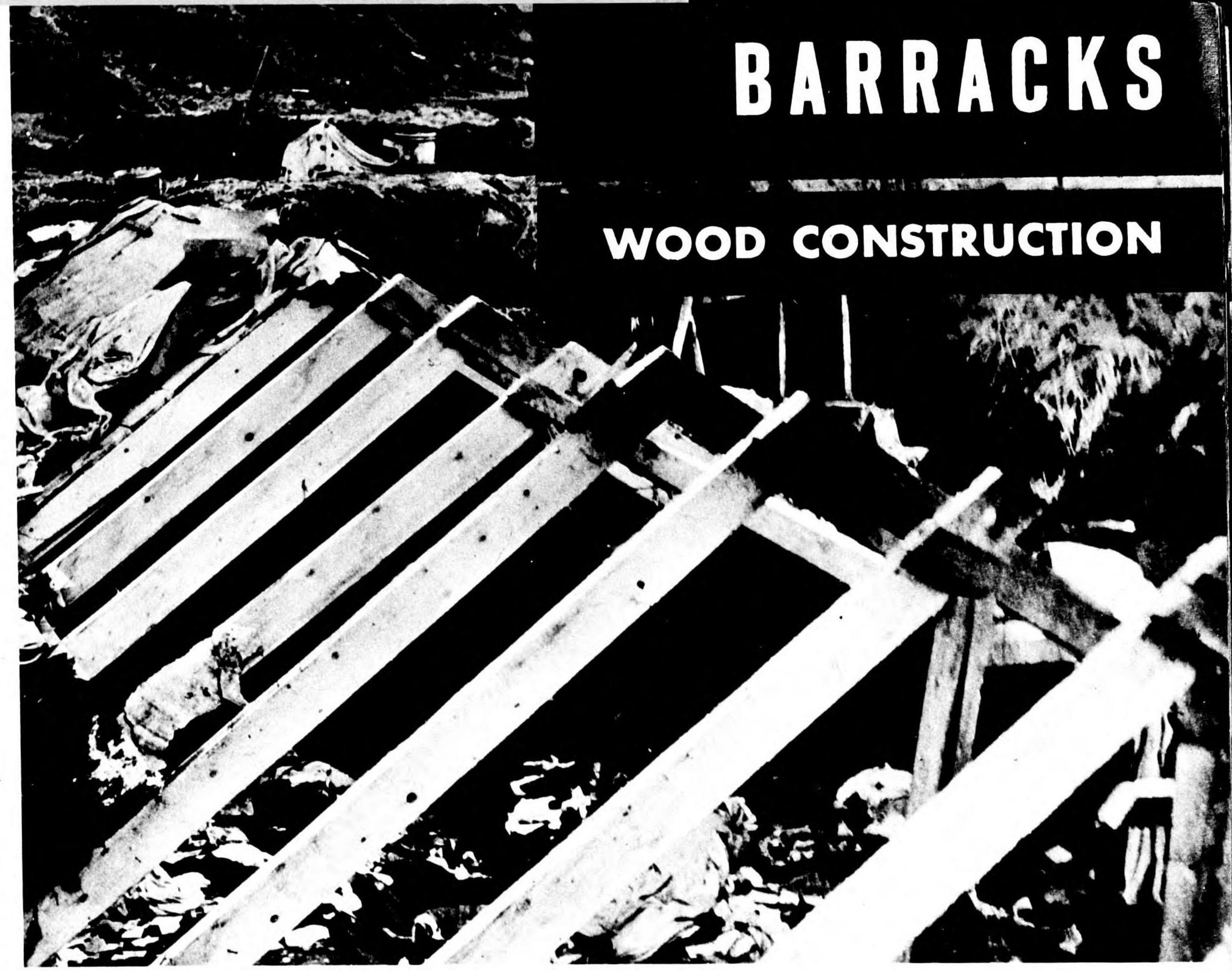
K W A J A L E I N I S L A N D  
K W A J A L E I N A T O L L M A R S H A L L I S L A N D S



# BARRACKS

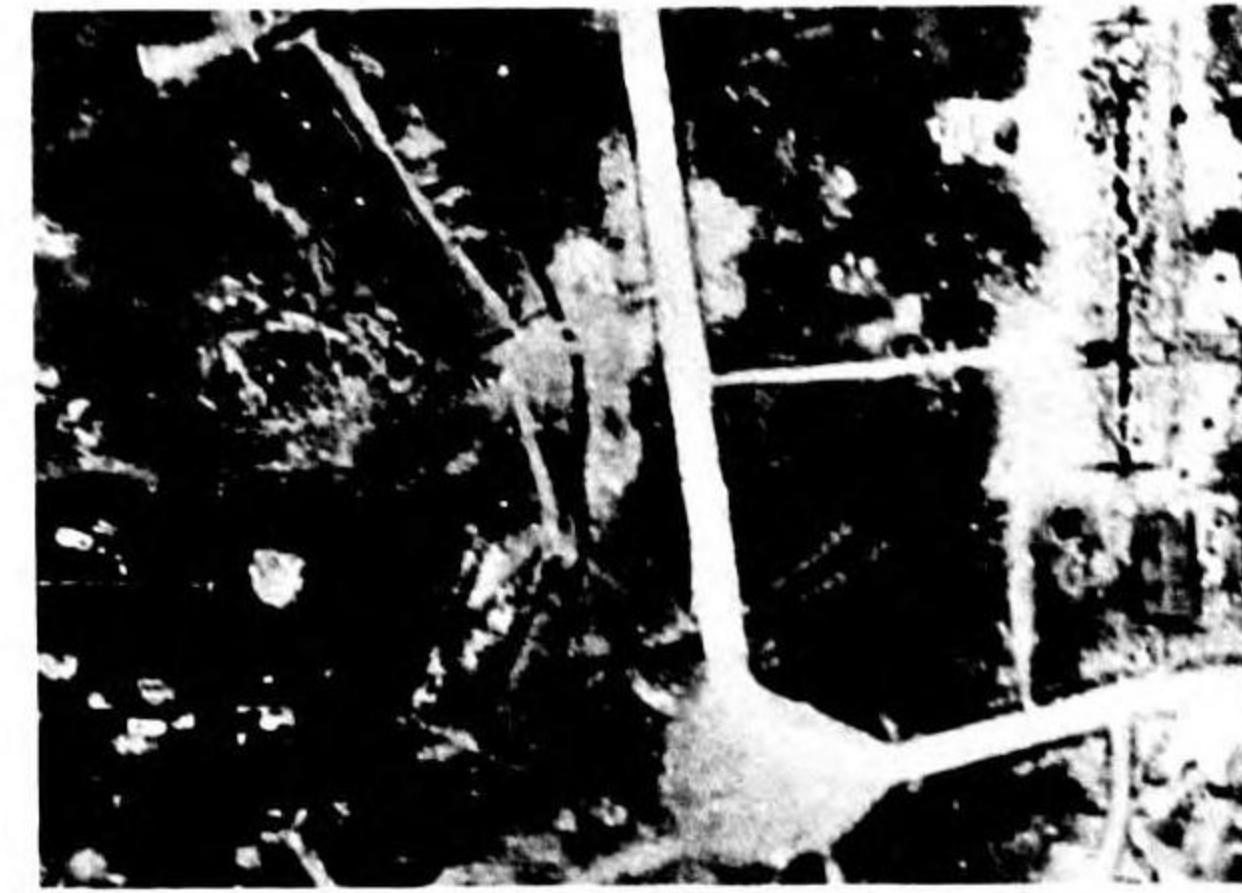
## ARMY BARRACKS ALEUTIAN ISLANDS

The army type barracks at Gertrude Cove are constructed from prefabricated rafters, roof, and floor panels. This prefabricated form varies in length from 35 to 150 feet. It is set below grade and roof surfaces are covered with adjacent tundra. A low revetment parallels the perimeter of the structure.



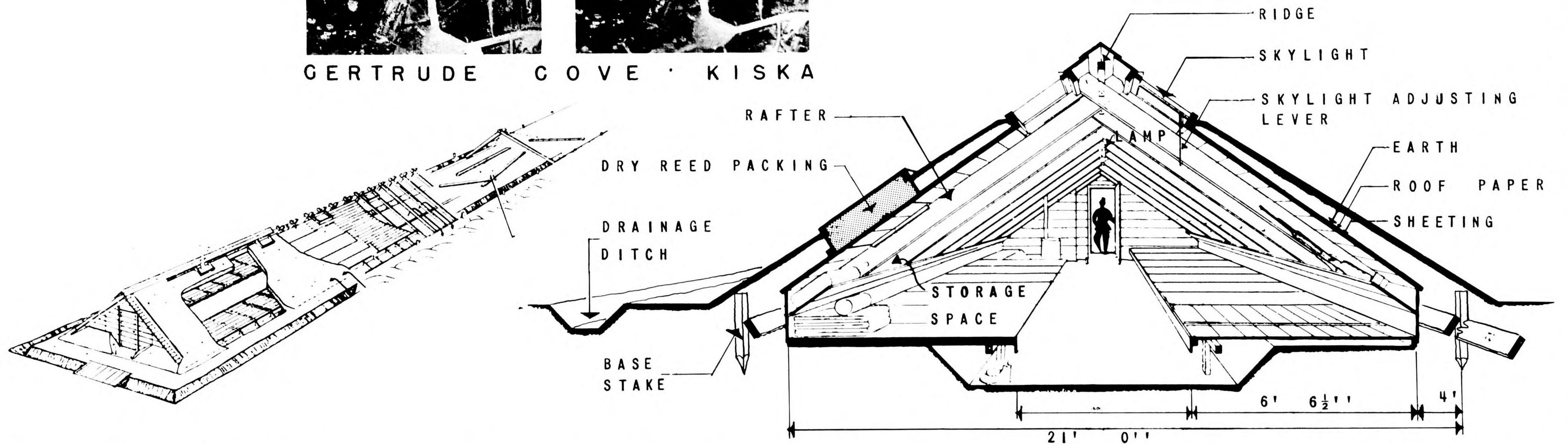
WOOD CONSTRUCTION

ARMY BARRACKS - ATTU



GERTRUDE COVE · KISKA

RAFTER DETAIL · HOLTZ · BAY · ATTU



P E R S P E C T I V E

TRIANGULAR TYPE BARRACKS

ALEUTIANS RESTRICTED 3.11



# HOSPITALS

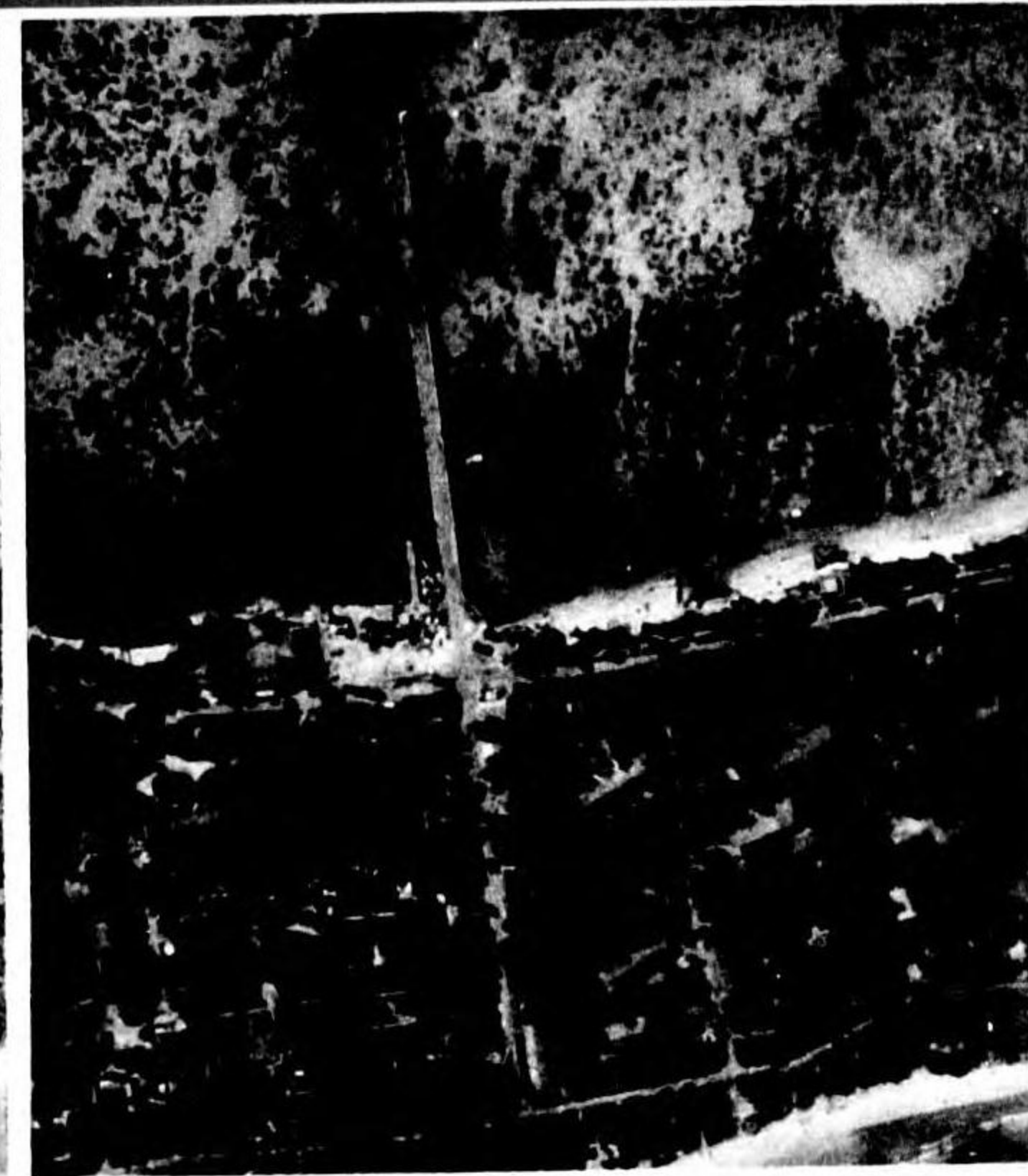
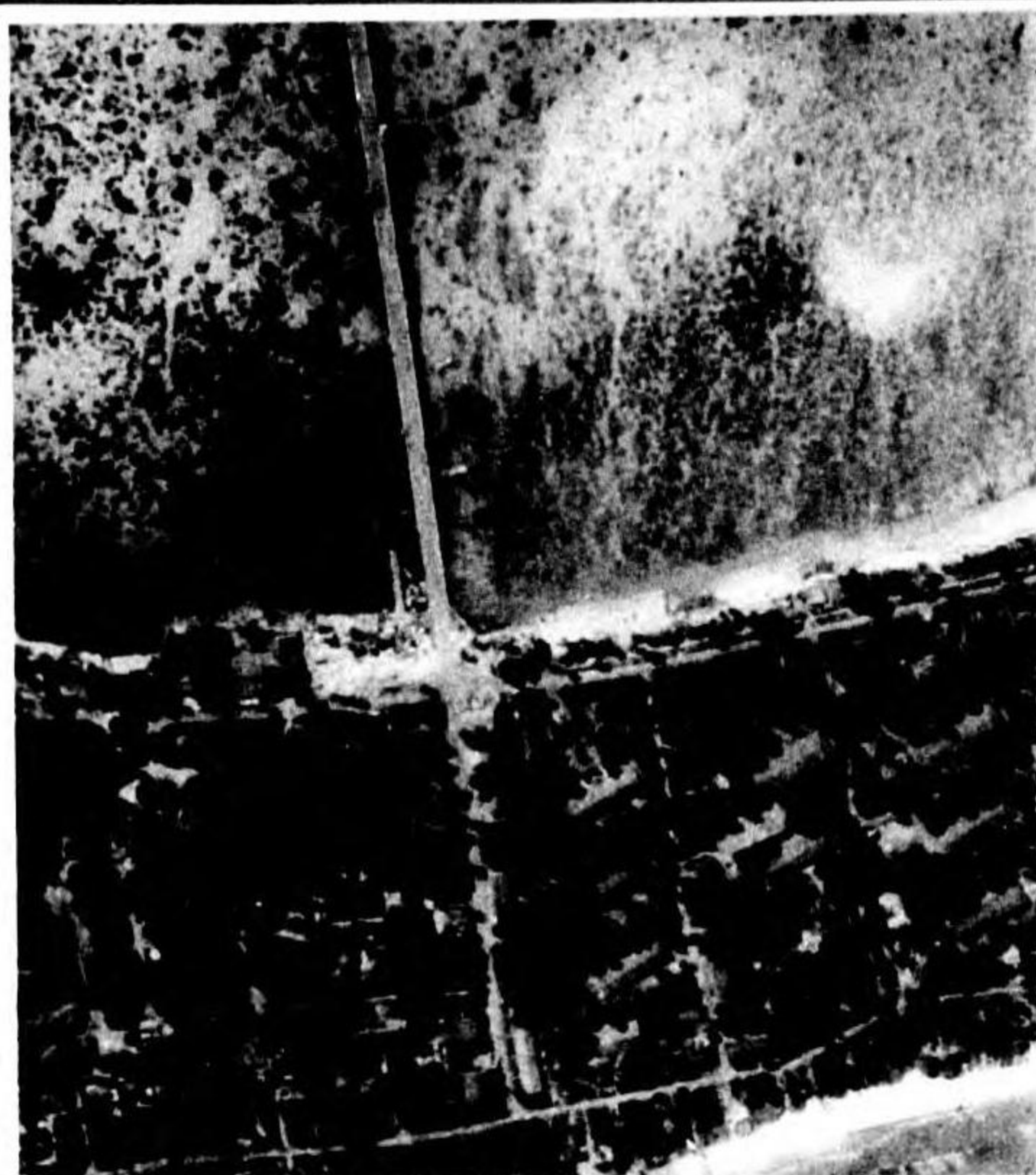
## WOOD CONSTRUCTION

### TYPICAL JAPANESE HOSPITAL STUDY

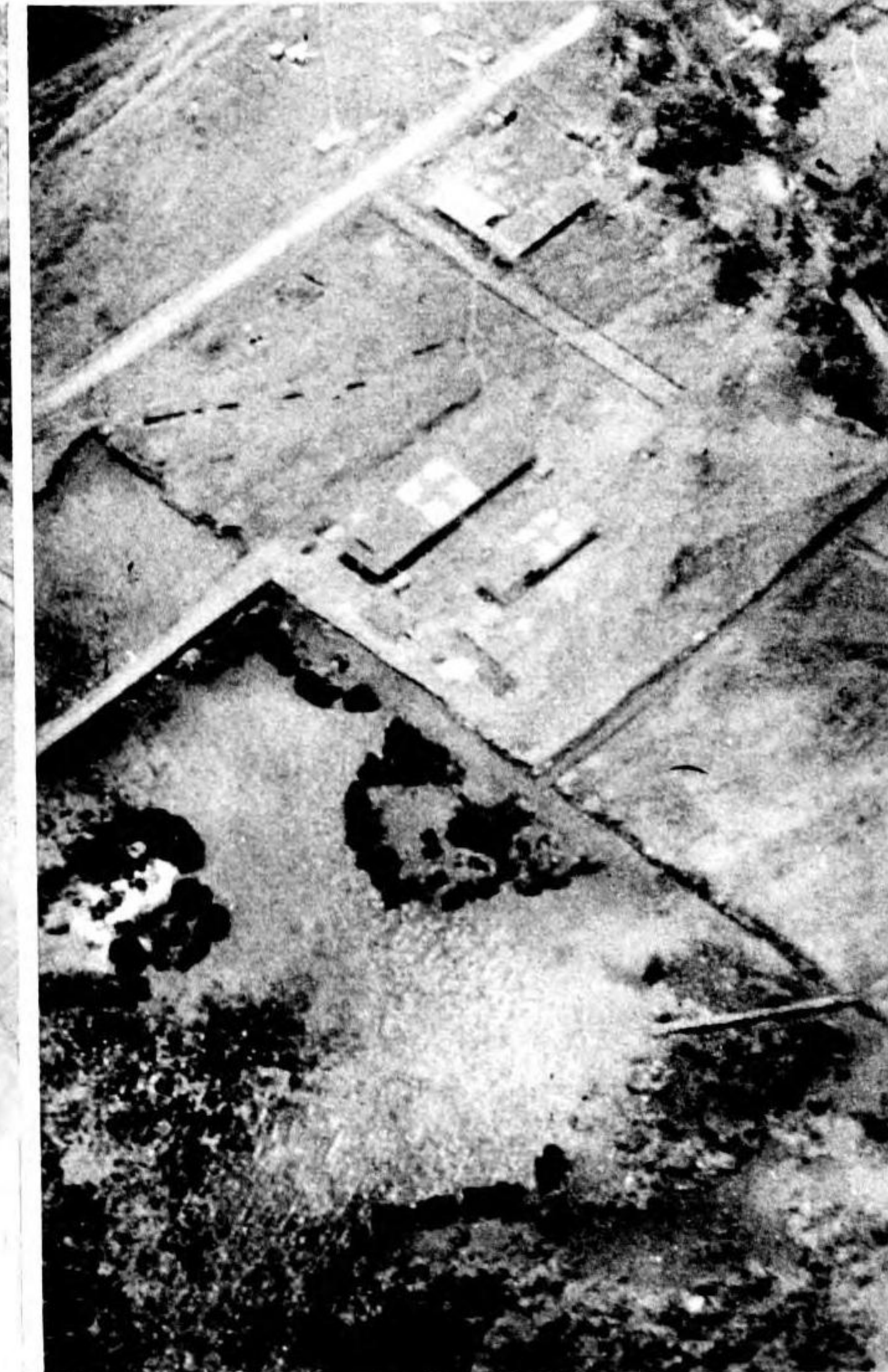
Presence of a cross on the roof of a Japanese structure can not be relied upon as positive indication of a hospital or dispensary. Crosses have been seen on munition and general storage buildings as well.

Standard barracks buildings are employed extensively as hospitals. In many cases, one or more structures of a barracks group are converted to serve as hospital units. The buildings of a hospital group are usually set on leveled land to allow for covered inter-building circulation ramps. If, as at Truk, the group constitutes several buildings, it is isolated from other airfield activities.

There is no key to the identification of a dispensary other than the fact that adequate road facilities are provided for the servicing of ambulances. Latrine and wash room facilities are in conjunction with and tied to the main structure.



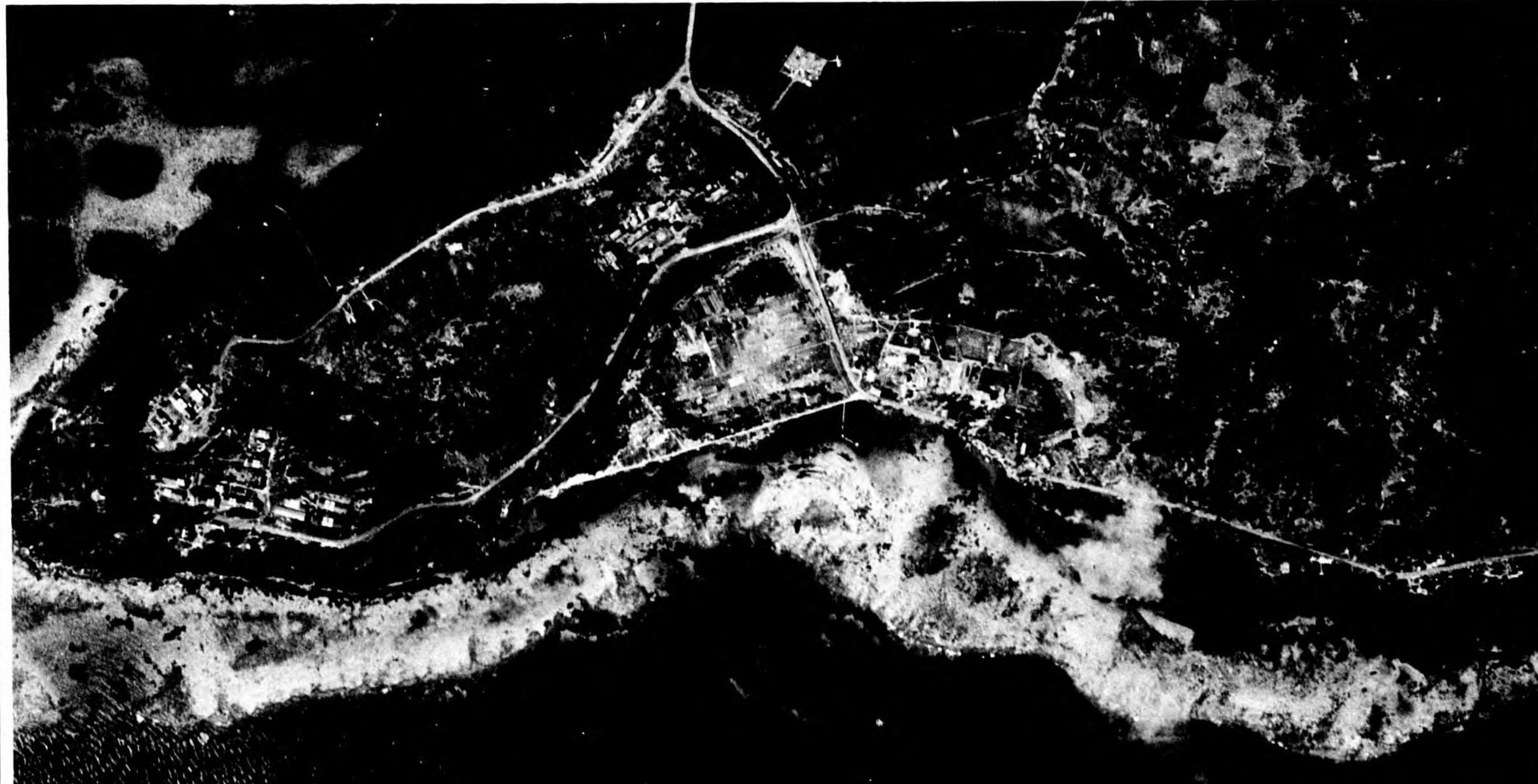
BARRACKS USED AS HOSPITAL • KWAJALEIN



HOSPITAL BUILDINGS • TRUK

STEREO STUDY OF HOSPITAL GROUP

TRUK





# HOSPITALS

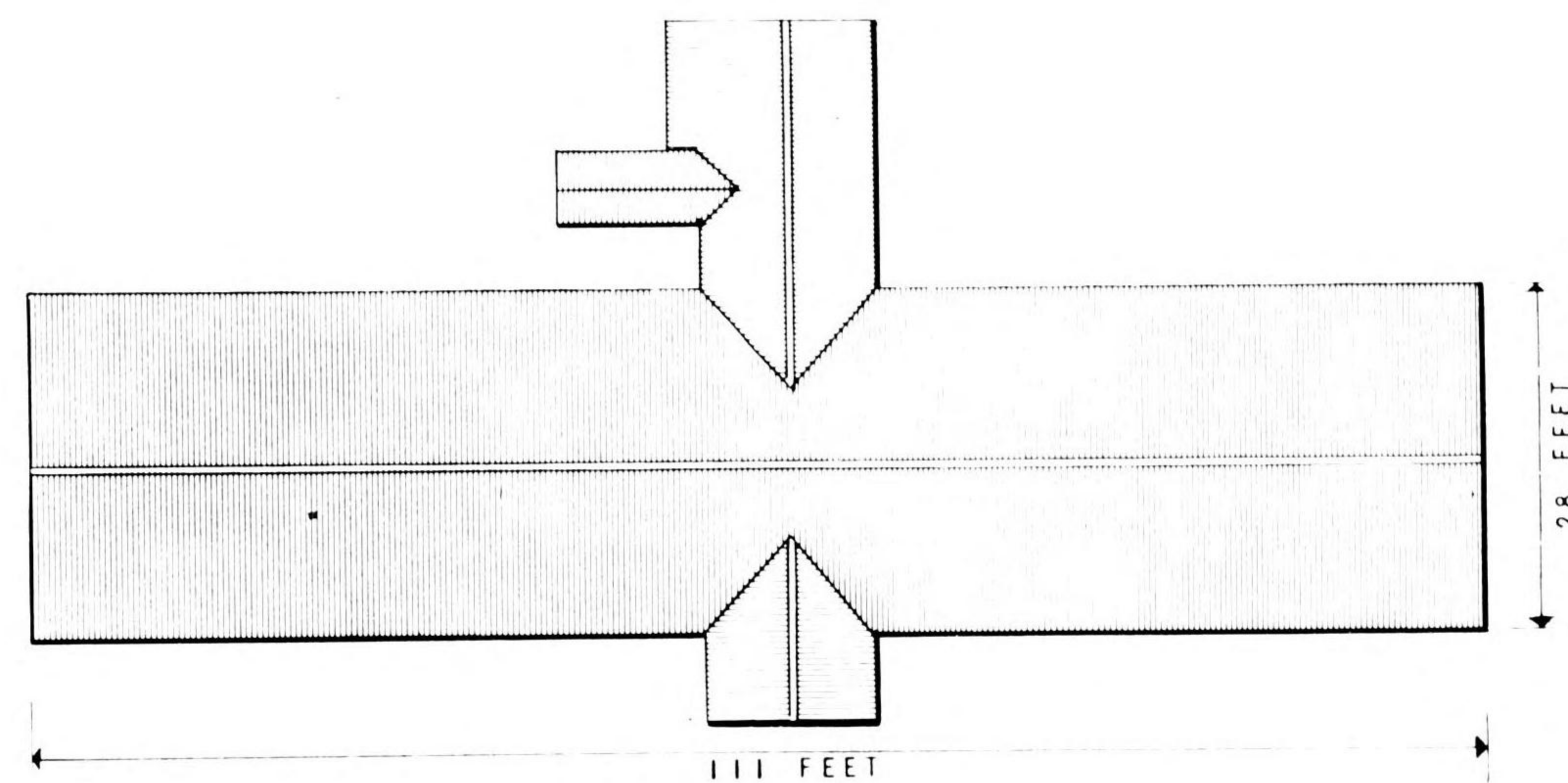
## WOOD CONSTRUCTION



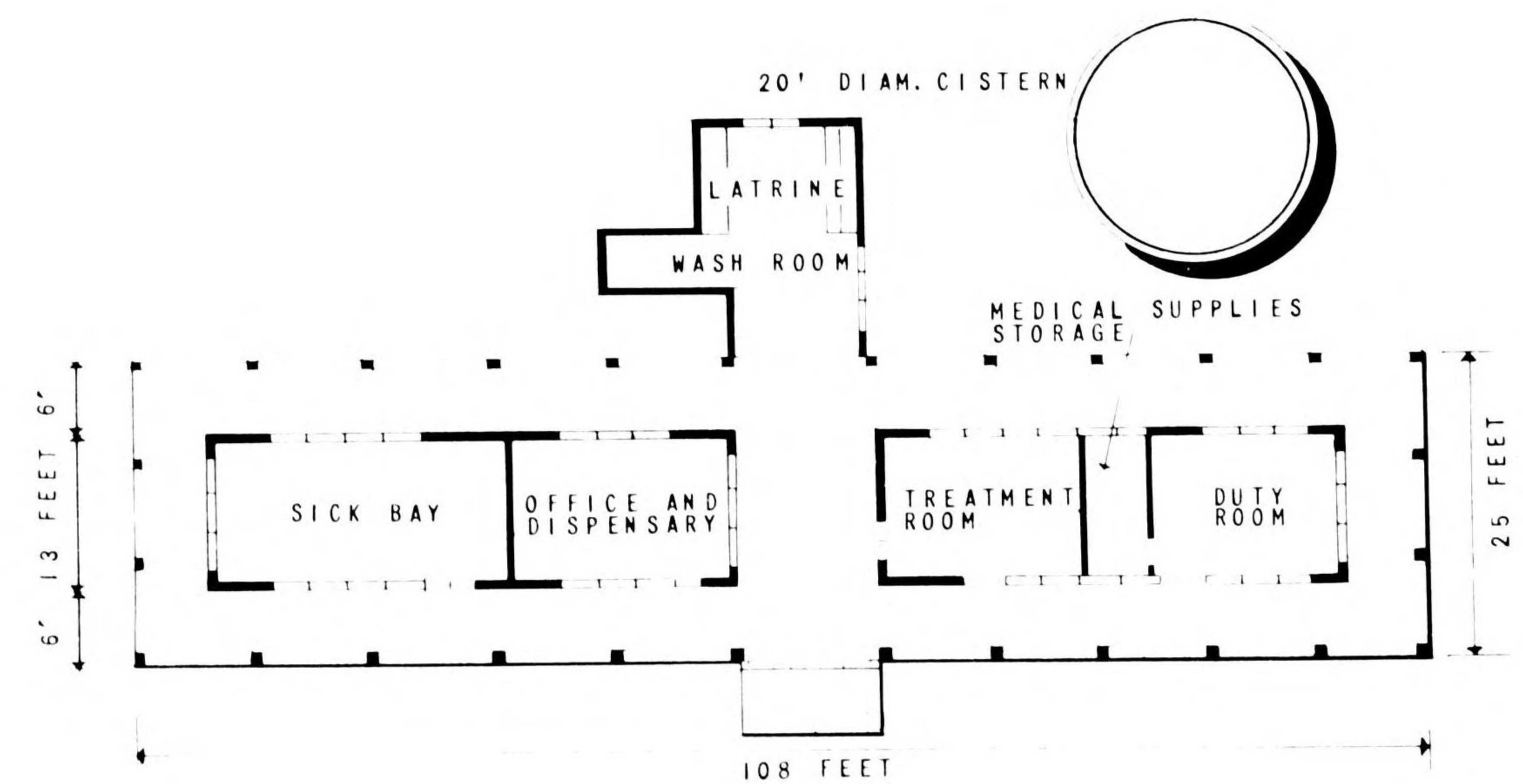
DISPENSARY AREA • SAIPAN



FRONT ELEVATION OF MEDICAL OFFICES • SAIPAN

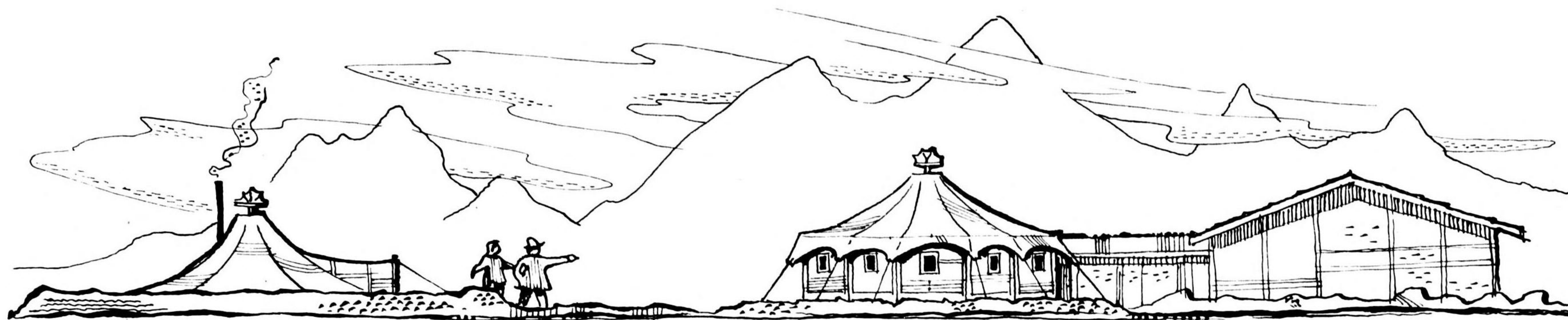


ROOF PLAN OF MEDICAL BUILDING



FLOOR PLAN OF MEDICAL BUILDING  
RESTRICTED





## J A P A N E S E T E N T S

The Japanese employ tents extensively as semi-permanent housing. The common four, five and six-pole tents are mobile forms and not set on prepared bases. There are two circular tent forms used semi-permanently, and therefore set on prepared bases.

The larger of the two forms is 35 feet in diameter. A central pole supports the canvas roof surface, which is stretched over prefabricated wooden side wall panels approximately 8 feet in height. The tent is set on a level, prepared base a foot above natural grade. The units are set geometrically in groups of 8 and provided with intercirculation covered passageways. A rectangular central structure, also part of the group, probably houses mess facilities. Camouflage paint has been applied to the canvas roof surfaces of this 35 foot diameter tent form found on Paramushiro.

The smaller circular tent form is 24 feet in diameter. Actually octagonal in plan, this tent has canvas side walls  $2\frac{1}{2}$  feet high and is supported centrally by a

12 foot pole. Two or three of these tents are placed on top of each other for warmth and set in an emplacement dug to a depth of 3 feet. A rectangular pit is cut into the floor of the interior to receive an iron stove. A 2 foot ditch encircles the perimeter of this 24 foot diameter tent. Spoil from the dug in emplacement forms a low revetment, outside diameter of which varies from 34 to 48 feet. Some tents of this type found on Attu had eight 2-man fox holes per tent dug into adjacent banks.

Japanese manuals state that each 24 foot diameter tent will house 40 men in warm climates. Inspection and questioning of prisoners show that from 7 to 30 and usually 15 men are housed.

Both tent forms are employed in conjunction with permanent housing at the airfield on the southeastern tip of Matsuwa Island. A study of the general military building layout is presented on pages 4.04 and 4.05 to illustrate this point.



# TENTS



JAPANESE SMALL TENTS

RESTRICTED (10)

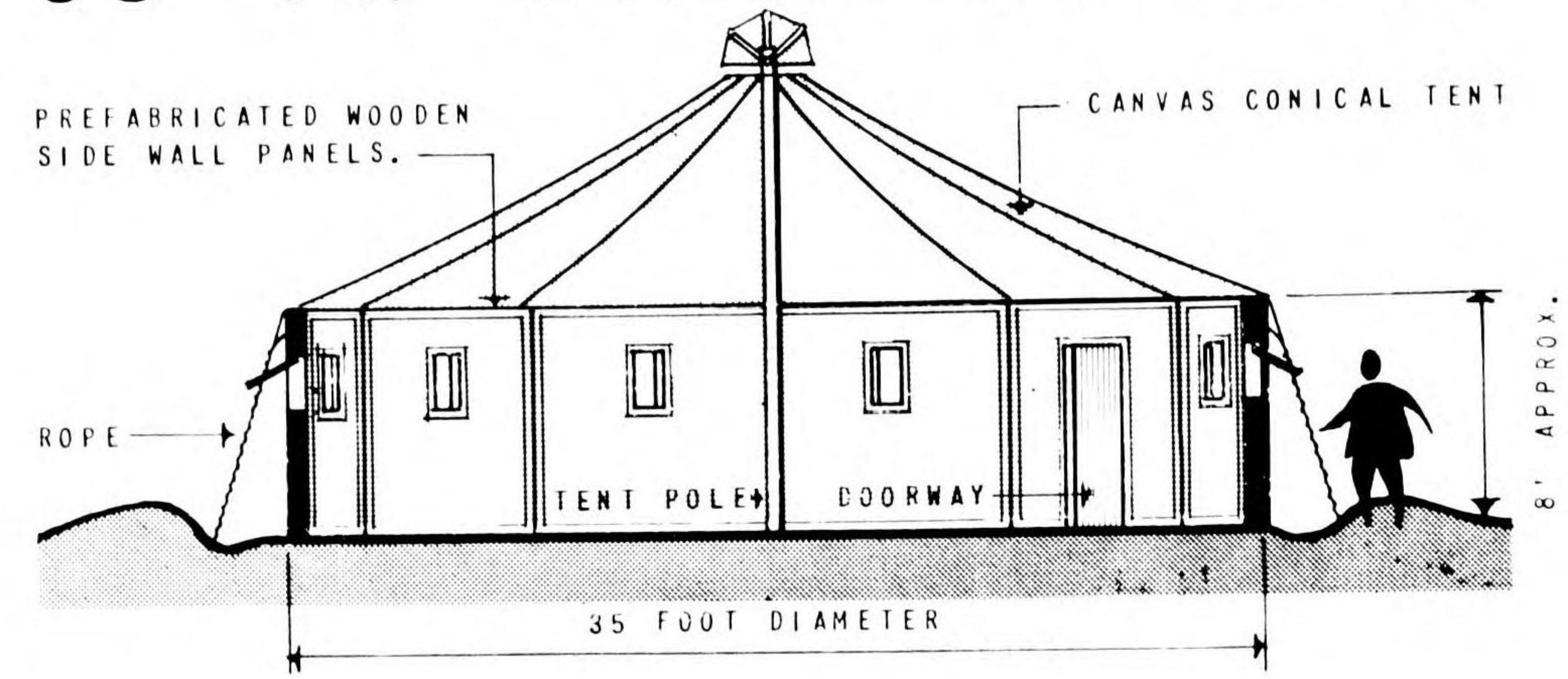


# TENTS

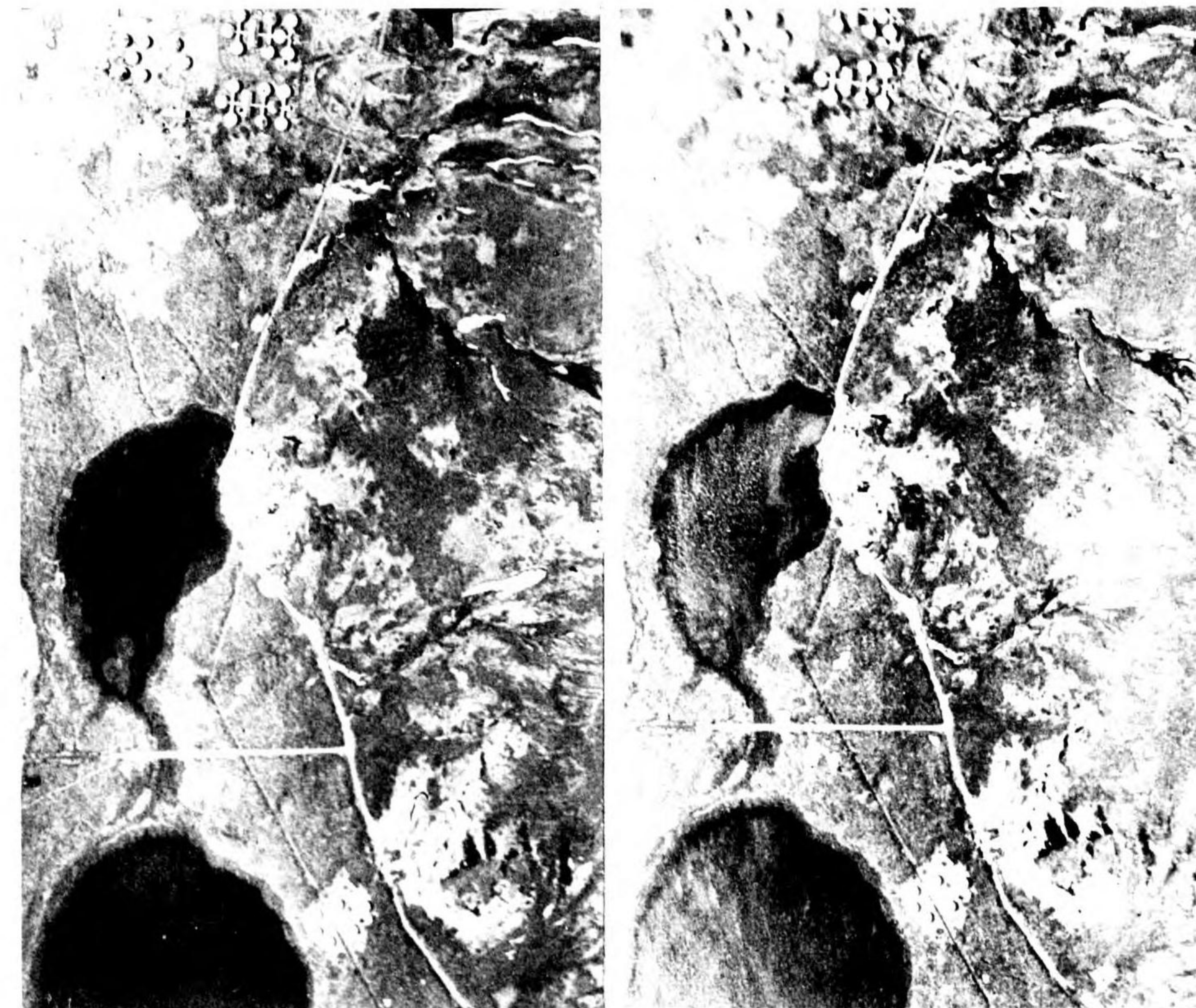
## PREFABRICATION



## 35 FT. DIAMETER TENT



## SECTION THRU PREFABRICATED TENT

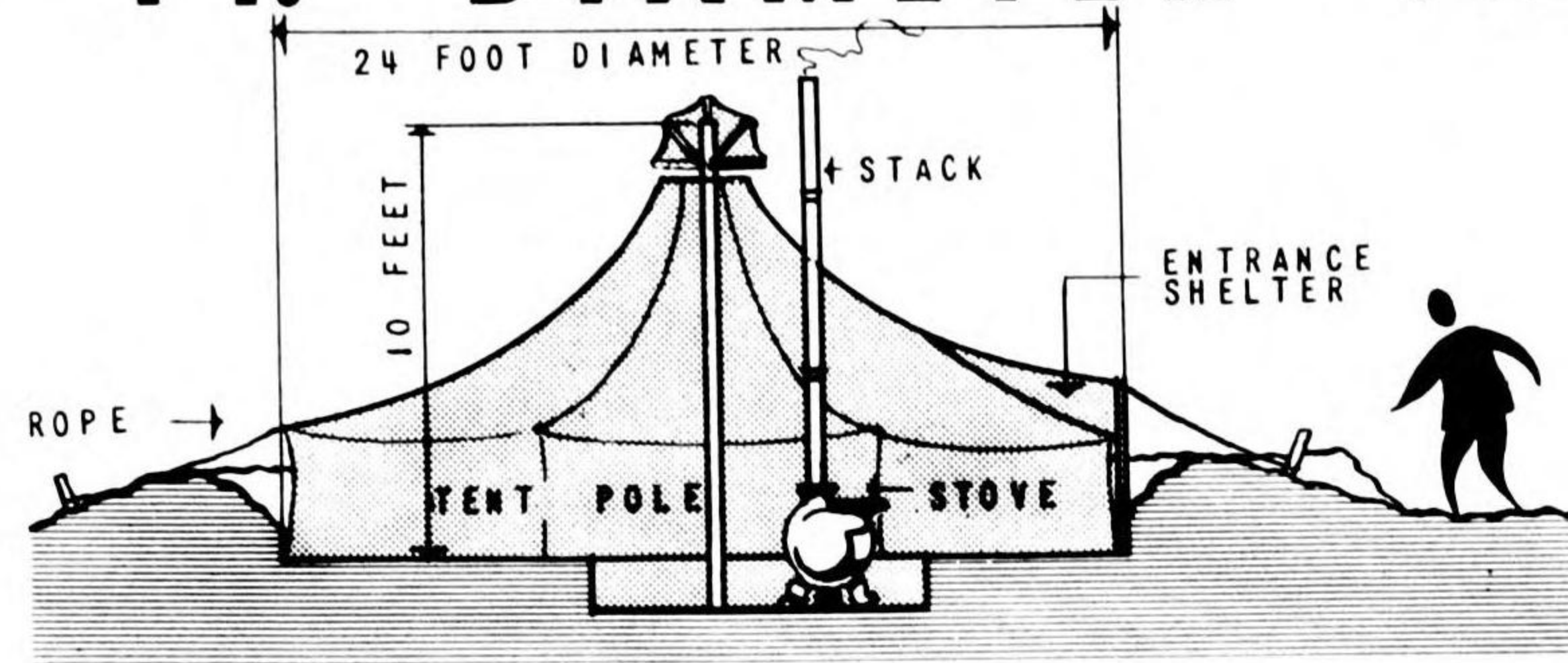


35' DIAMETER TENTS • PARAMUSHIRO

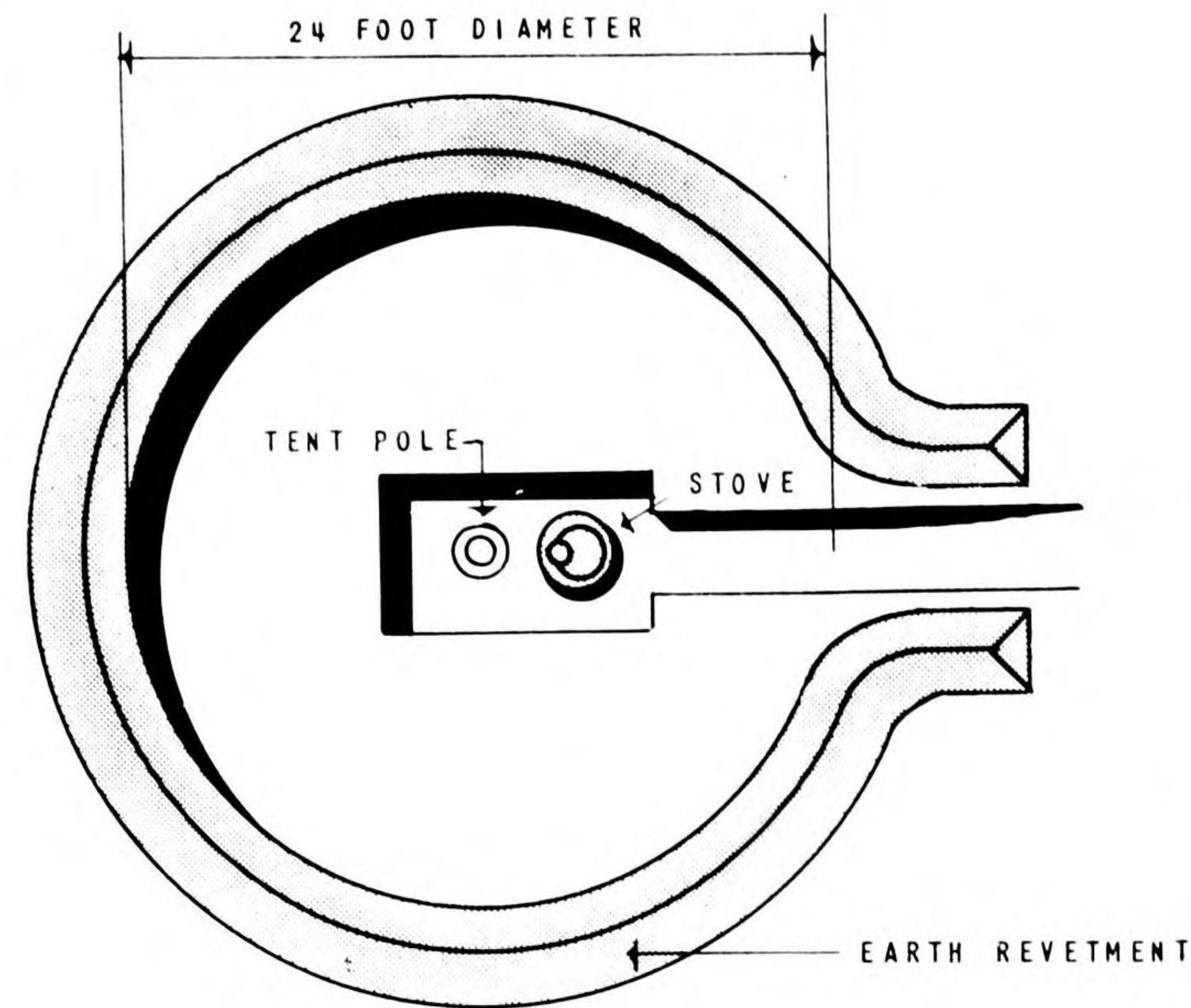




### 24 FT. DIAMETER TENT

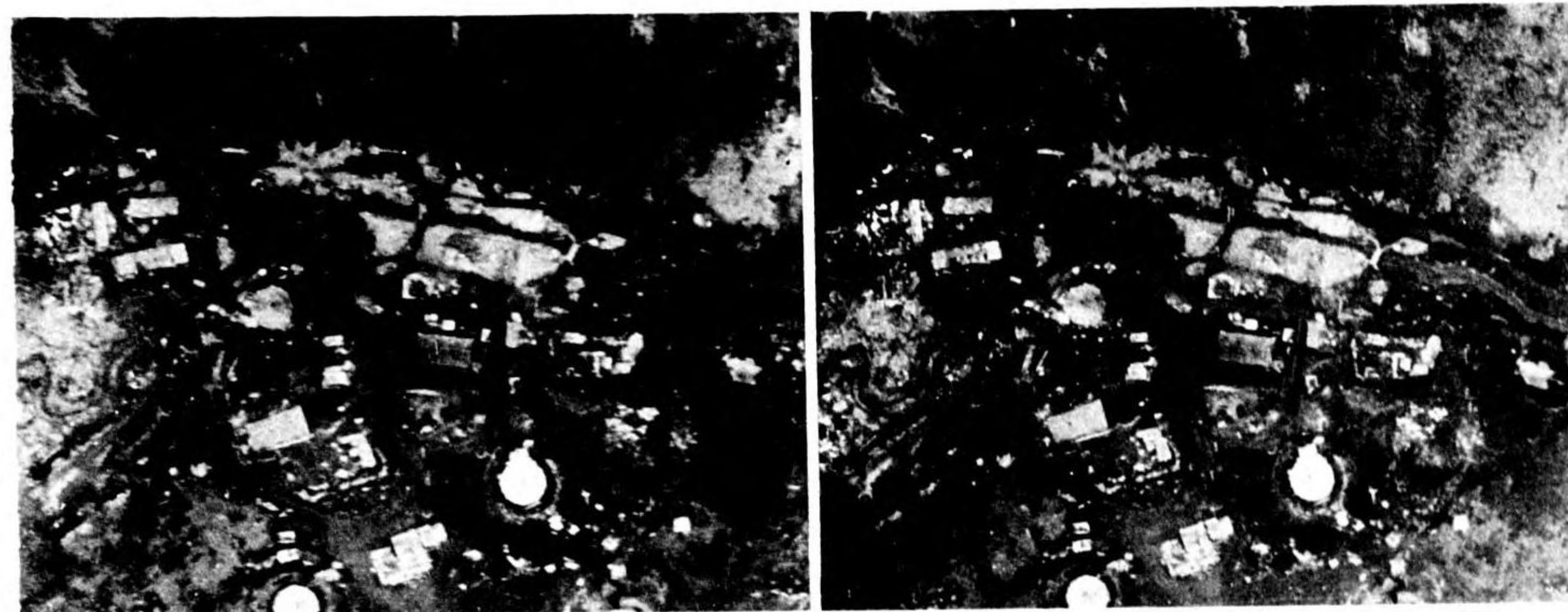


SECTION THRU TENT

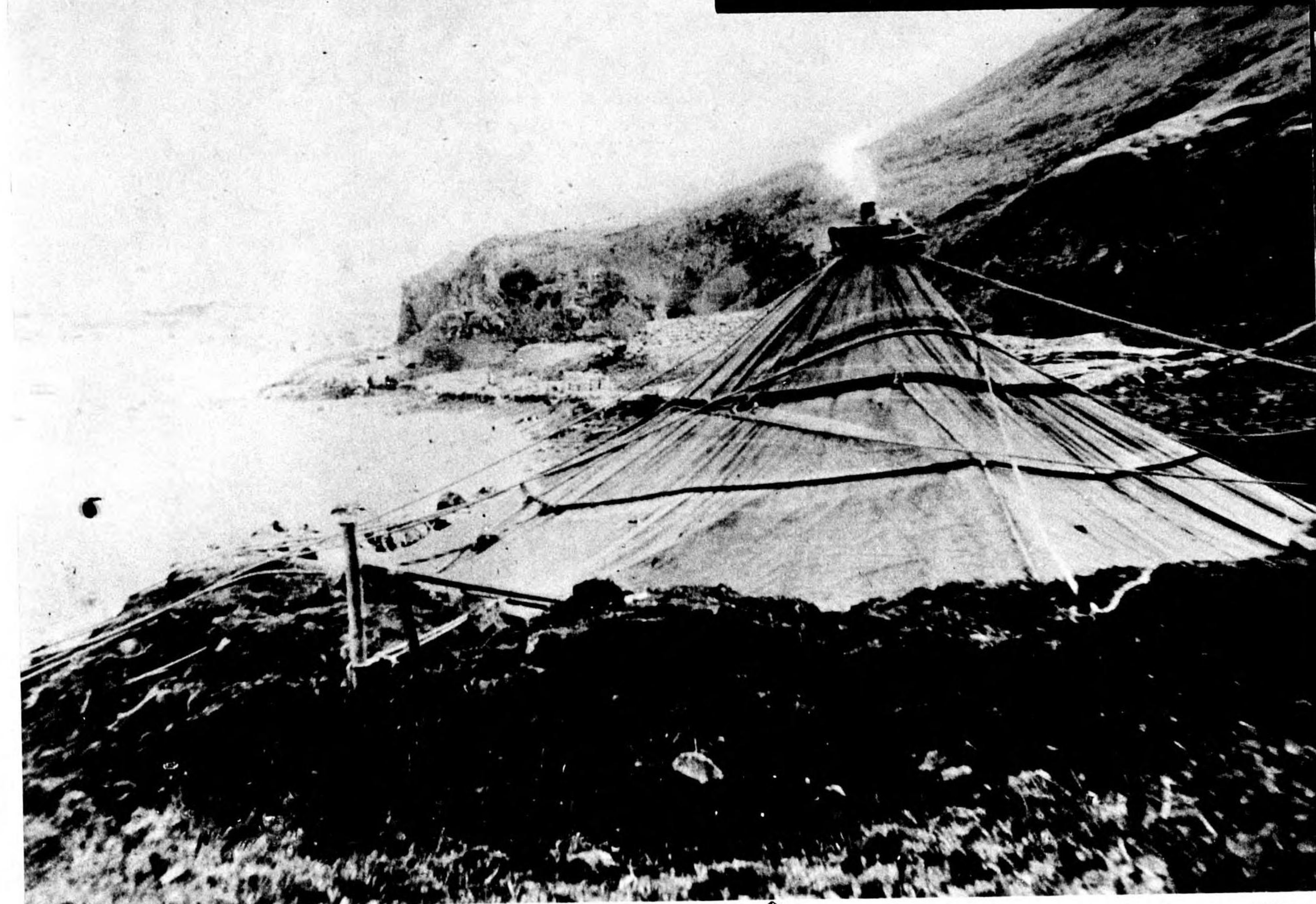


PLAN OF TENT BASE

REVETTED CONICAL TENTS • • KISKA



24' DIAMETER CONICAL TENT • • ATTU



24' DIAM. CONICAL TENT - ATTU  TENT BASE ATTU





# TENTS

## PREFABRICATION

24' DIAMETER TENT  
Page 4.03

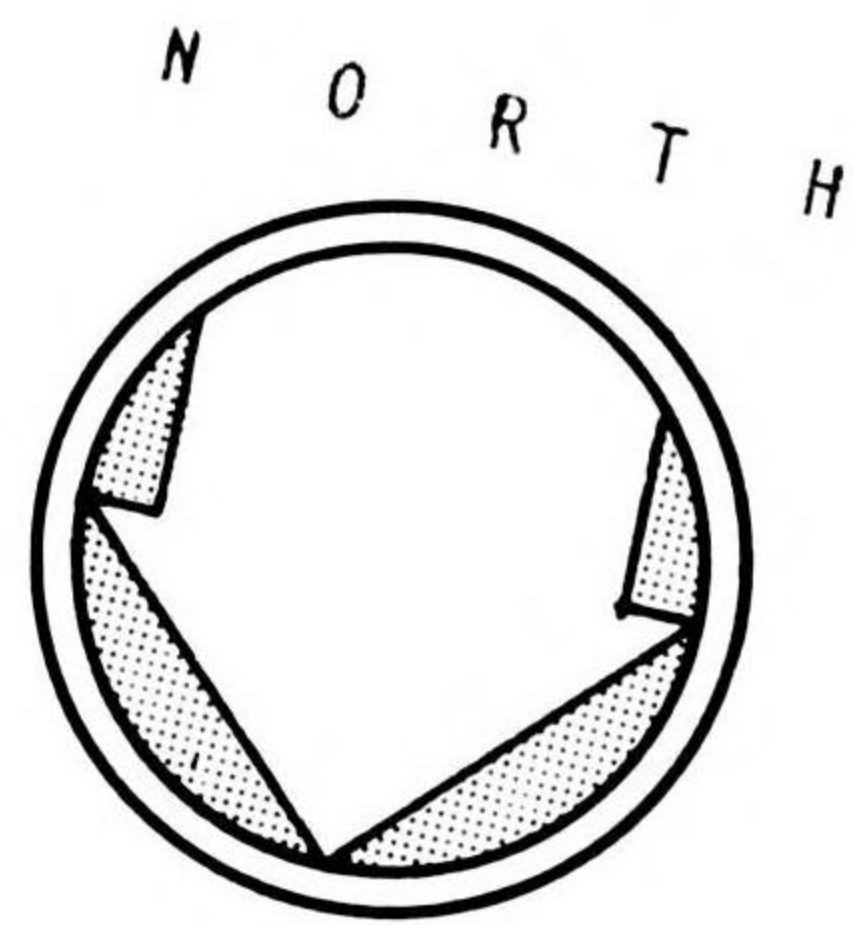
35' DIAMETER TENT  
Page 4.02

BOAT BEACHING AREA

CONSTRUCTION CAMP

35' DIAMETER TENT  
Page 4.02

WEATHER STATION  
Page 11.09



**SOUTHEASTERN**  
4.04 RESTRICTED

**MATSUWA ISLAND**

L I M I T  
O F  
S T E R E O  
S C O P I C  
C O V E R  
A G E

140' x 101' HANGAR  
Page 15.02

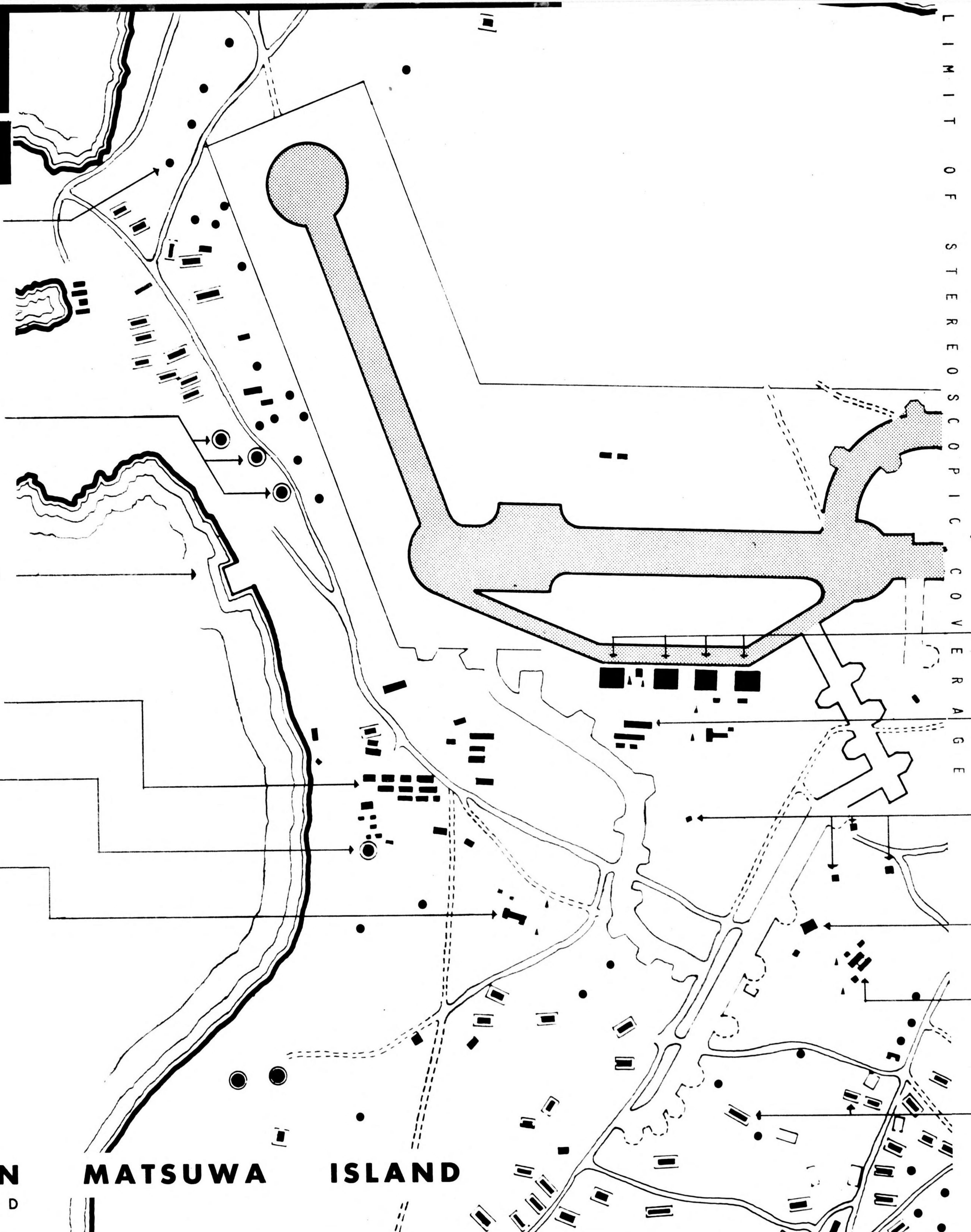
COMMUNICATION CENTER

20' x 20' D.F. BUILDING  
Page 11.02

30' x 38' GENERATOR BLDG.  
Page 11.05

POWER PLANT

TRIANGULAR BARRACKS  
Page 3.11



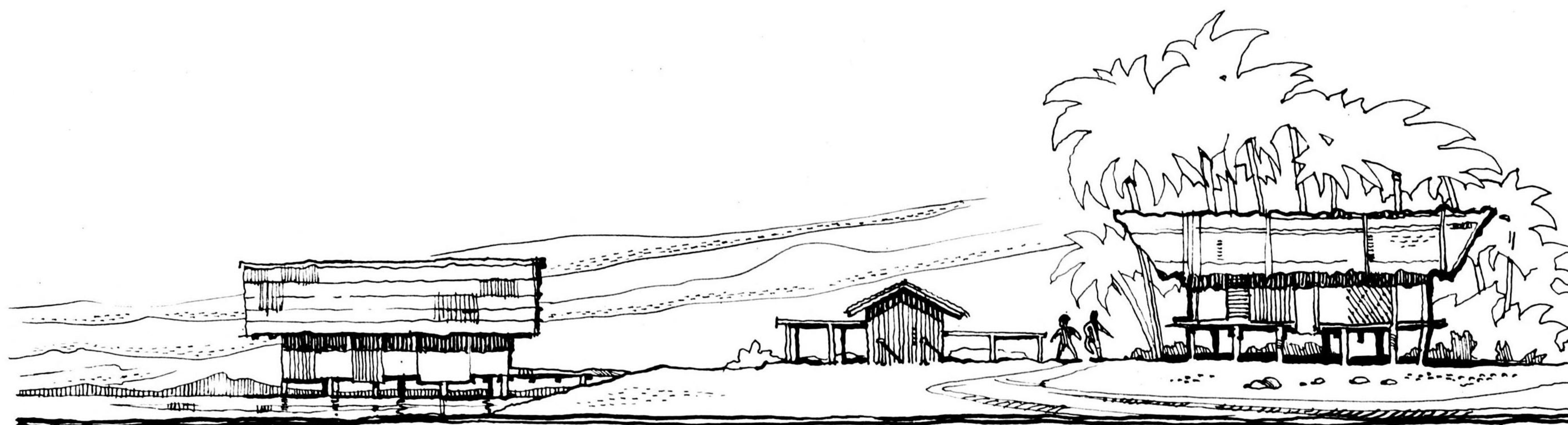


# TENTS

## PREFABRICATION







## N A T I V E B U I L D I N G S

**T**he Japanese often employ existing native settlements as housing for military units. For this reason, familiarity with native structural forms may aid in the determination of enemy strength.

Native settlements near Japanese airfields are usually militarily occupied; particularly if excessive track activity is in evidence. Unoccupied native layouts contain little or no track activity that can be attributed to the use of mechanized equipment.

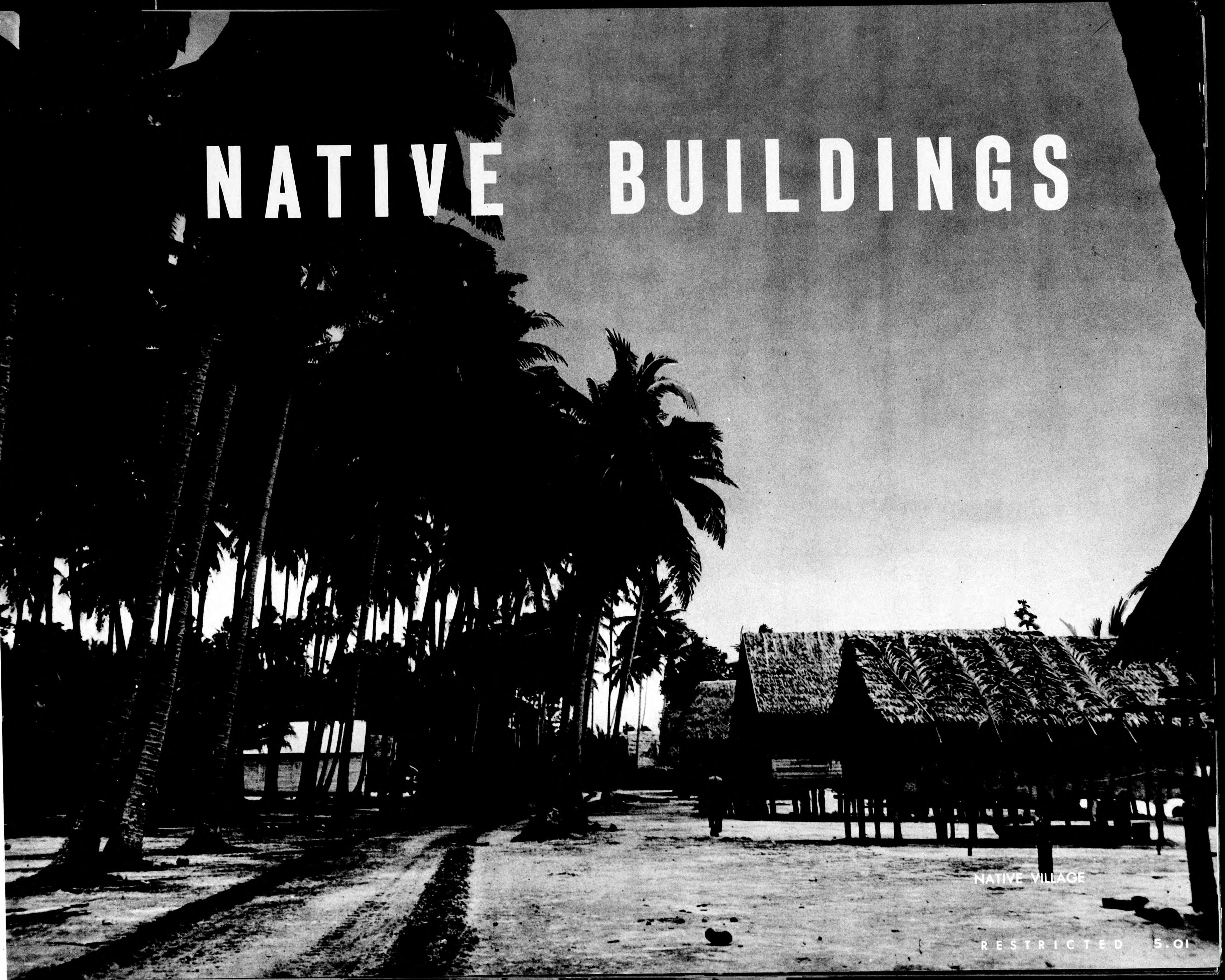
The typical palm frond thatched roof has in some cases been employed by the Japanese. Yap Airfield is serviced by the extended ridge type of native structure.

Native shacks are often constructed to serve as quarters for isolated gun battery personnel. Native type structures, such as those present on Saipan, serve as housing in the same manner as standard Japanese barracks construction.

Offshore groups and isolated settlements containing native missions can generally be considered militarily unoccupied.



# NATIVE BUILDINGS

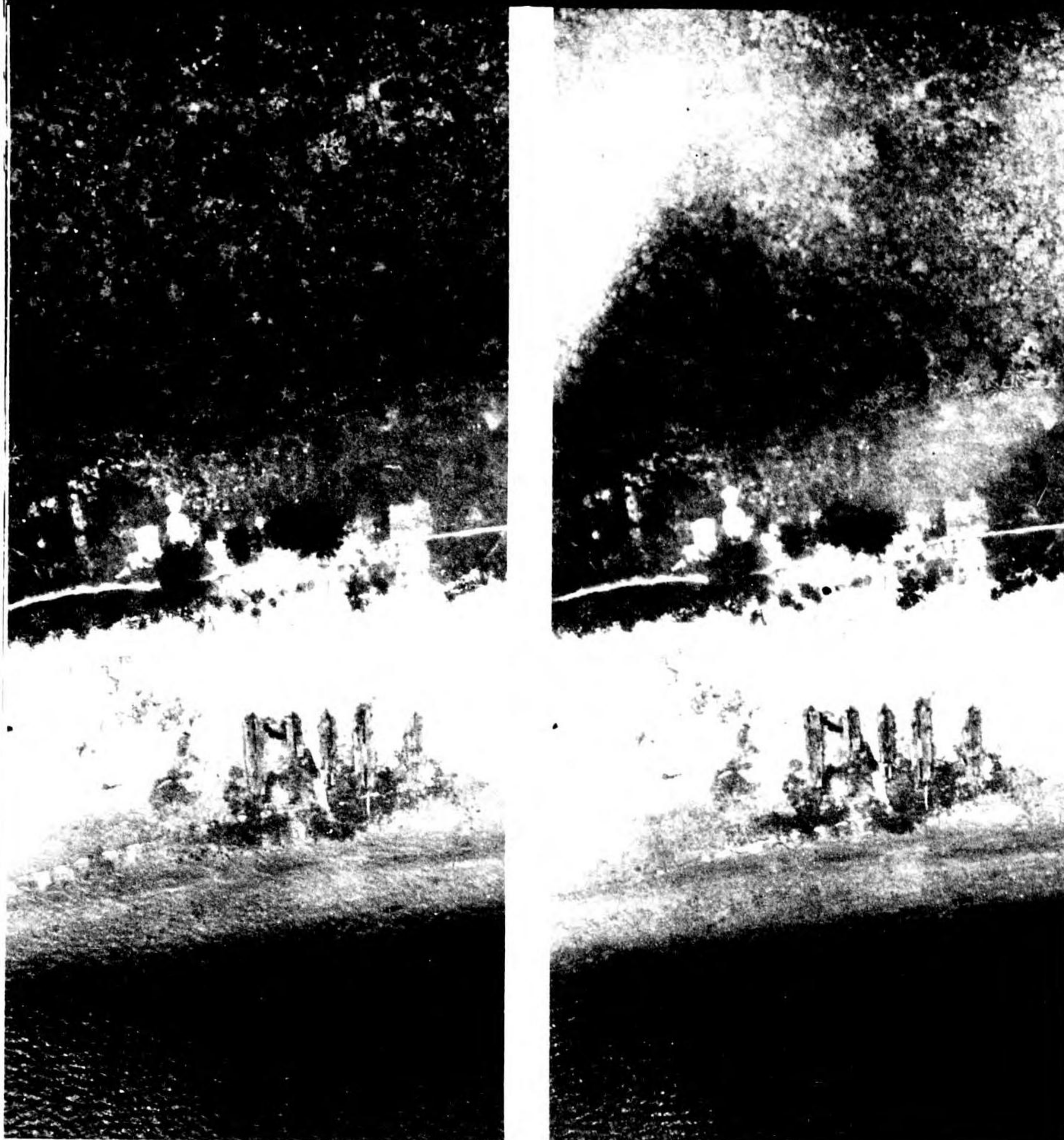


NATIVE VILLAGE



# NATIVE BLDGS.

## WOOD CONSTRUCTION



OFFSHORE BLDGS-BOSNER   MOKIL



5.02 RESTRICTED

## TYPICAL SHORELINE NATIVE SETTLEMENTS



EXTENDED RIDGE NATIVE BUILDINGS

NATIVE VILLAGE PALAU



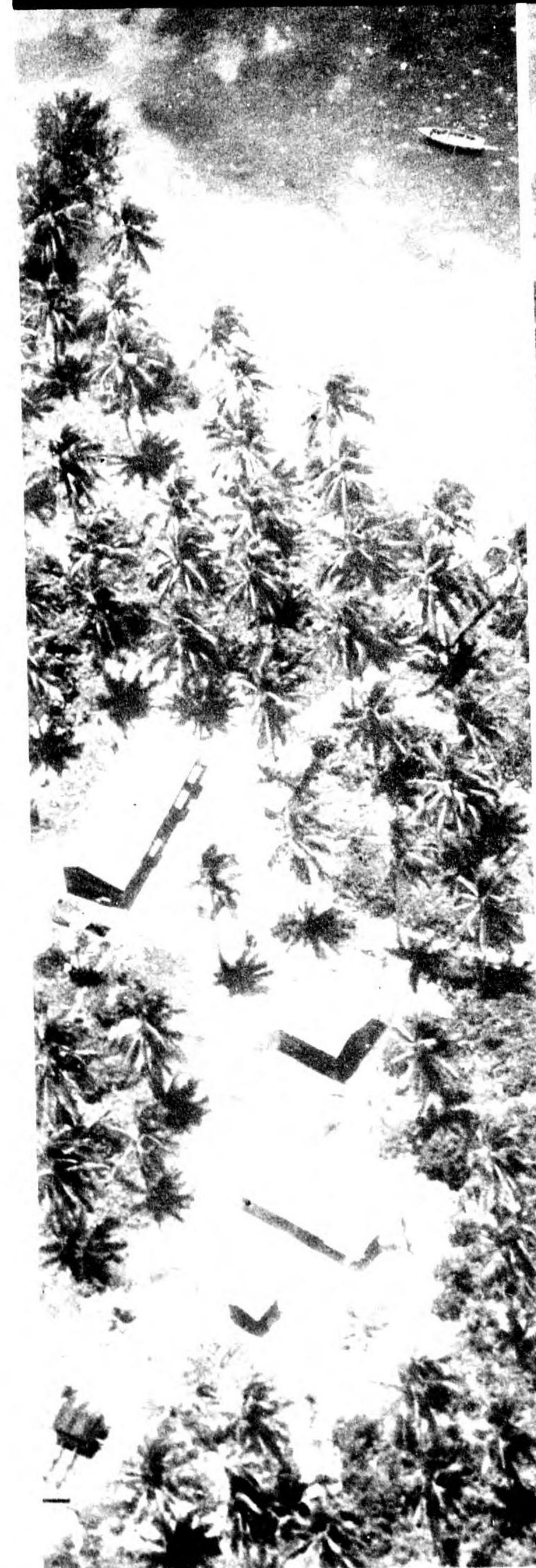
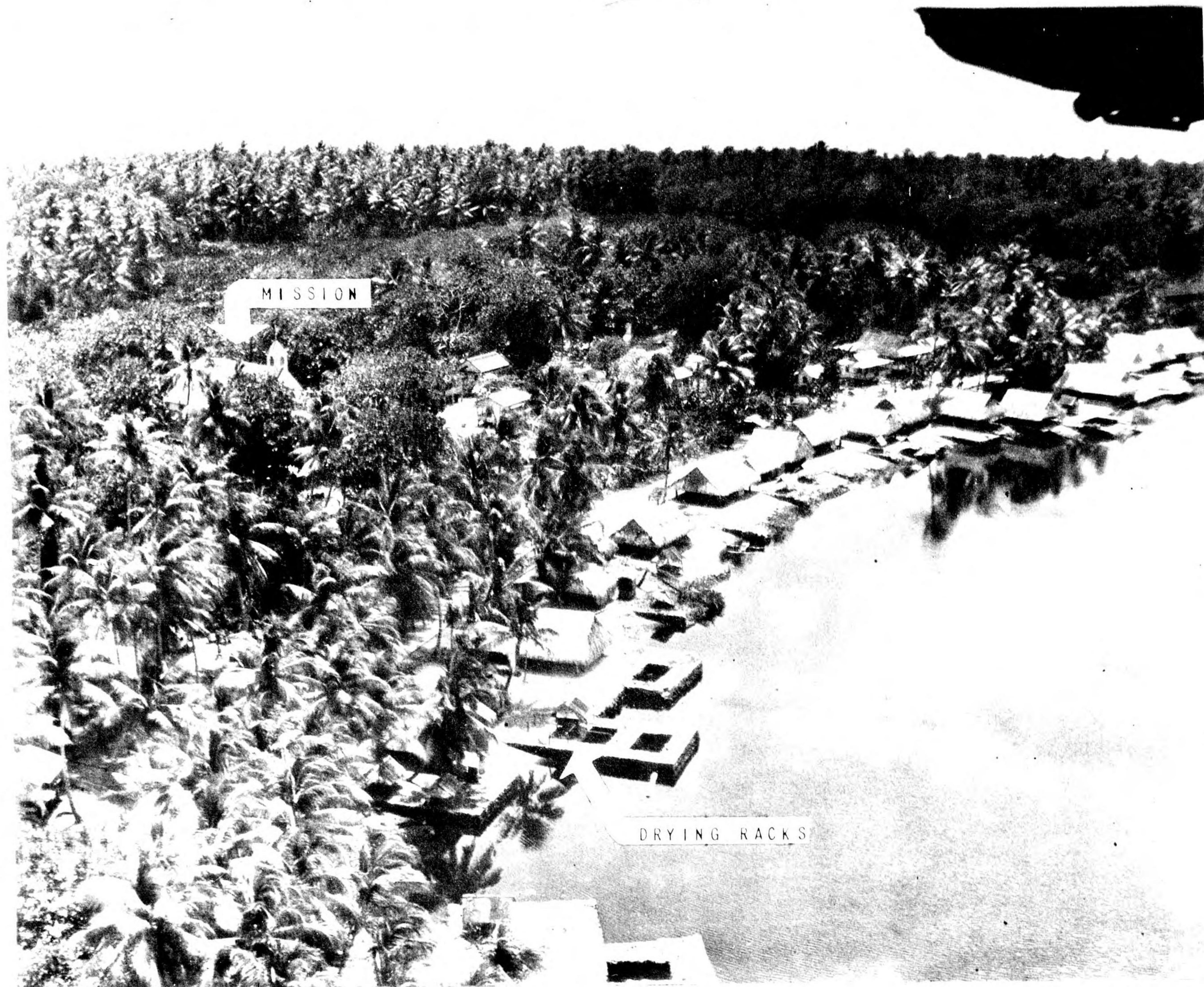
**N**ative settlements in general, hug shorelines and at Mokil, extend offshore. Offshore stone foundations are tied to the land mass by wood or stone piers. The native village on Palau contains the typical clipped hip thatched roof with overhang in most cases exceeding 4 feet.



# NATIVE BLDGS.

## TYPICAL NATIVE SETTLEMENT - PALAU

### WOOD CONSTRUCTION



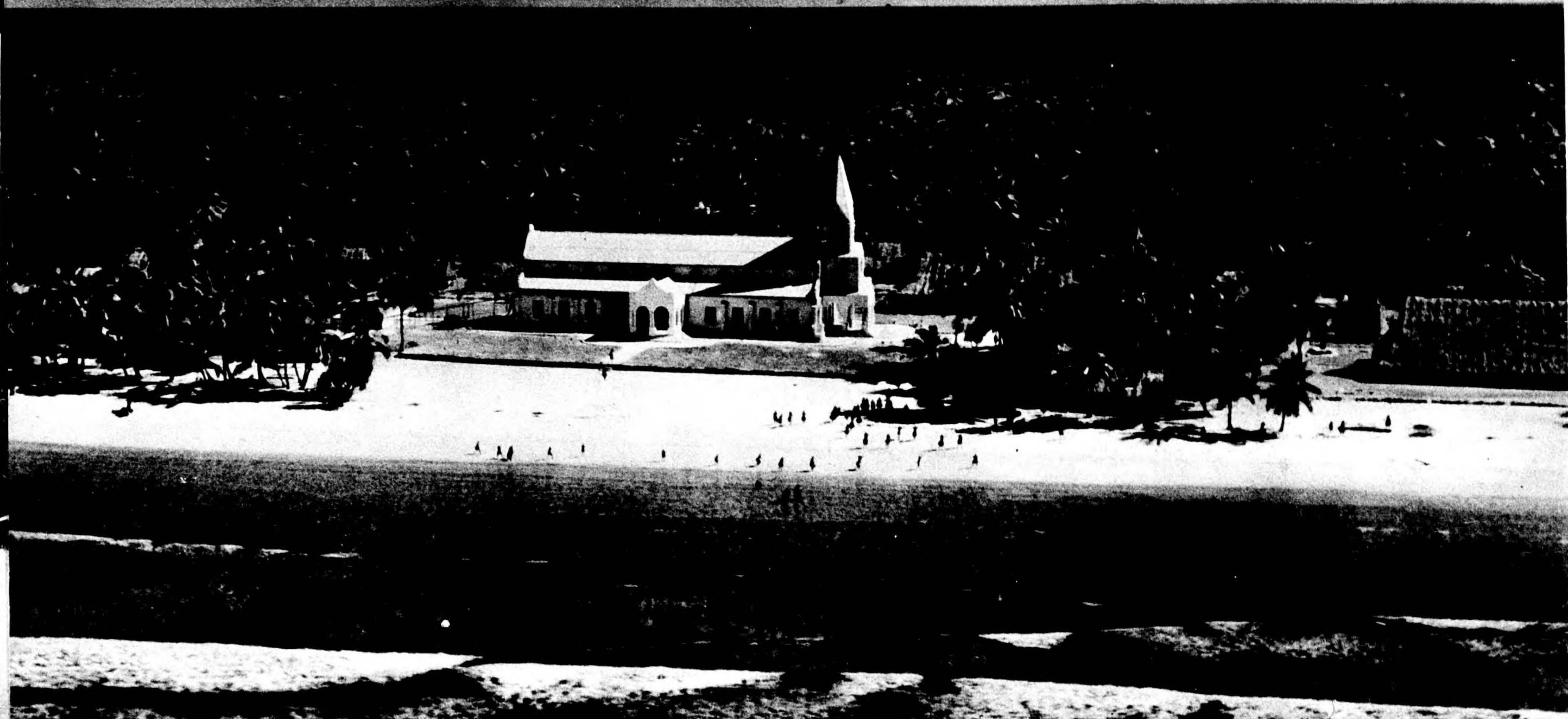
NATIVE VILLAGE

PALAU DRYING RACKS

PALAU



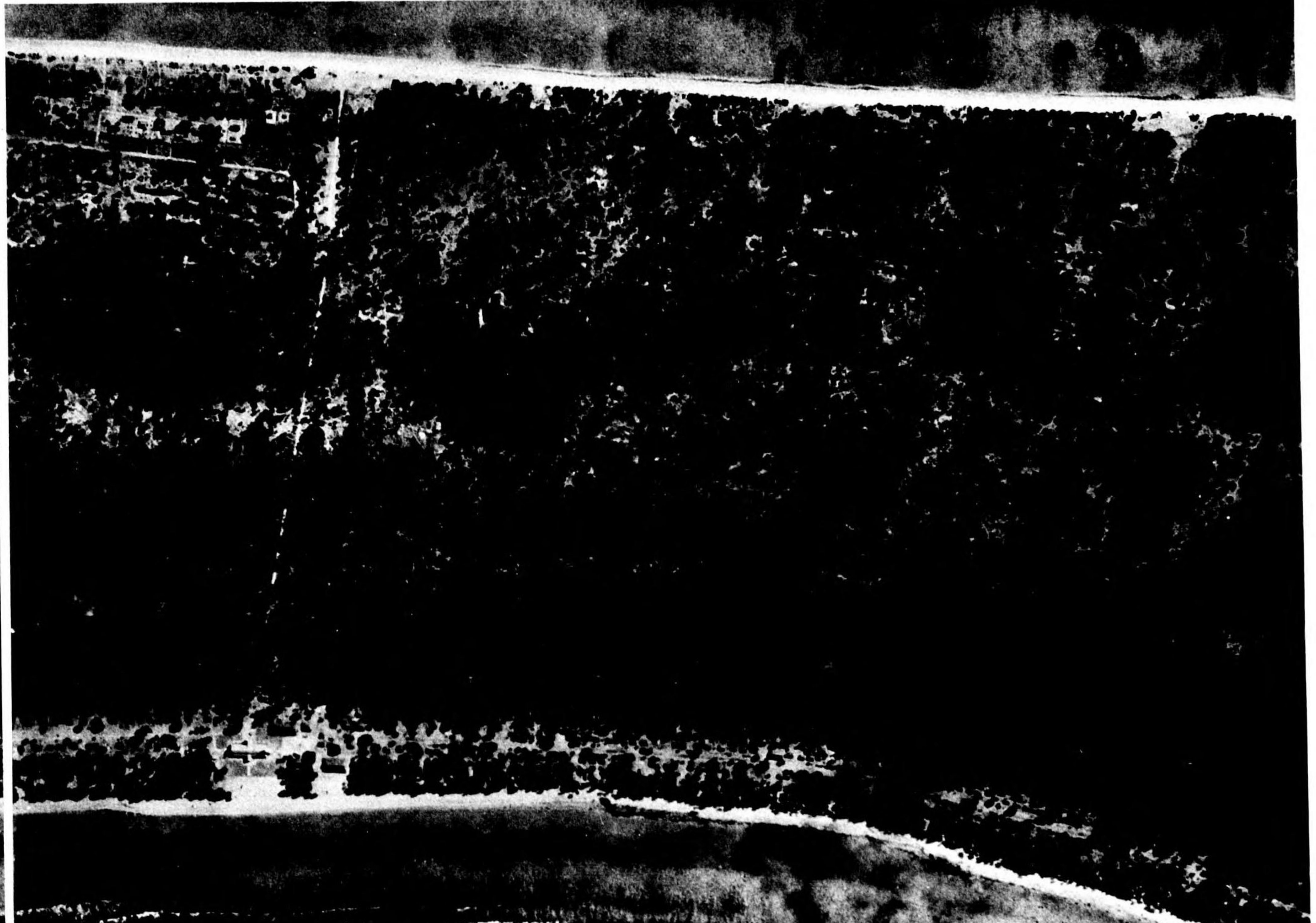
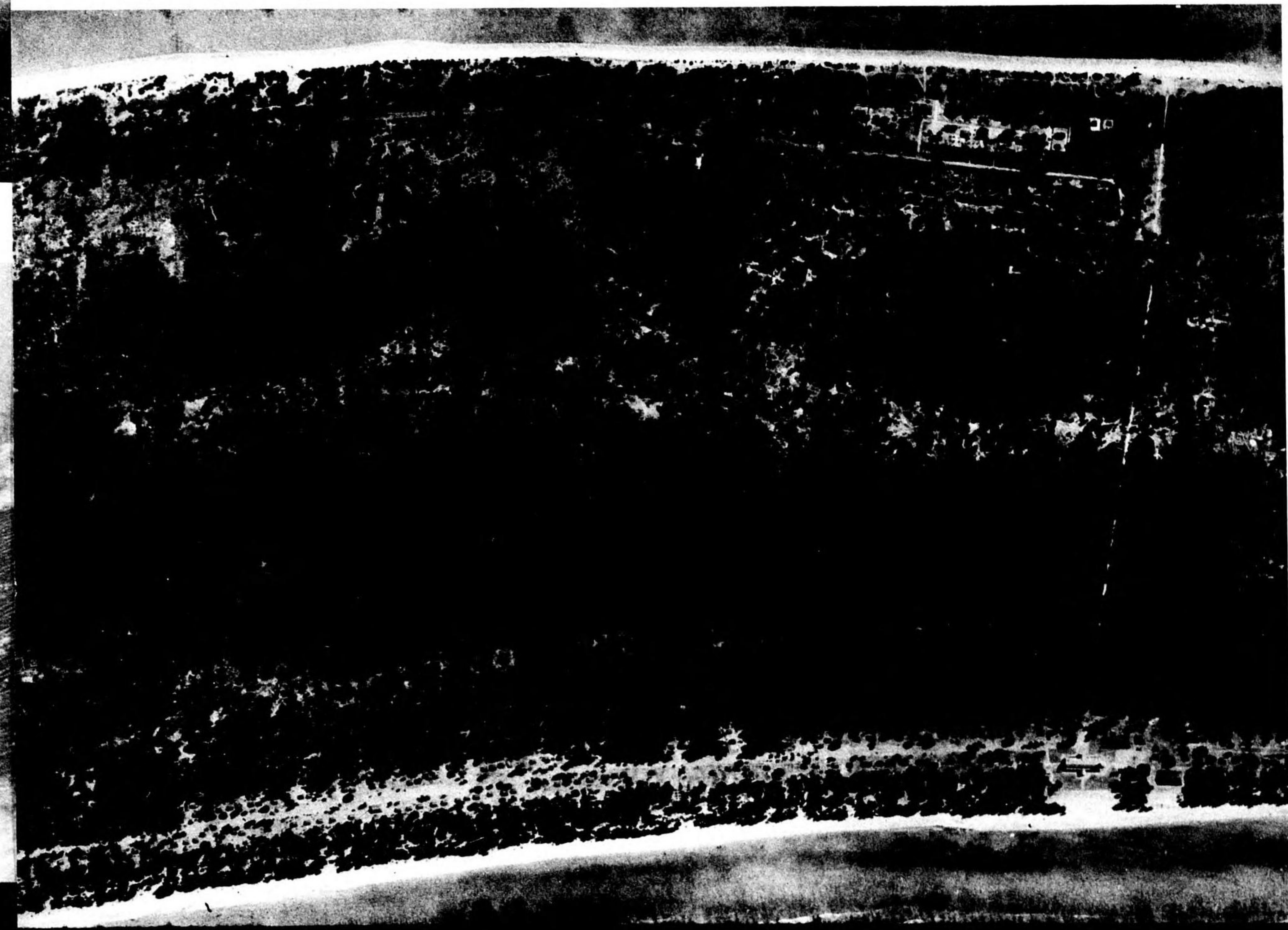
# NATIVE BLDGS.



MISSION AND NATIVE VILLAGE · TAMANA, GILBERTS



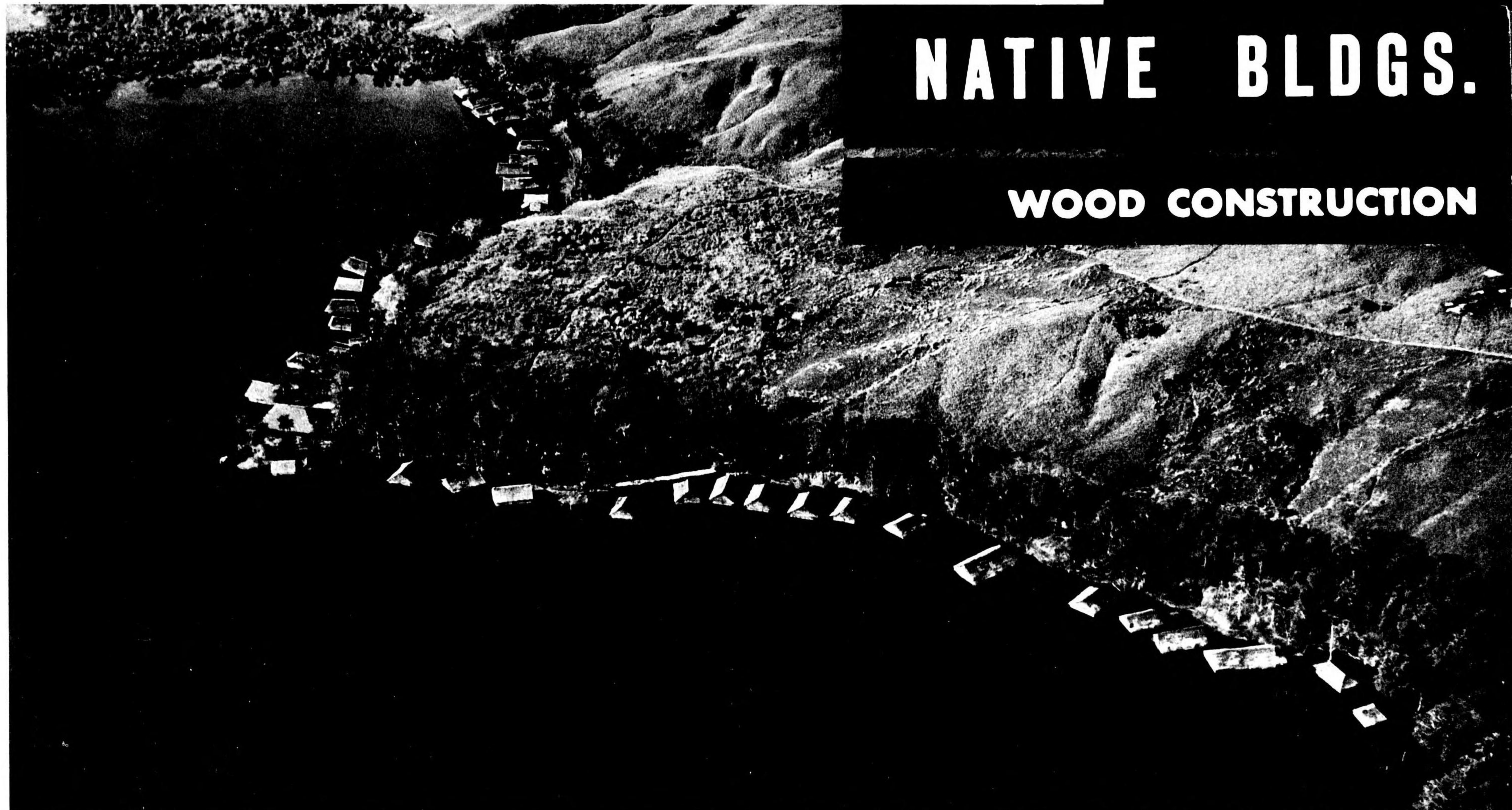
MISSION AND NATIVE VILLAGE · NAURU





## OFFSHORE STRUCTURES

The natives on Hollandia built their villages off the shore of an island lake apparently to escape the household damage inflicted by the prevalent small animal life. The mountainous terrain may also have prohibited native construction on land. Typical thatched roof and side wall native construction is set on wooden piles.



# NATIVE BLDGS.

## WOOD CONSTRUCTION

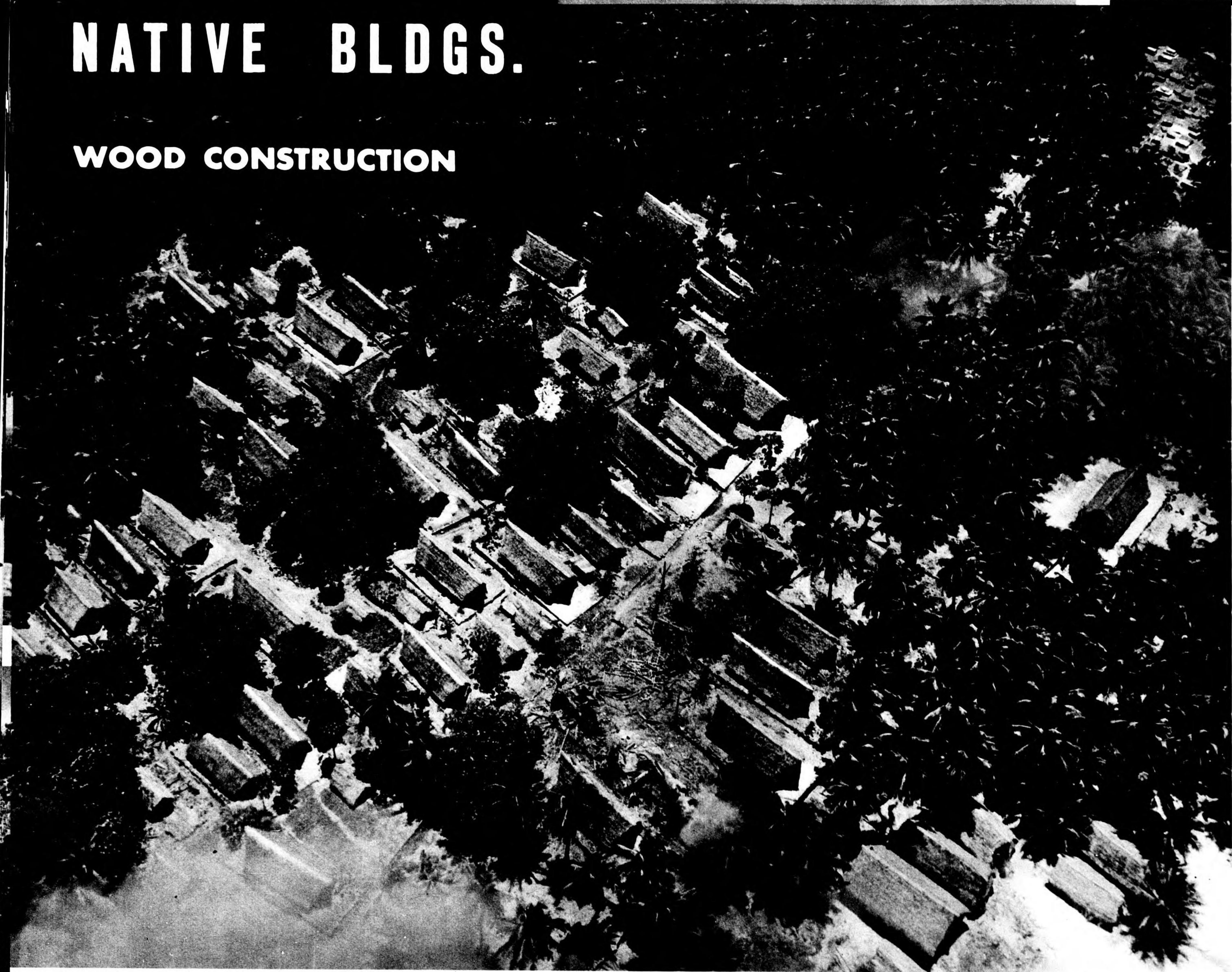
OFFSHORE NATIVE VILLAGE IN SENTANIA AREA . . . HOLLANDIA





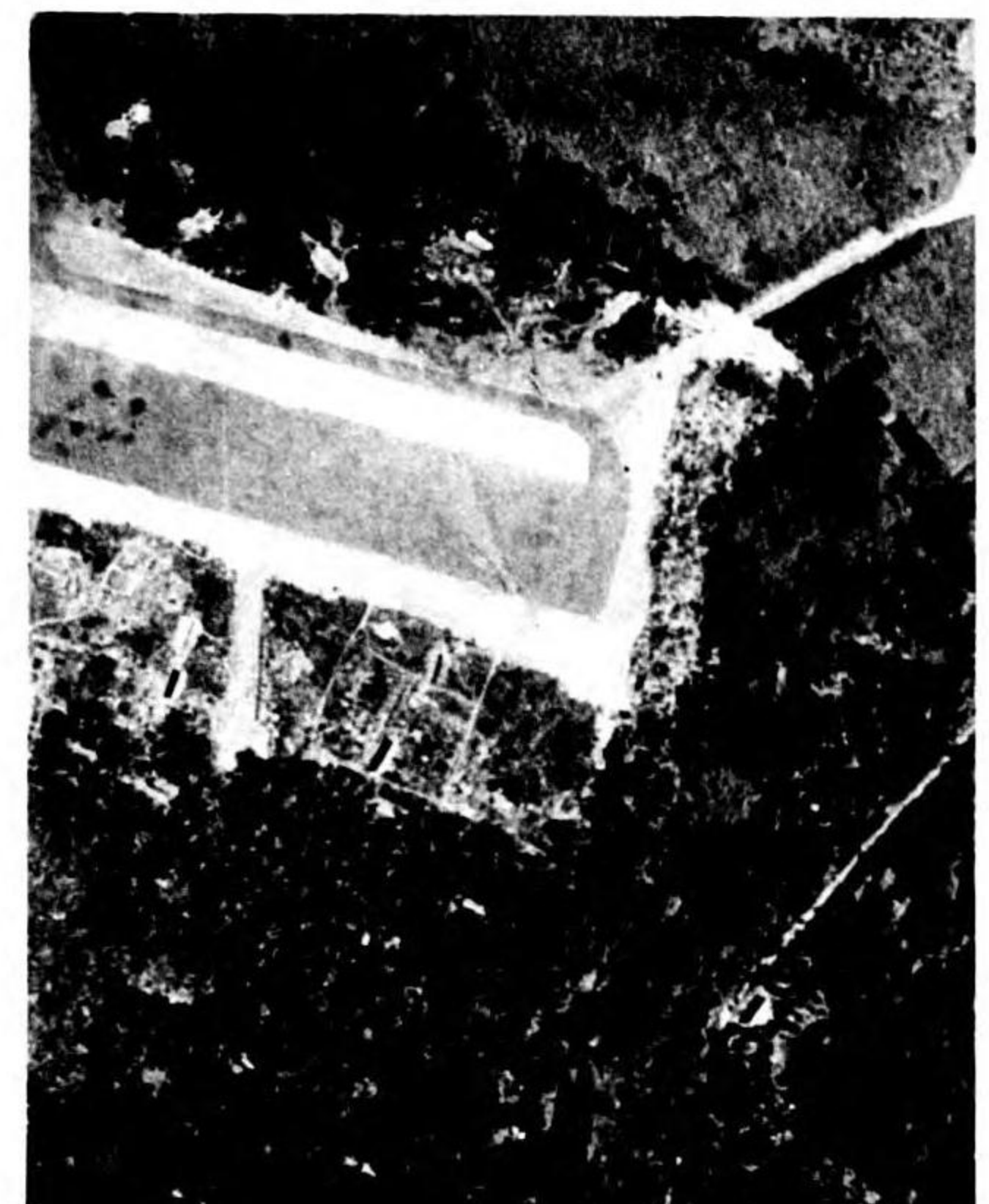
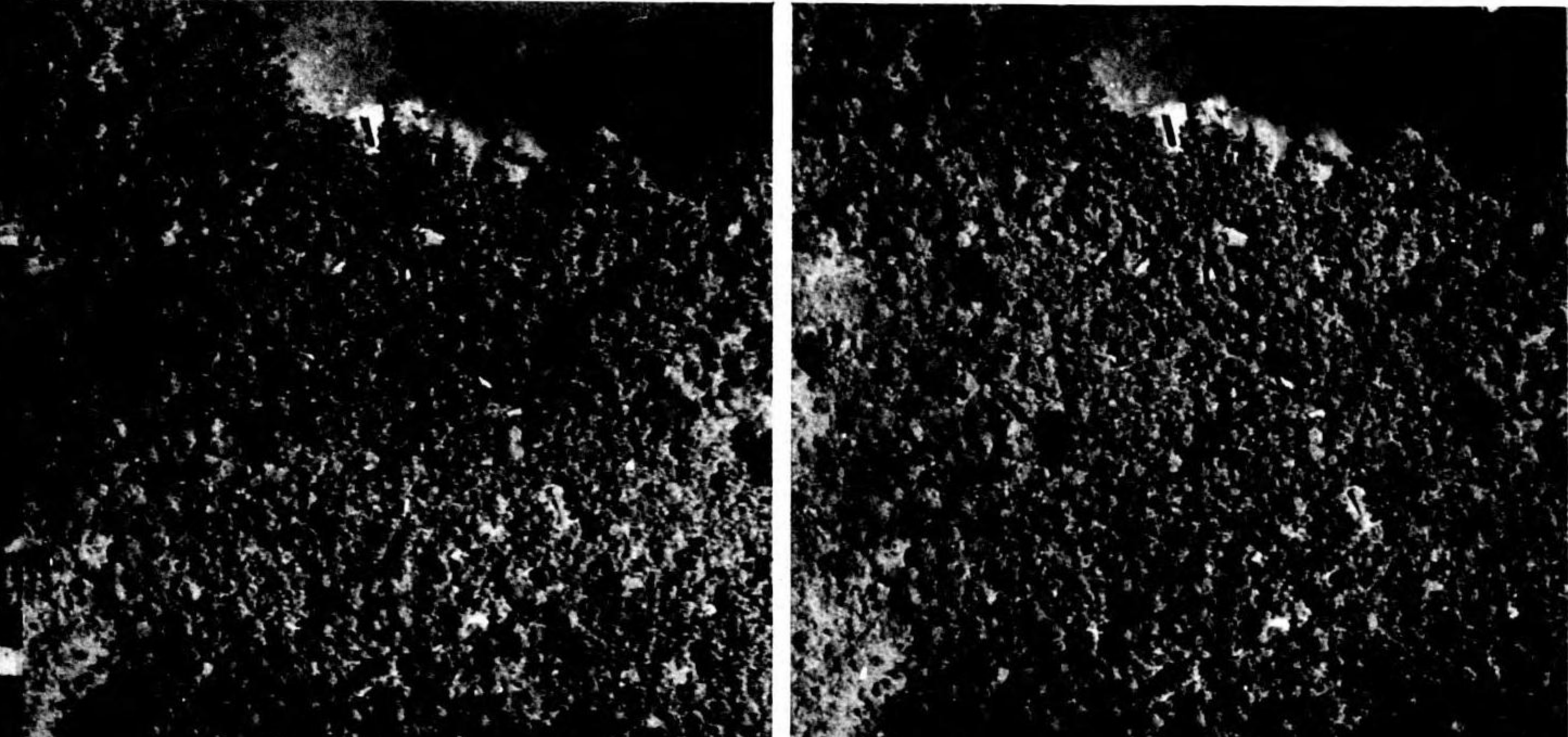


# NATIVE BLDGS.

## WOOD CONSTRUCTION



EXTENDED RIDGE TYPE NATIVE BLDGS. • PALAU   STEREO STUDIES • YAP



## EXTENDED RIDGE TYPE

The extended ridge type of native construction present on Palau provides additional protection from rain on the gable ends of the structures. Note the close spacing between buildings and the existence of a native graveyard in the upper right corner of the Palau illustration. The Japanese built the extended ridge type native structure to house airfield personnel on Yap.



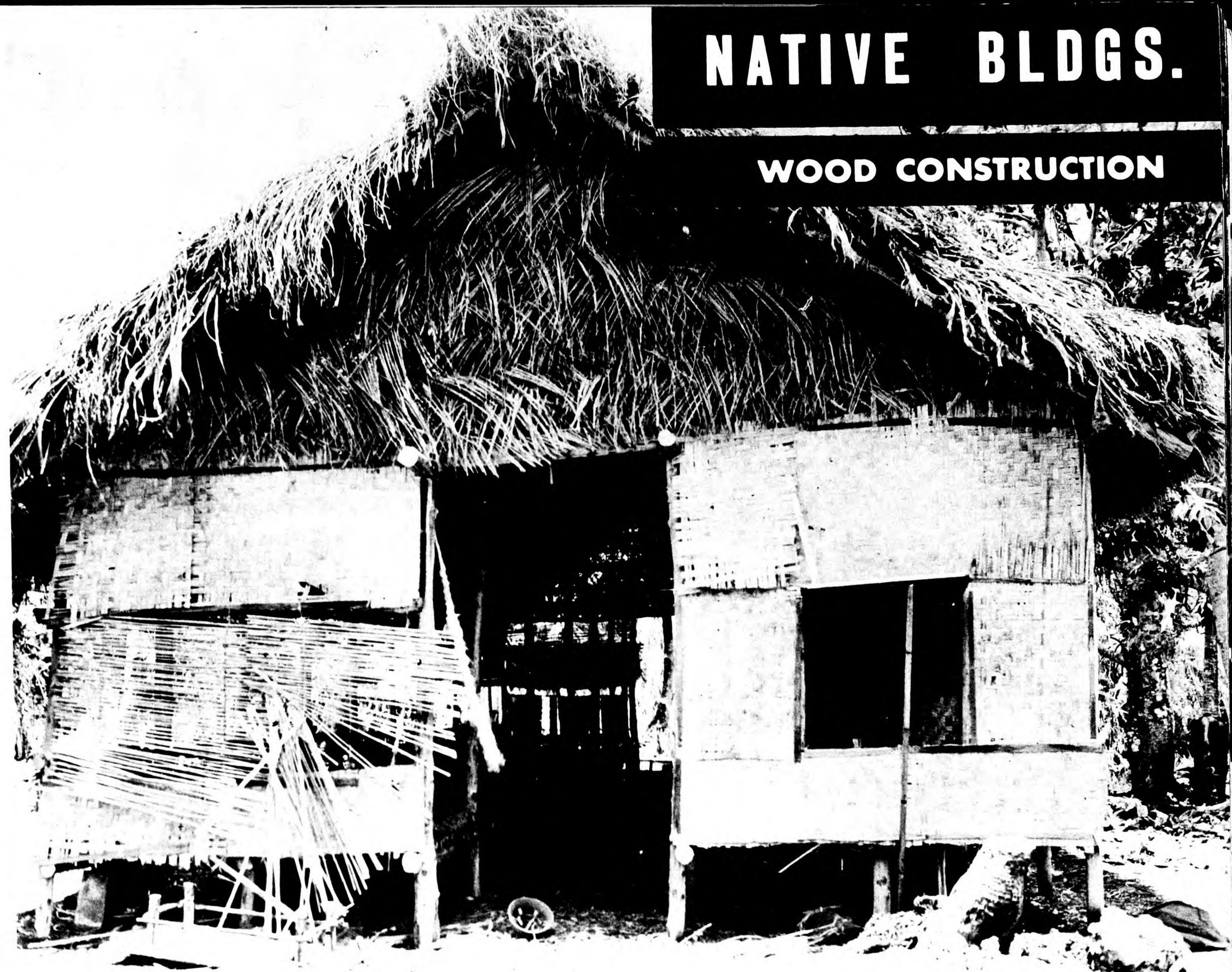
# NATIVE BLDGS.

## WOOD CONSTRUCTION

### NATIVE SHACK BARRACKS

Native type construction is often erected specifically for military use as housing. Domestic timber is employed and erected without the use of nails or metal fittings. The roof of a wooden framed structure on Majuro has been thatched. Gun battery personnel on Wewak were housed in native shacks.

### NATIVE SHACKS AND A-A BATTERY-WEWAK



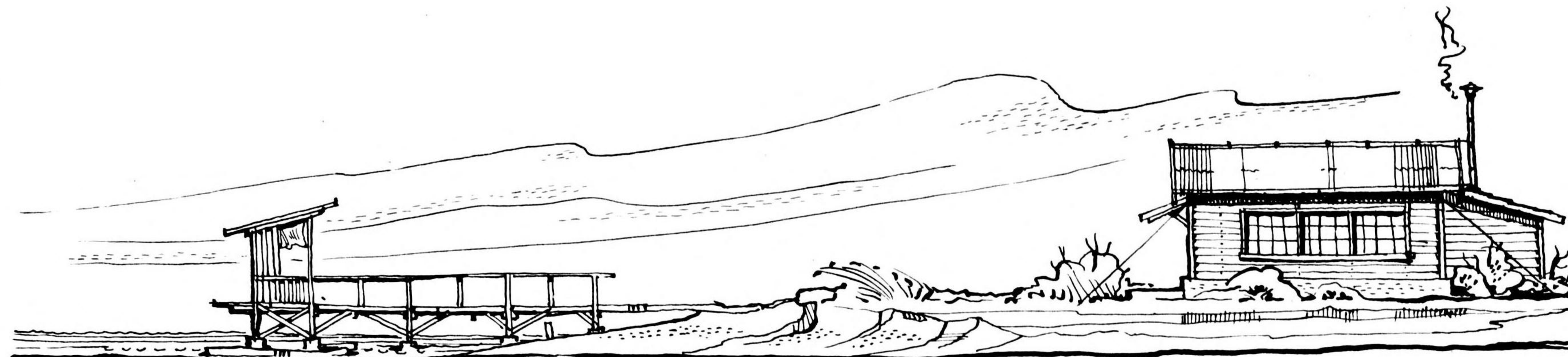
THATCHED ROOF BUILDING

MAJURO

NATIVE SHACK USED AS TROOP BARRACKS · SAIPAN  SHORELINE NATIVE SHACKS







## L A T R I N E S   A N D   B A T H   H O U S E S

**B**arracks buildings are serviced by two smaller structures; latrines and wash houses. Although constructed as separate units, they are often tied to barracks buildings by covered passageways. Latrine and wash house facilities, for sanitary reasons, are rarely combined.

The offshore form of latrine is a common Japanese type, adopted by U. S. units because of its sanitary aspects. Built on piers driven just offshore at low tide level, this open shed-roofed structure is tied to the shore by a narrow pier. Barracks groups set near shorelines are serviced by this standard form.

Standard barracks buildings built inland are serviced by a 24x33 foot latrine and a 24x30 foot bath house.

The latrine is a wood framed structure set on a continuous concrete foundation. A septic tank lays below the concrete slab floor and is serviced by three vents set parallel to the ridge along one side wall. A one foot strip of louvers is set above the band of sliding 8 - light windows on the two ship lap sheathed side walls. The

gable roof is surfaced with corrugated galvanized iron. Rain water from the roof surfaces is gathered in gutters and fed to the standard 20 foot diameter cistern usually found adjacent to the structure. Head built up within the cistern is sufficient to force water into wash house facilities for reuse.

The 24x30 foot bath house is identical in construction to the latrine. The shed at the rear houses two hot water heaters serviced by a stove pipe stack. Interior facilities include a 12x20 foot rectangular concrete community bath.

A 12x18 foot gable roofed latrine services officers' quarters in the "T" formation building group. Construction is identical to the 24x33 foot type. Interior facilities include 5 individual water closets instead of the 12 found in the 24x33 foot type.

The four standard forms discussed are illustrated in the ensuing 4 pages.



# WASH HOUSES



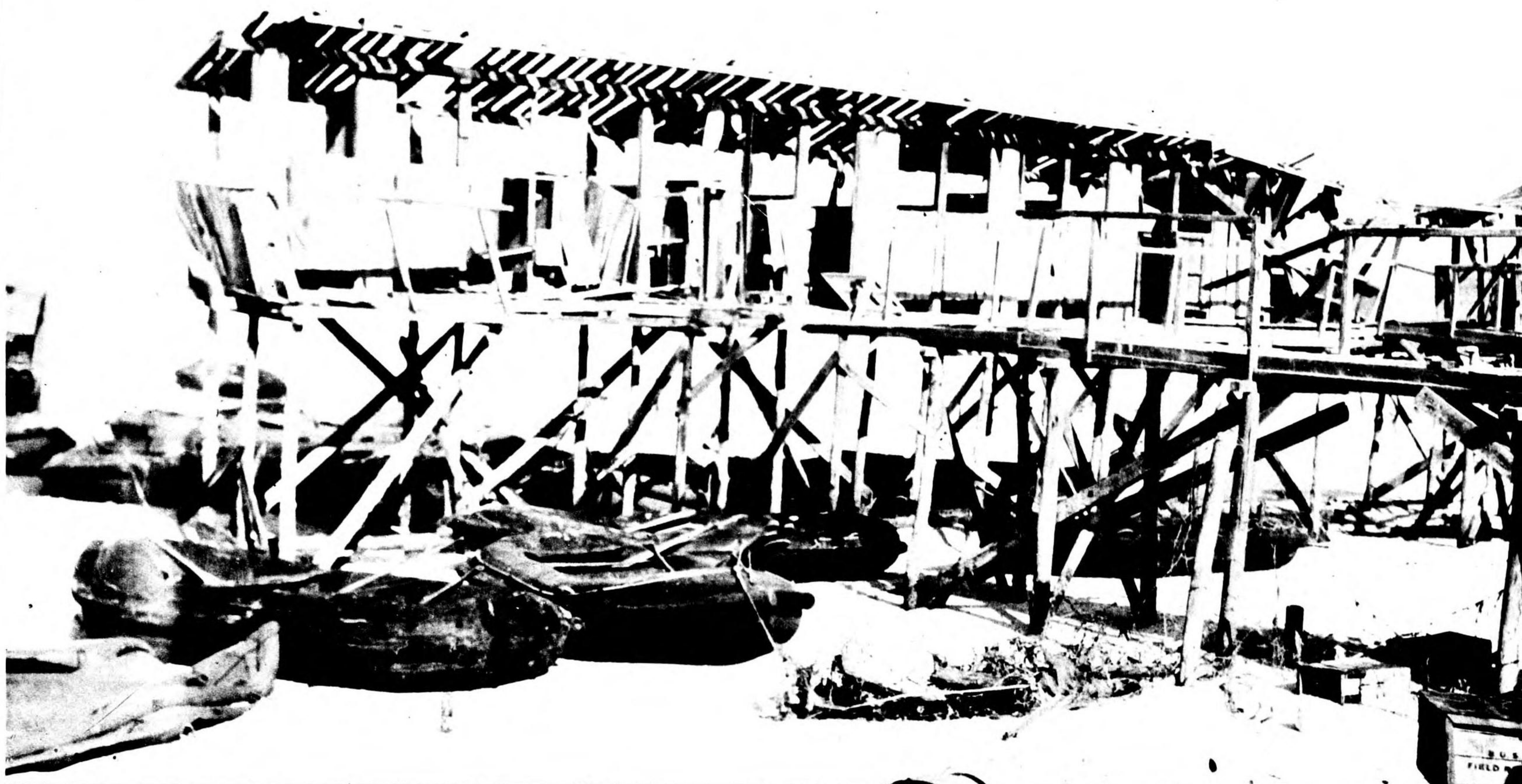
LATINE AND BATH HOUSE, PARRIT ISLAND, MAJURO

RESTRICTED 6-01



# LATRINES

## WOOD CONSTRUCTION



OFFSHORE LATRINES  
T A R A W A

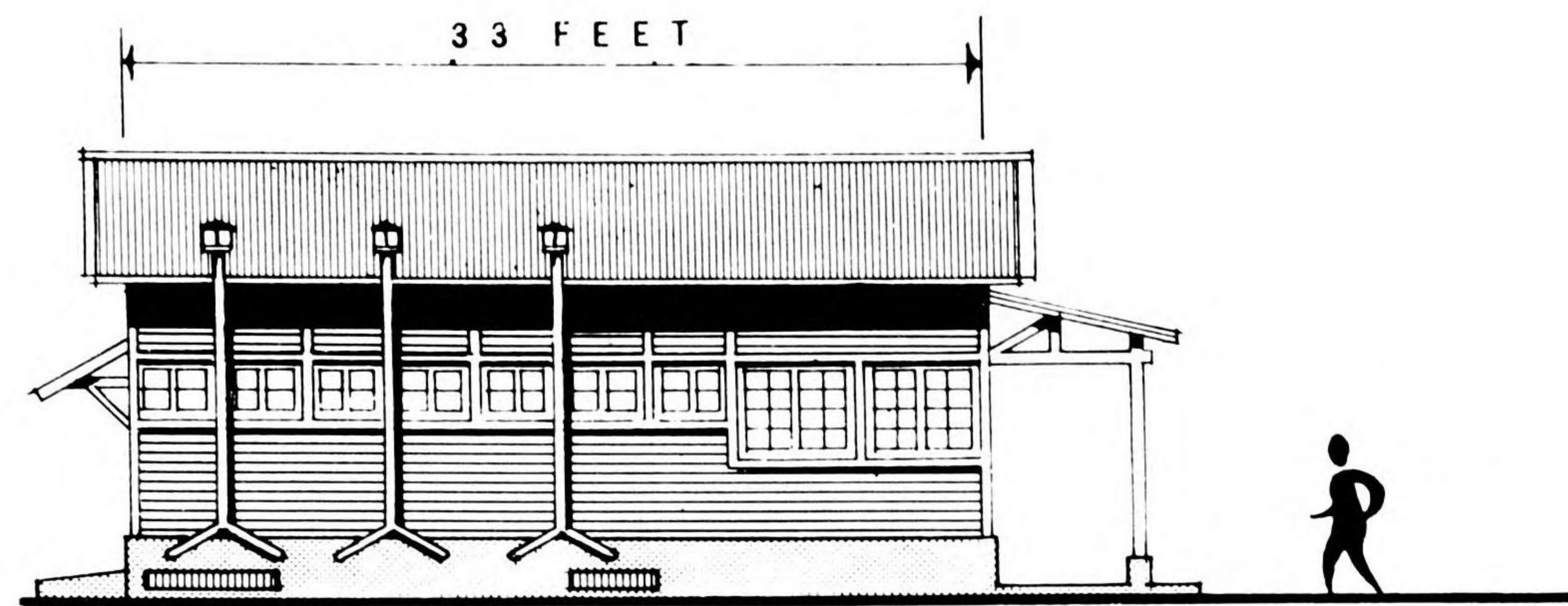


# 24 FT. X 33 FT. LATRINE

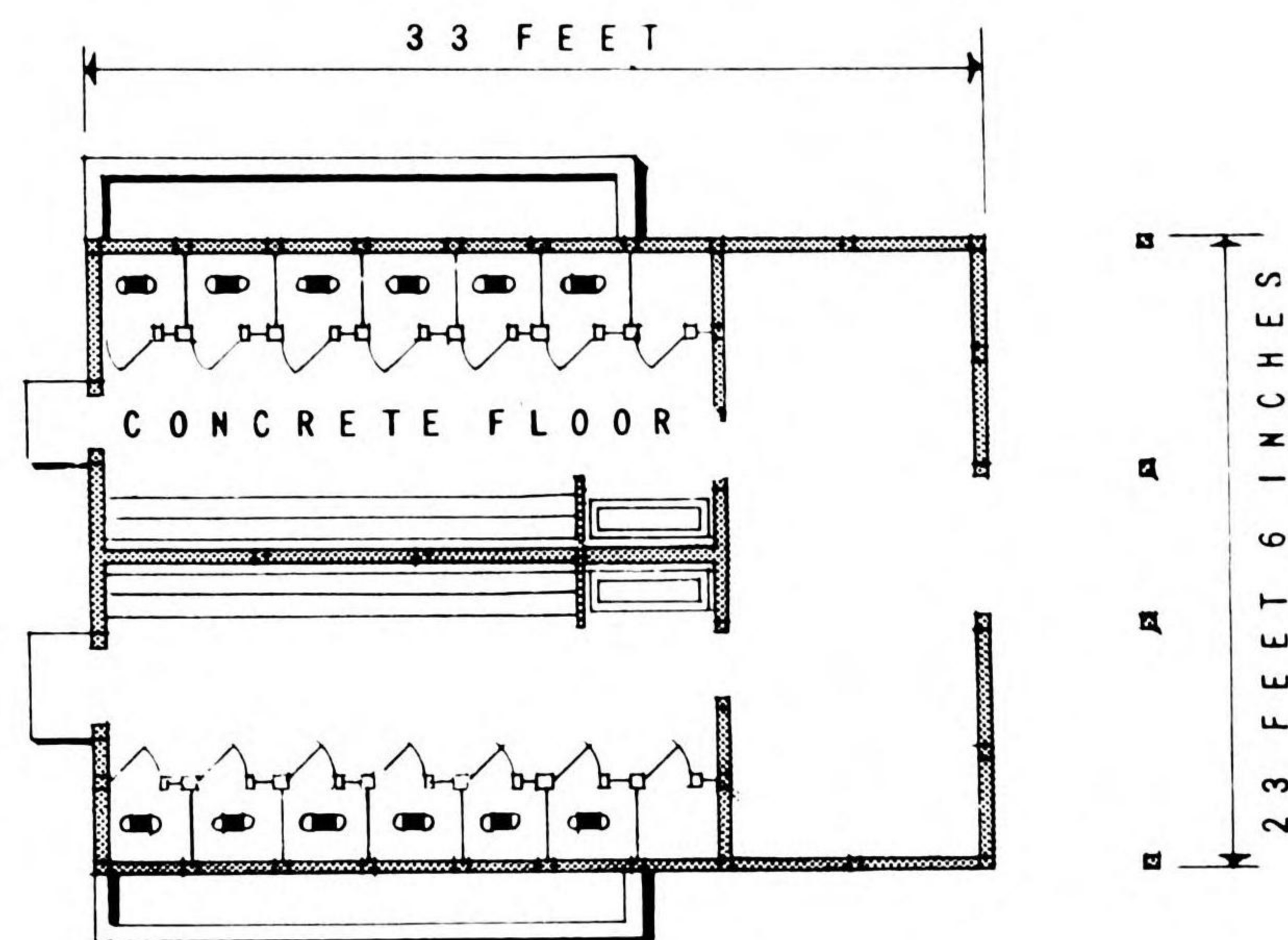
This gable roofed structure services 2-38 by 110 foot clipped-hipped enlisted personnel barracks per unit. The 12 individual water closets cut into the concrete slab floor feed two below grade septic tanks. On Saipan, the shed on the rear wall has been omitted. Water from the corrugated iron roof surfaces is collected in the adjacent standard 20 foot diameter water cistern.



FRONT REAR



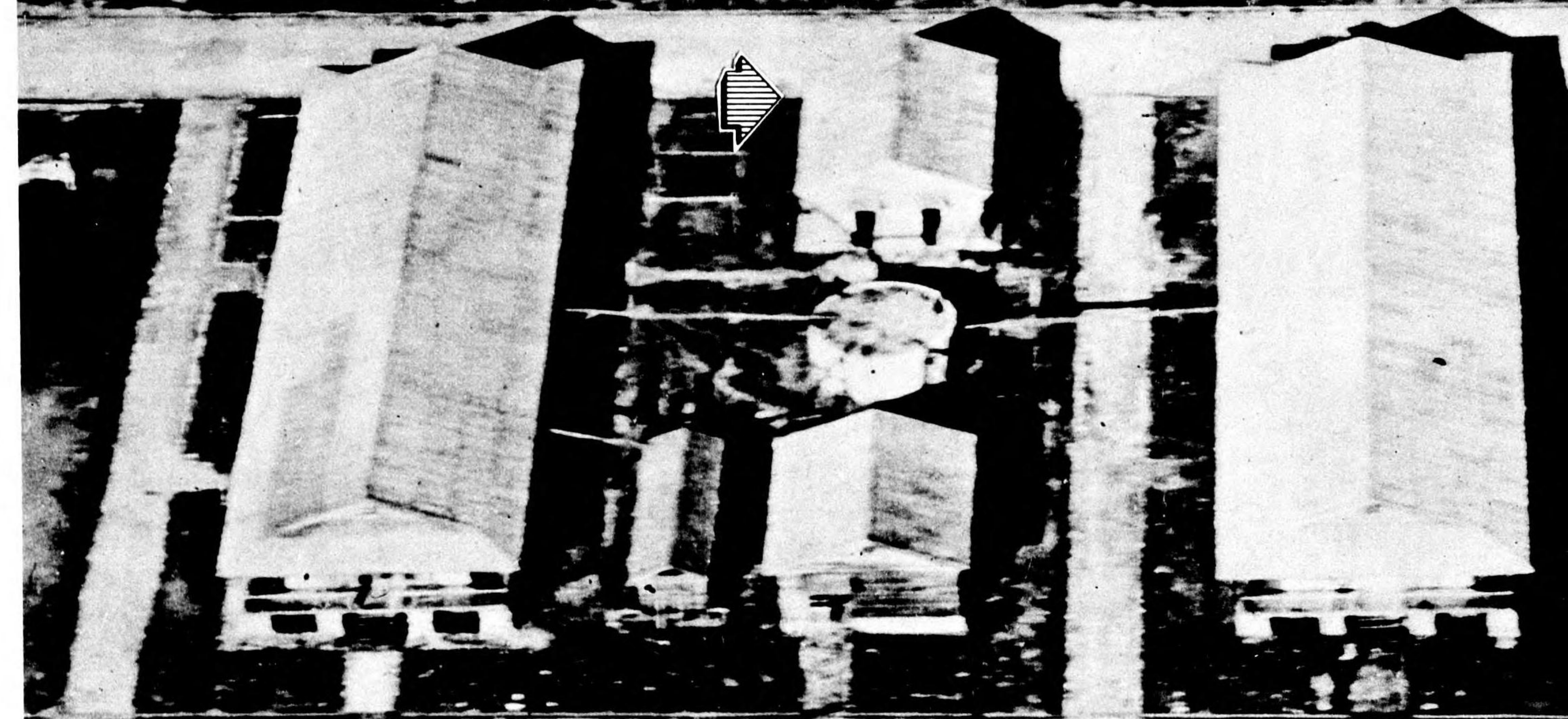
SIDE ELEVATION



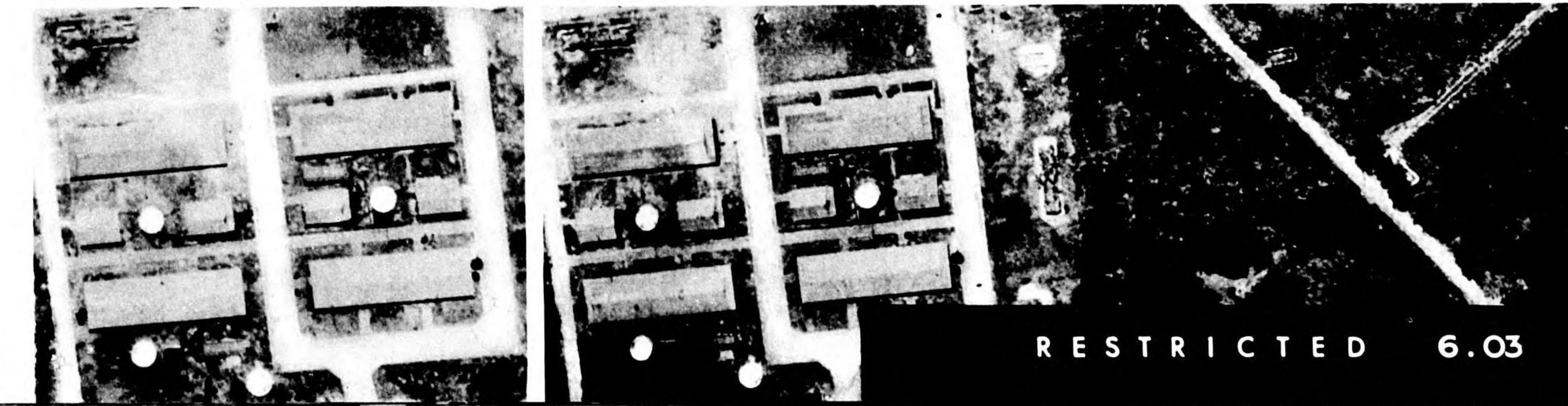
FLOOR PLAN

# LATRINES

## WOOD CONSTRUCTION



23' X 33' LATRINE SAIPAN ISLAND





# LATRINES

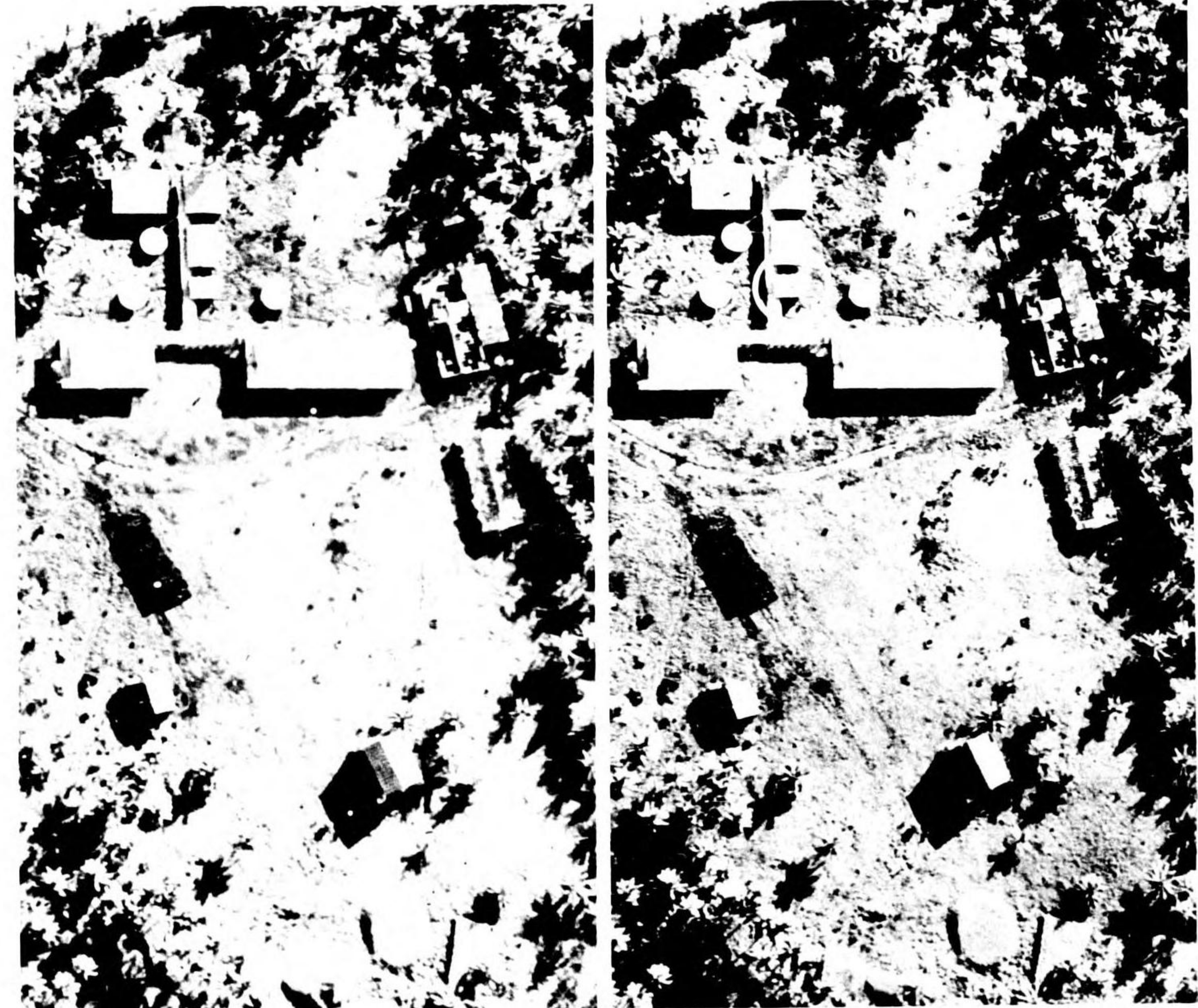
## WOOD CONSTRUCTION



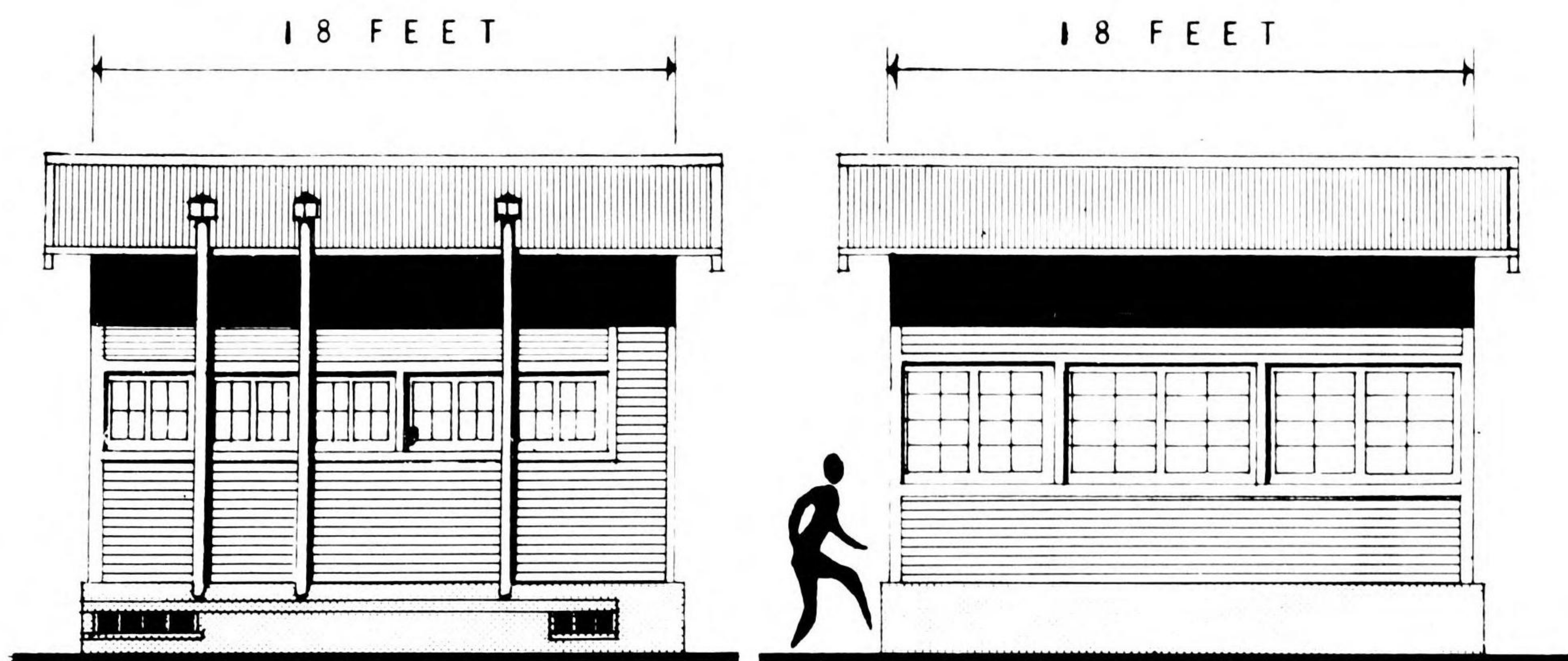
WASH HOUSE AND 12' X 18' LATRINE - DARRIT

# 12 FT. X 18 FT. LATRINE

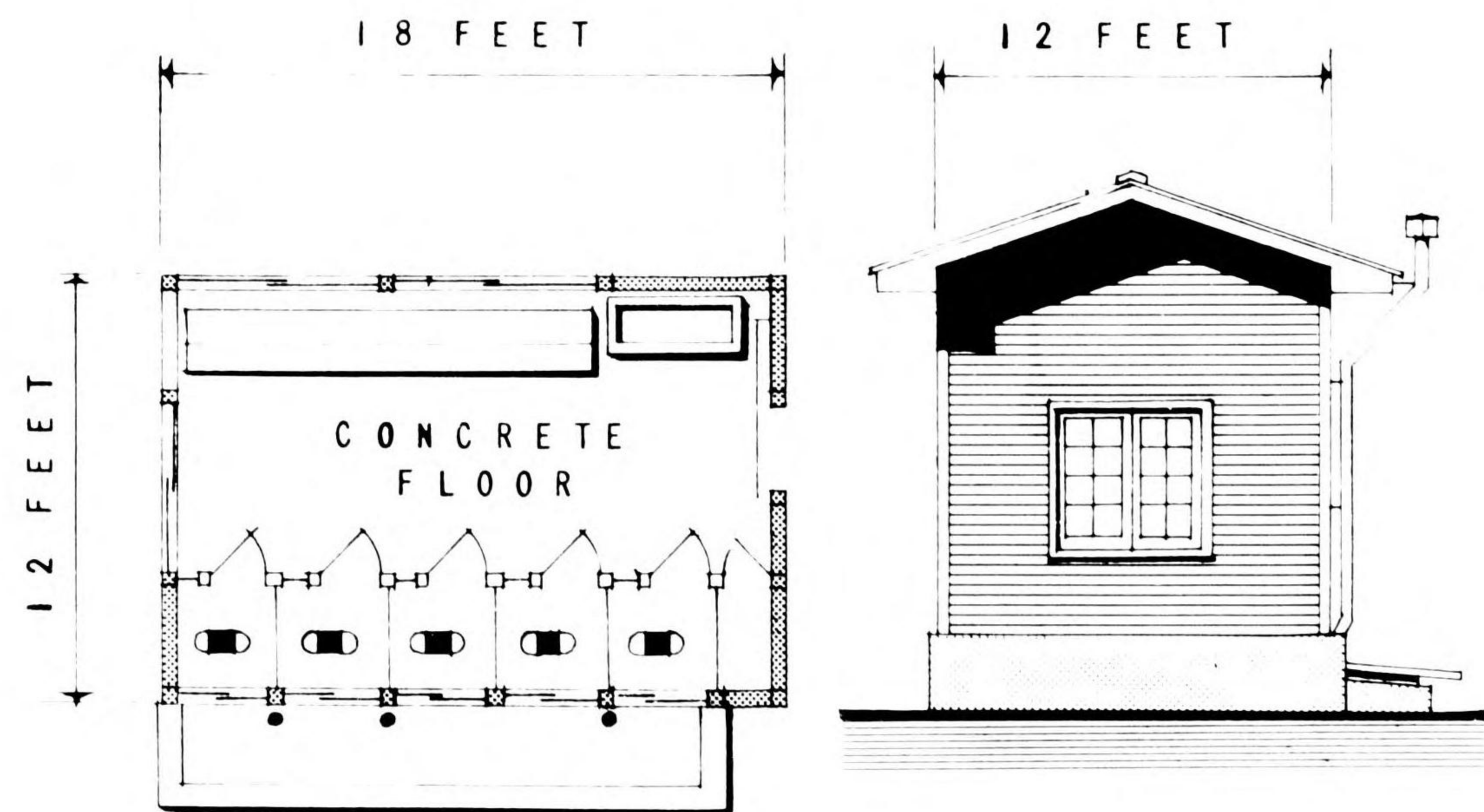
This officer latrine is always present in the "T" formation building group. A covered passageway ties this, the smallest of the 6 building group, to the other units. Interior facilities include 5 individual water closets, a urinal and a wash stand.



12' X 18' LATRINE - DARRIT



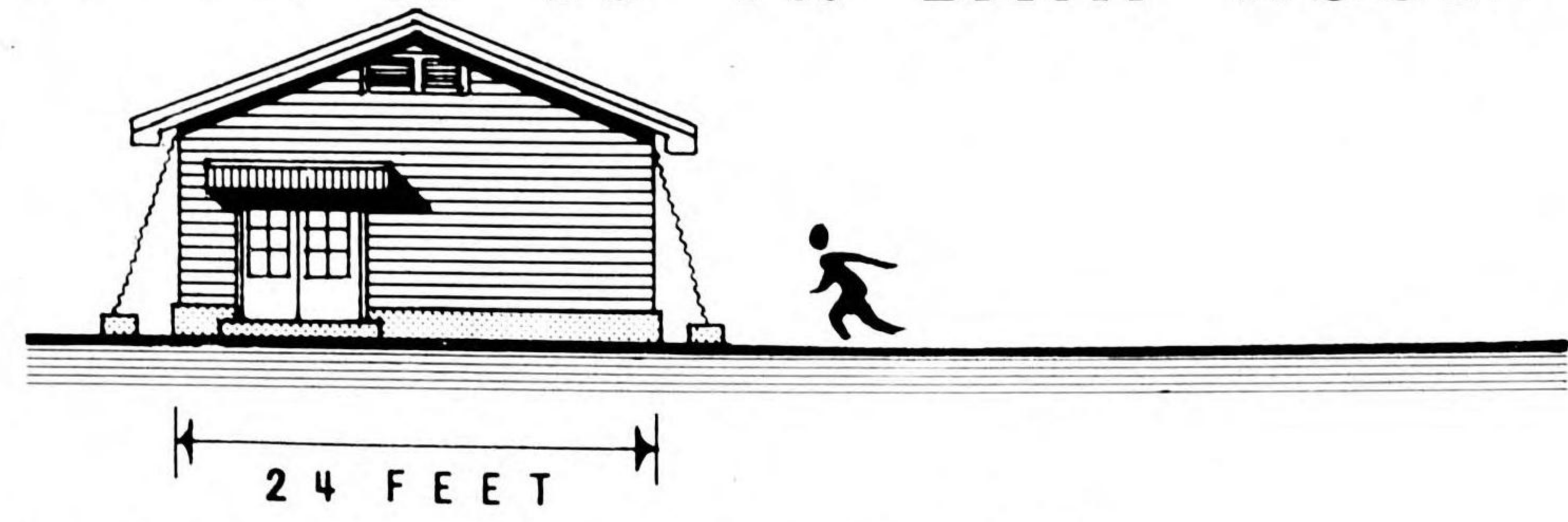
SIDE ELEVATIONS  
6.04 RESTRICTED



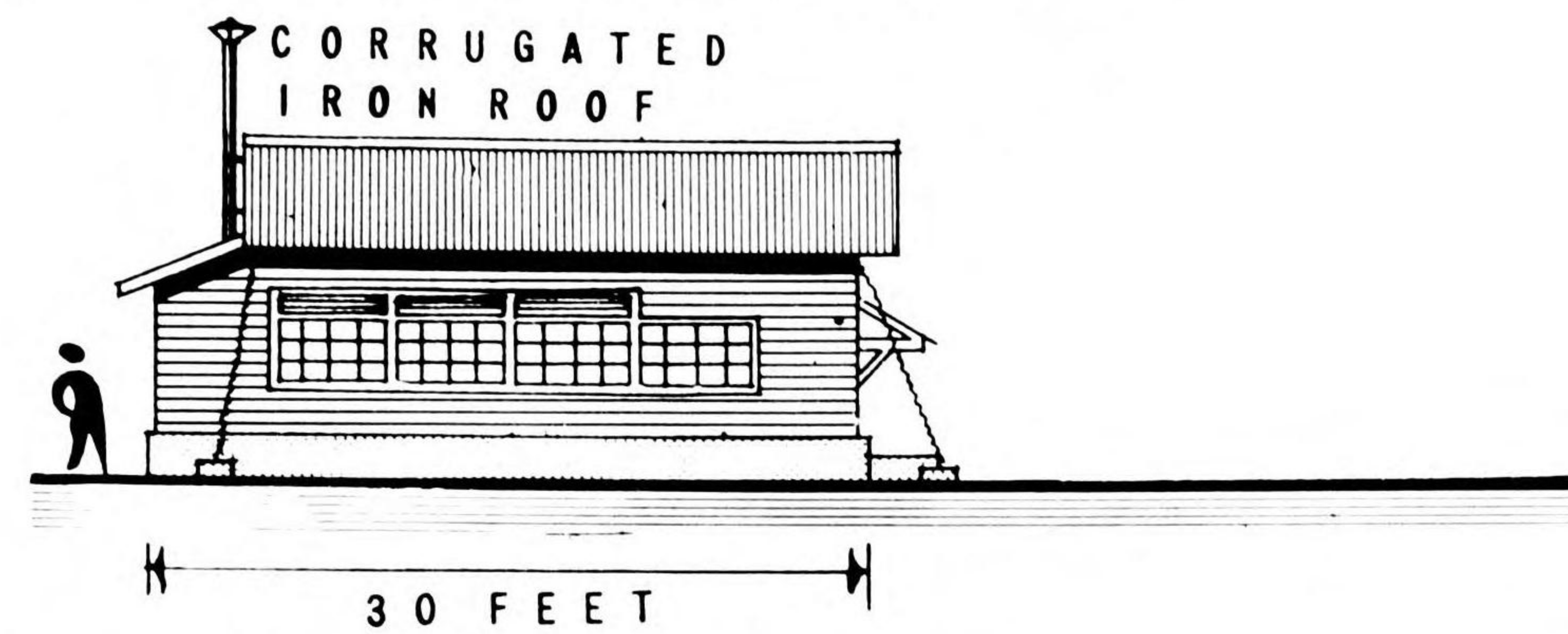
FLOOR PLAN REAR



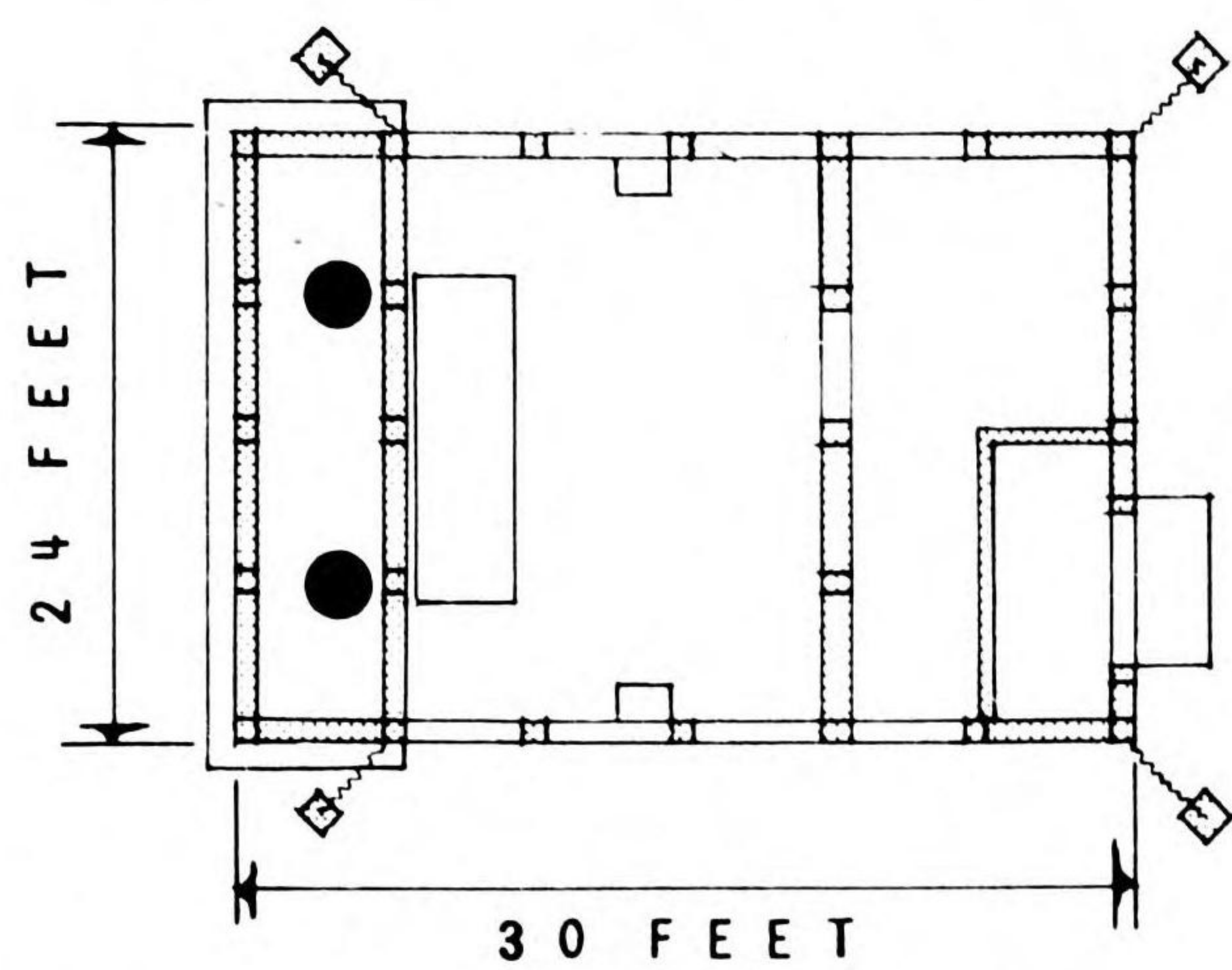
**24 FT. X 30 FT. BATH HOUSE**



**FRONT ELEVATION**



**SIDE ELEVATION**



**FLOOR PLAN**

**BATH HOUSES**

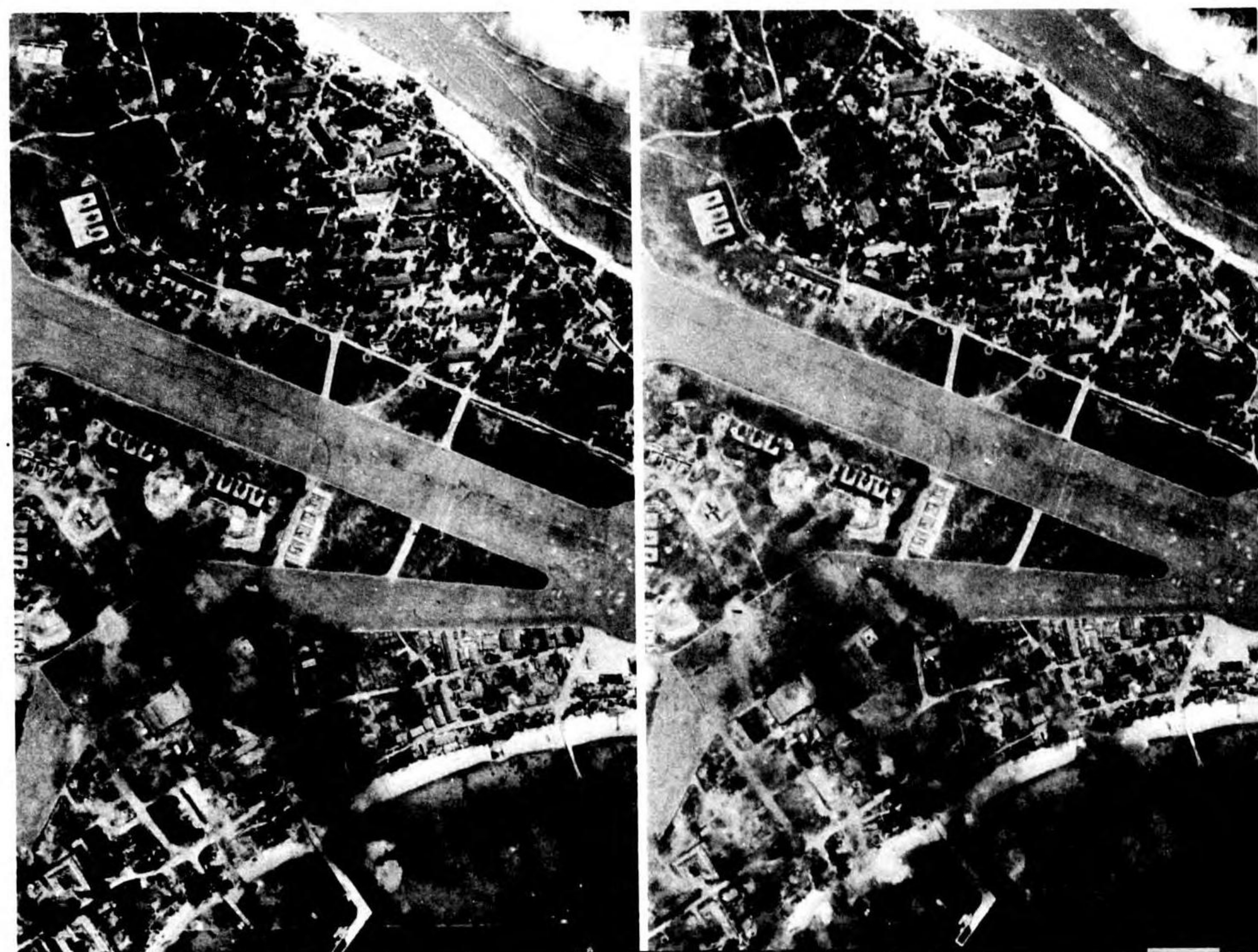
**WOOD CONSTRUCTION**



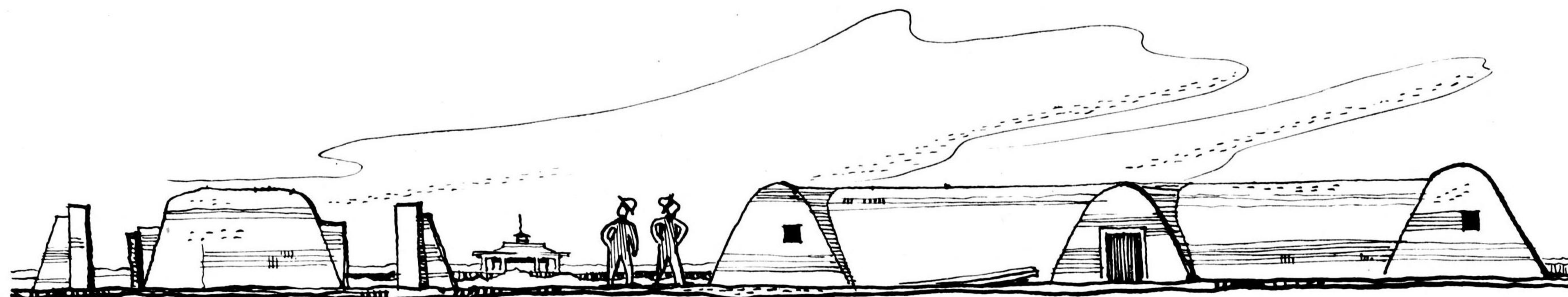
**24' X 30' BATH HOUSE · · DARRIT**



**24' X 30' BATH HOUSE ◀ MALOELAP**







## P E R S O N N E L                      S H E L T E R S

**T**he standard Japanese personnel air raid shelter is a reinforced concrete form 10 feet wide and 60 feet in length. Its heavily reinforced concrete form appears in all permanently occupied Japanese areas.

The structure stands approximately 7 feet above grade. It services barracks, usually one shelter to each one hundred man unit. It also flanks Hangars or other structures serving large groups of airfield personnel. Eighteen inch sloping walls provide only a 5 foot interior ceiling height. Cast iron double vault doors make the shelter gas proof if properly operated. In some instances the three entrances are protected by buttress reinforced anti-strafting walls, 6 feet in height.

Three gun ports sometimes occur opposite the entrances.

Low wooden benches parallel to the side walls of the shelter which will, if necessary, handle 100 men.

The intricate wood forming necessary to the construction of the shelter has been identically adhered to regardless of its geographic location.

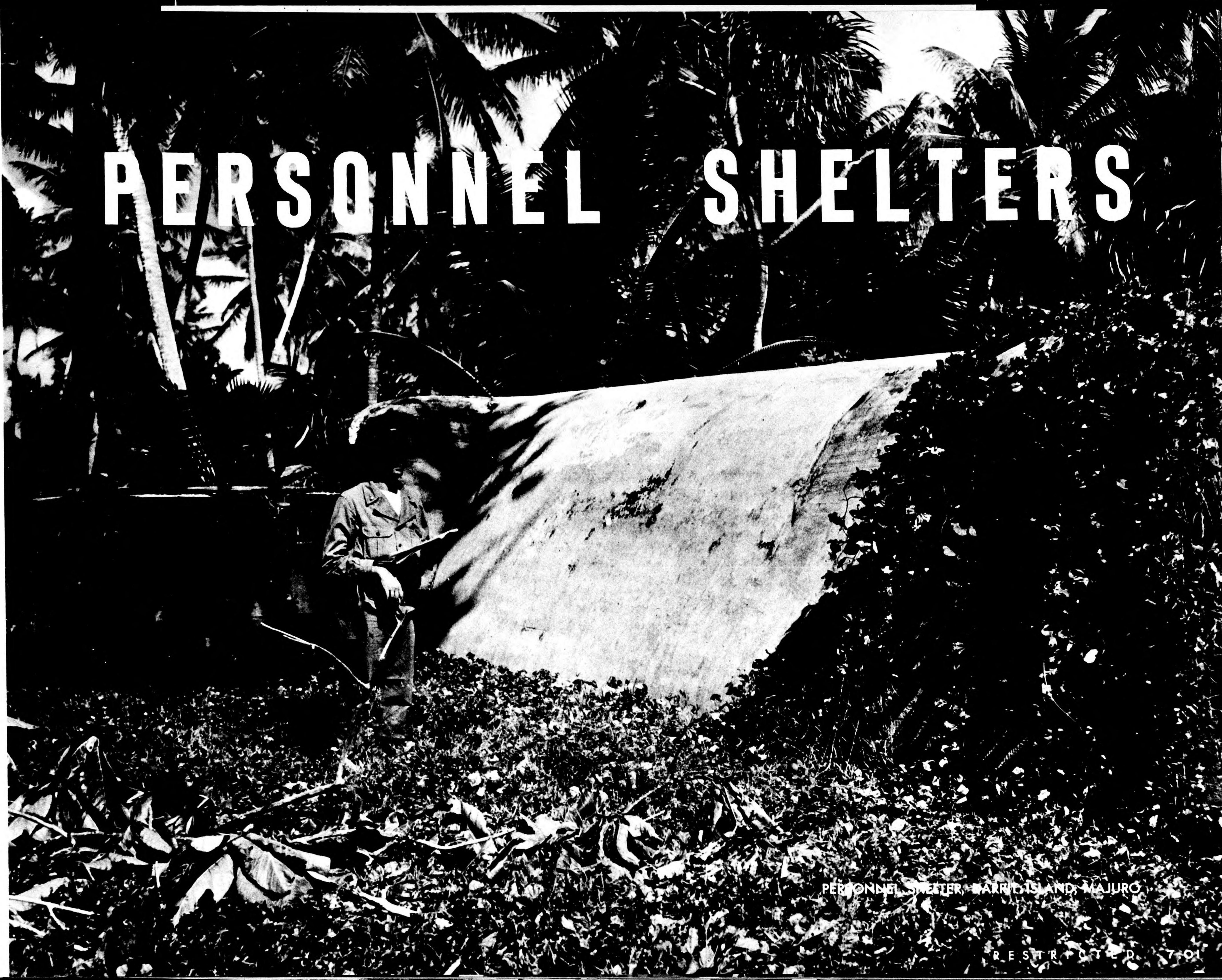
Camouflage paint and/or camouflage netting has, in a few cases, been applied to exterior surfaces.

A similar reinforced concrete form was found on Roi and Namur. This shelter is approximately 20 feet wide and 56 feet long with 2 feet 6 inch walls. The shelter has been used to house electronics equipment in emergencies.

Illustrations of these shelters are included in the ensuing 4 pages.



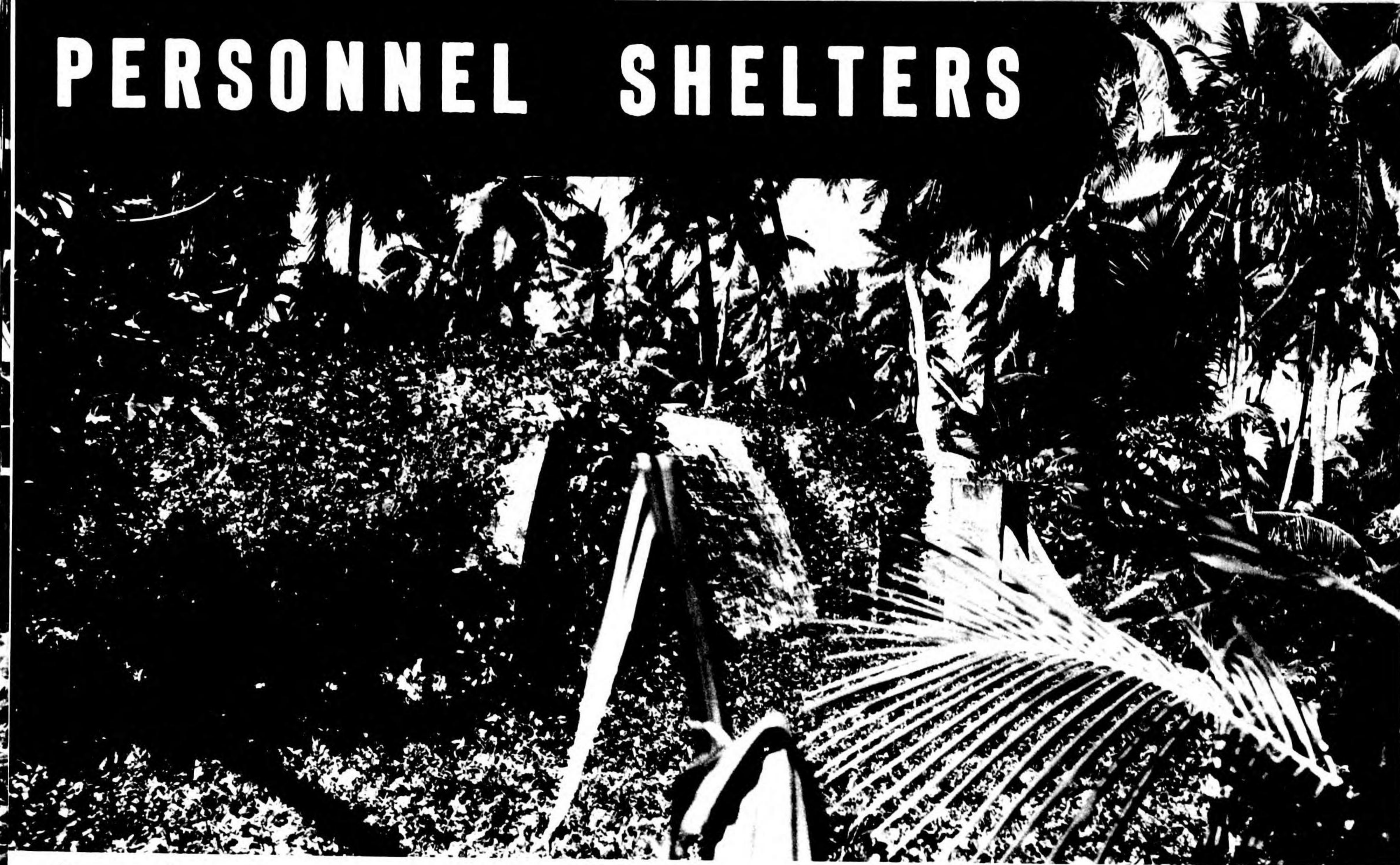
# PERSONNEL SHELTERS



PERSONNEL SHELTER, BARRI ISLAND, MAJURO



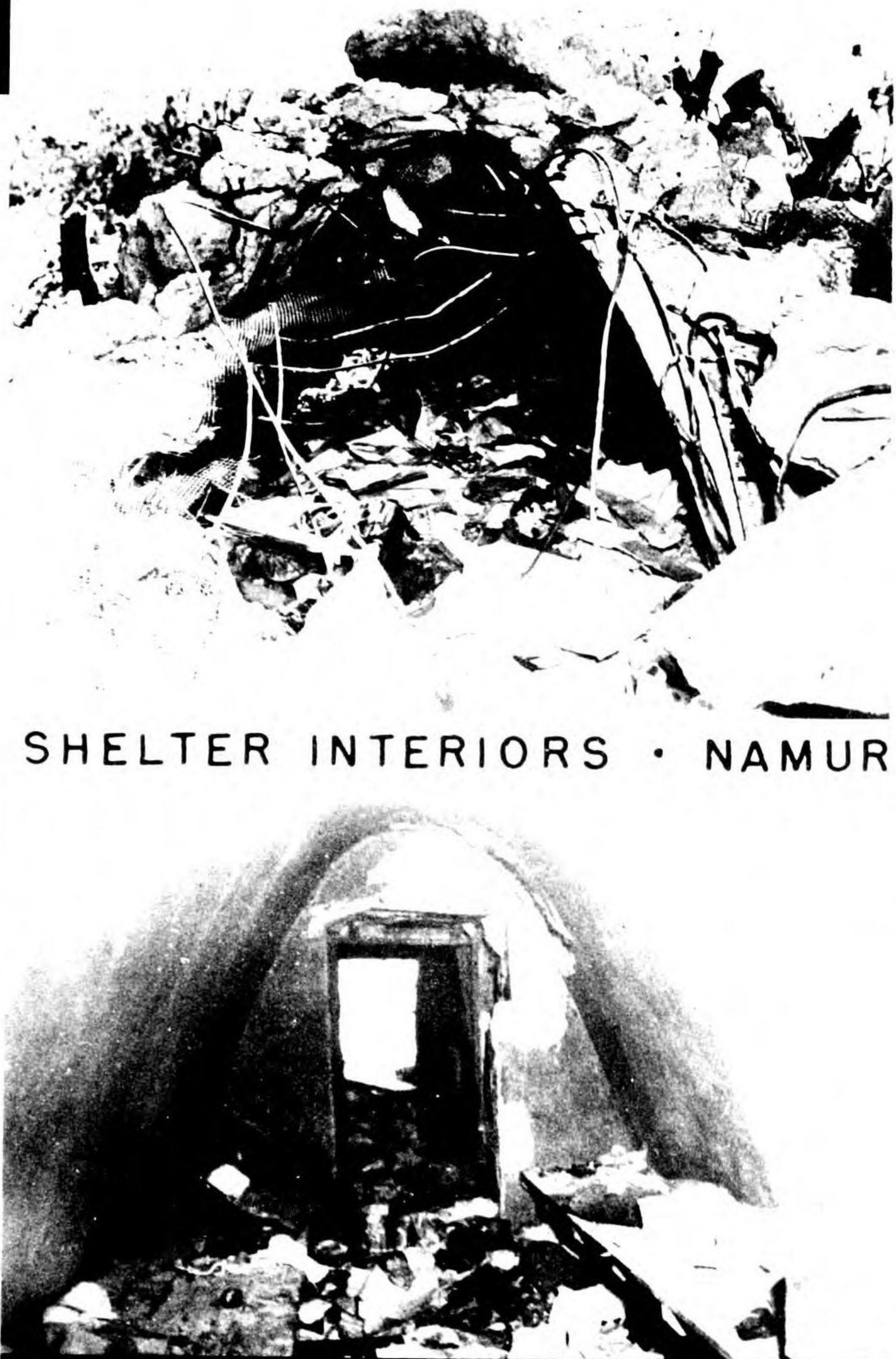
# PERSONNEL SHELTERS



10'X60' SHELTER · DARRIT ROI · KWAJALEIN



ENTRANCE TO SHELTER · DARRIT.



SHELTER INTERIORS · NAMUR



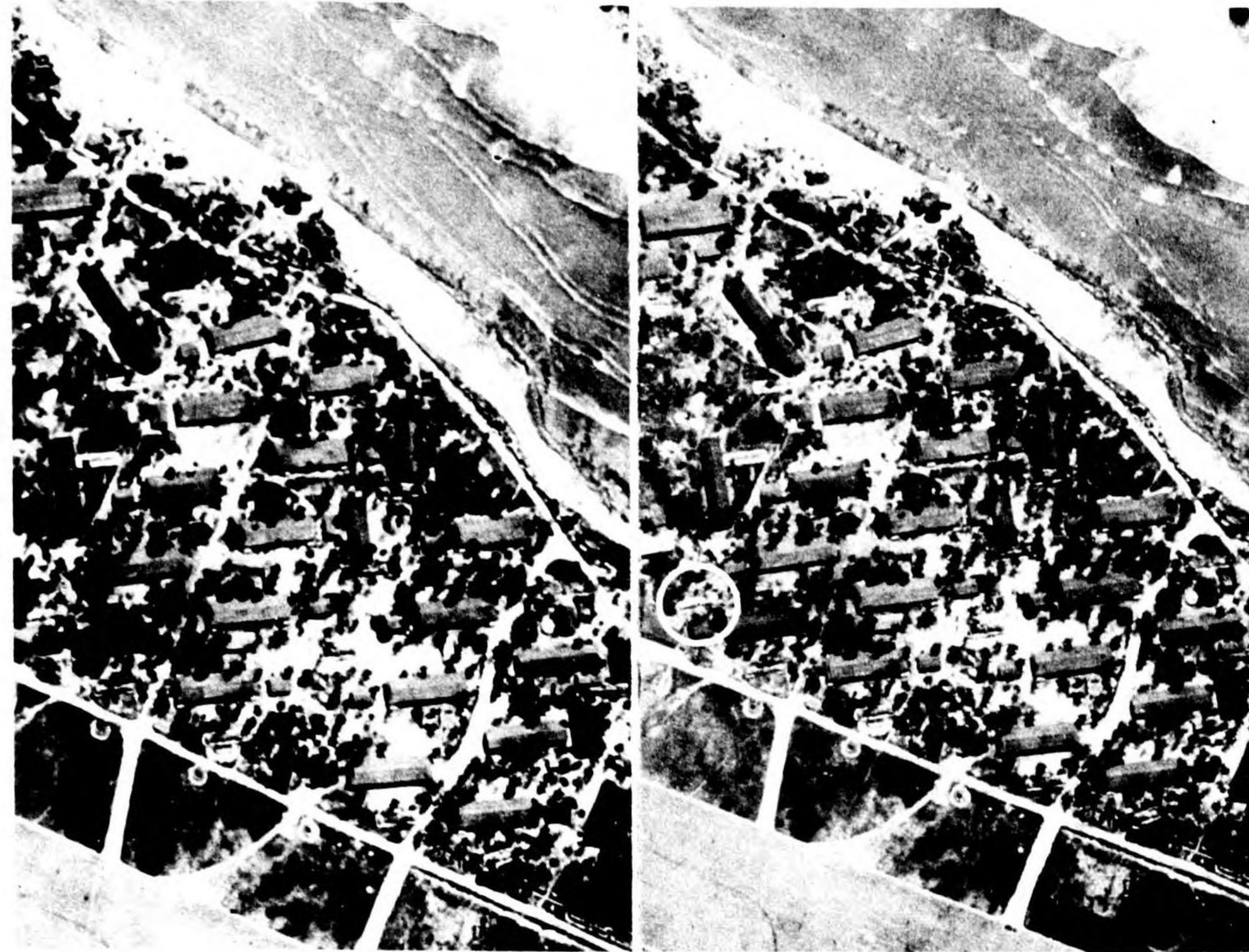


# PERSONNEL SHELTERS

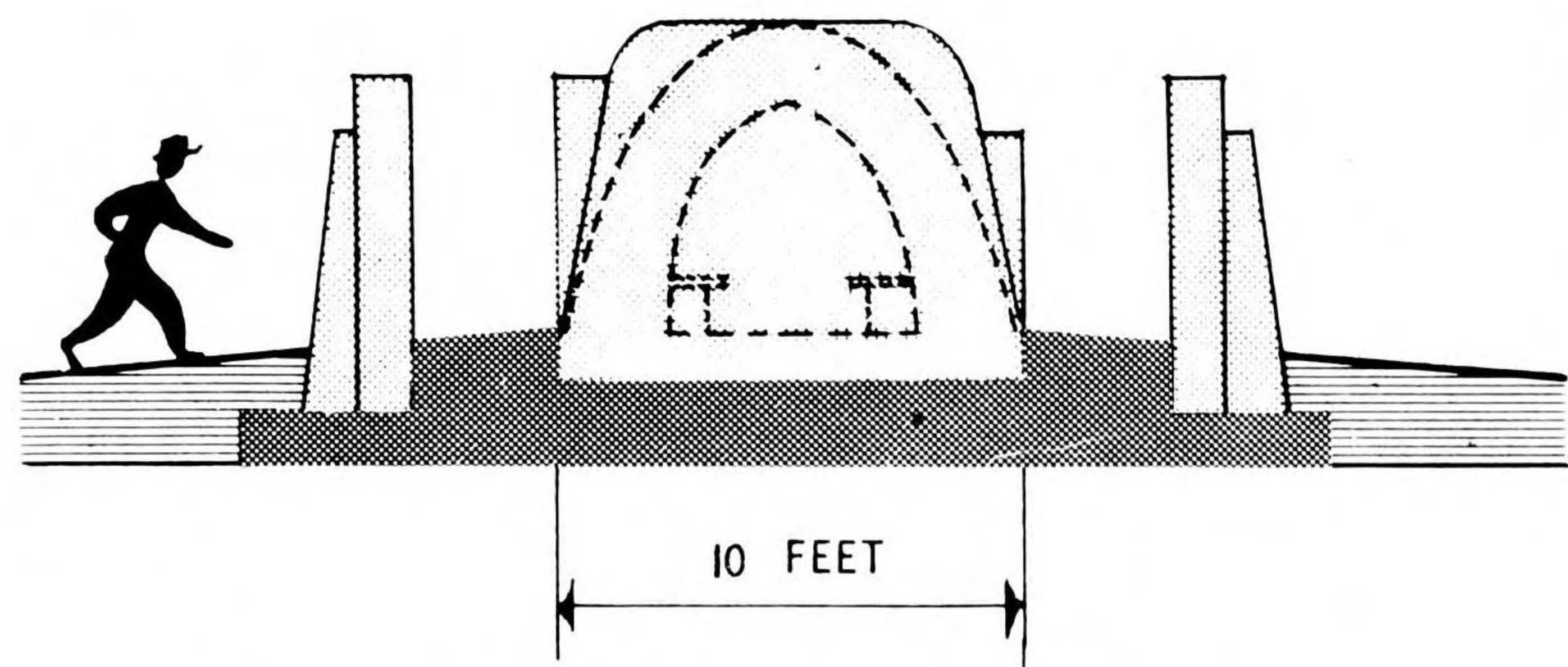
## CONCRETE CONSTRUCTION

### CONCRETE AIR RAID SHELTER

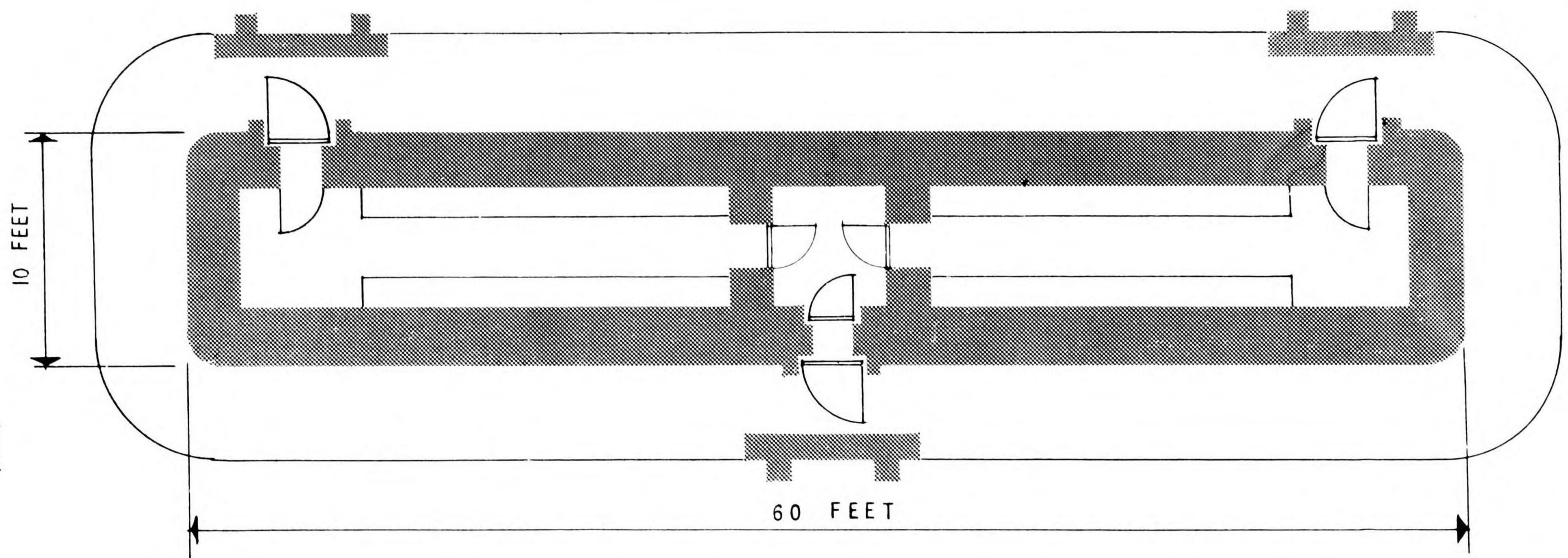
Maloelap's housing area is serviced by one standard 10x60 foot personnel shelter per barracks. In this instance, the anti-strafting walls are omitted. Note the geometric pattern created by the layout of barracks, latrines, wash houses, and air raid shelters.



BARRACKS AREA • MALOELAP 10' X 60' CONCRETE AIR RAID SHELTER • MALOELAP



END ELEVATION

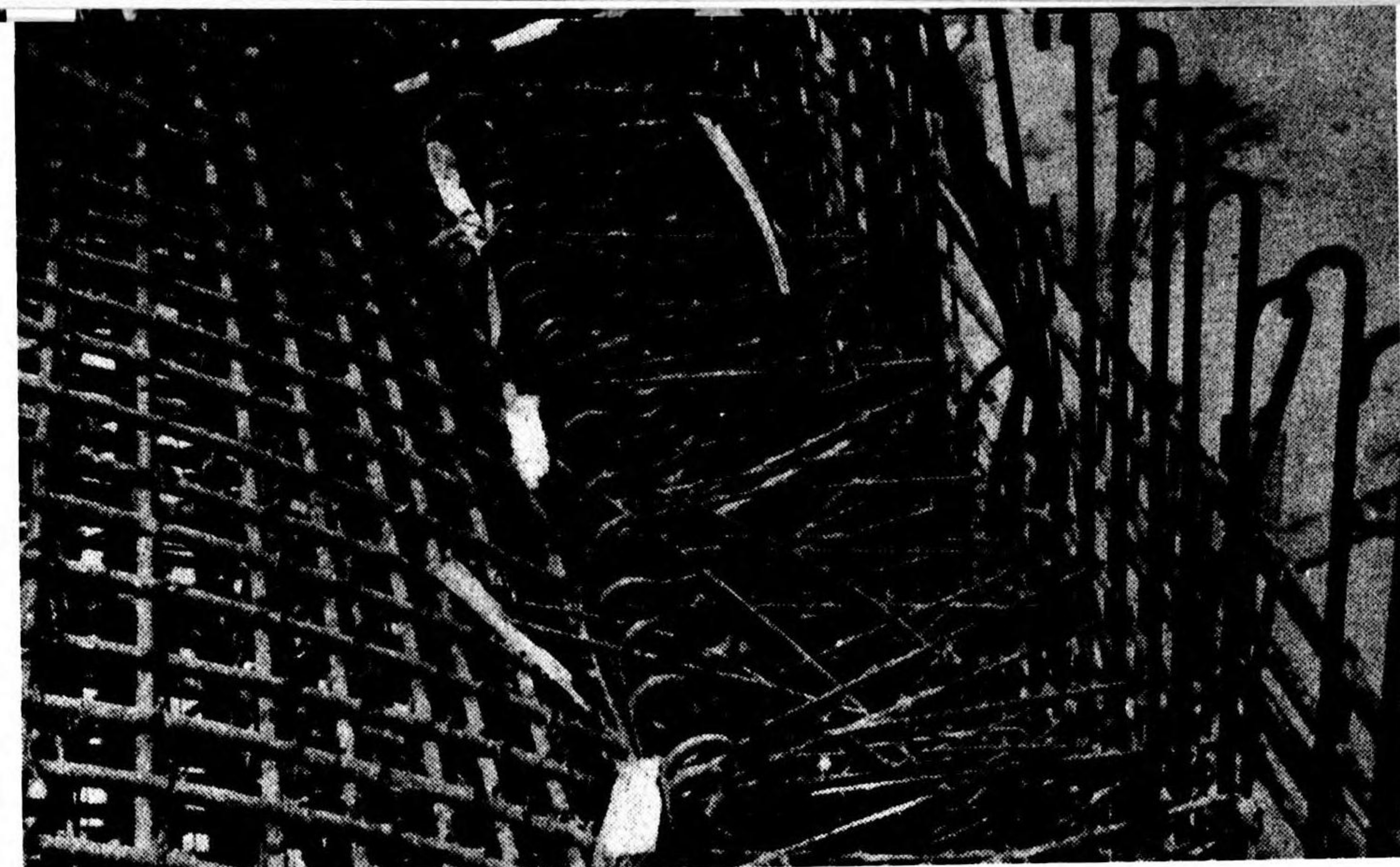


PLAN OF CONCRETE AIR RAID SHELTER.  
RESTRICTED 7.03



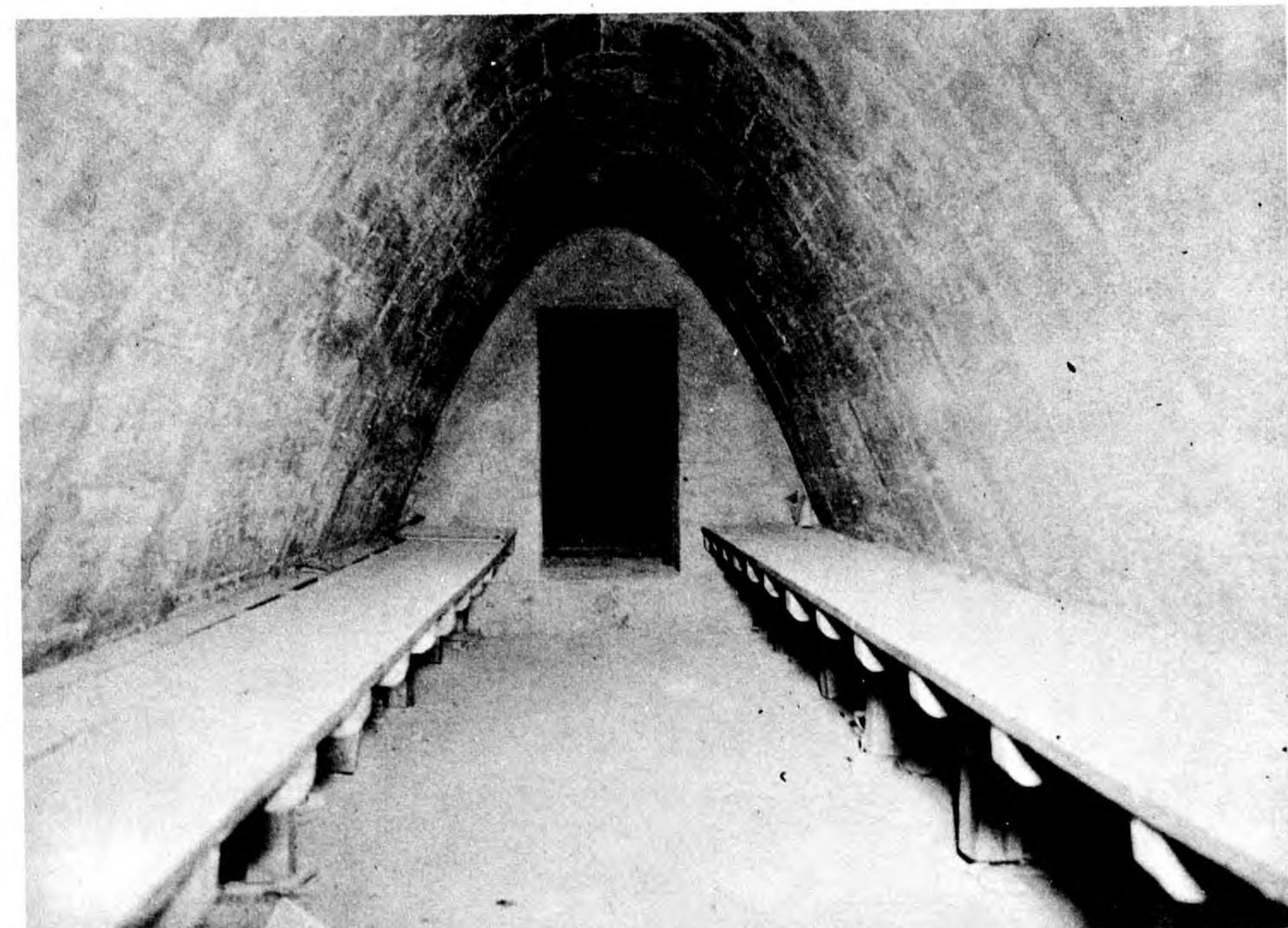
# PERSONNEL SHELTERS

## CONCRETE CONSTRUCTION



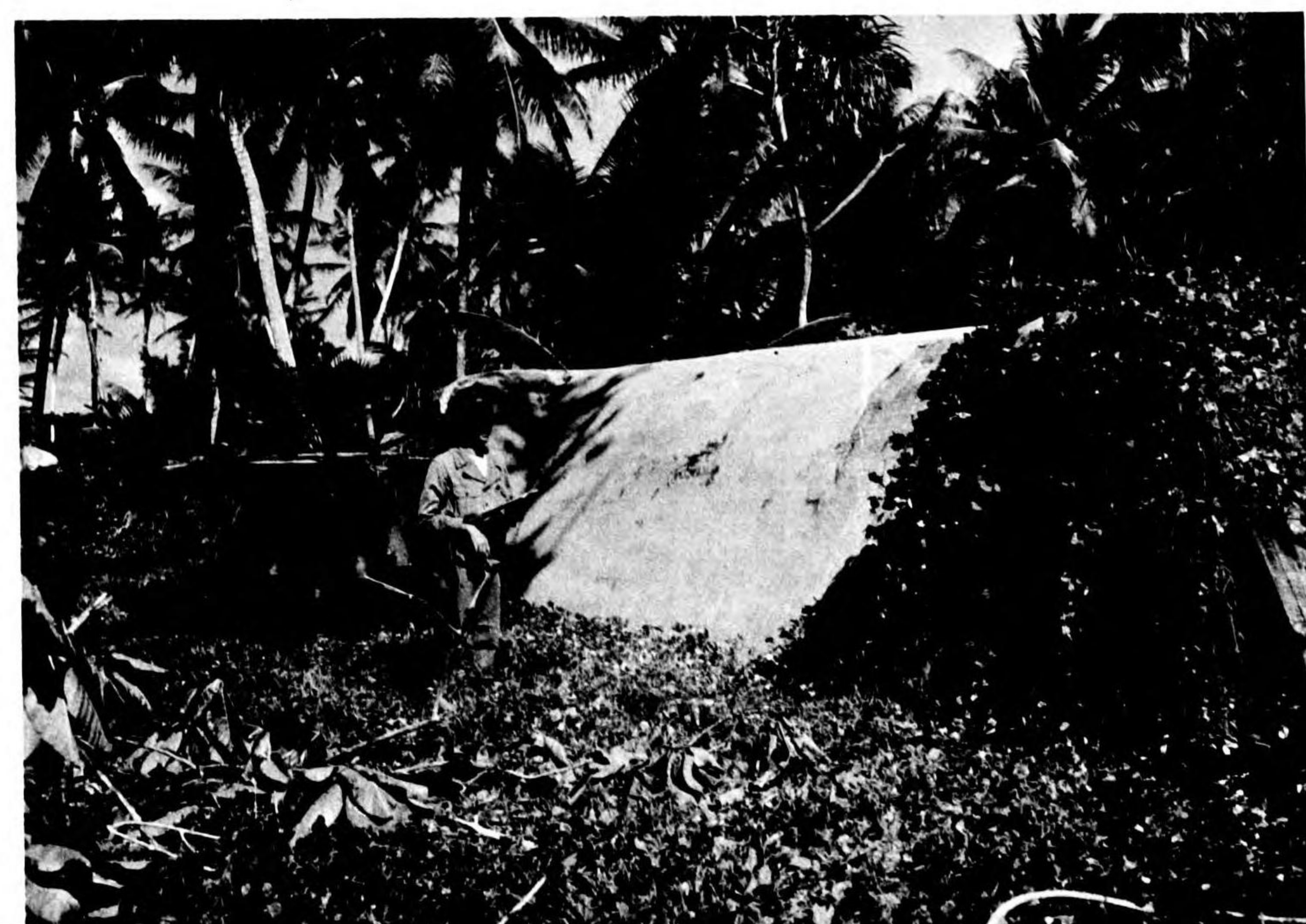
SAIPAN INTERIOR

REINFORCING



SAIPAN EXTERIOR

MAJURO





# PERSONNEL SHELTERS

## PERSONNEL SHELTER

This heavily reinforced shelter was used as an emergency communication center. It contained a 500 W semi-portable transmitter and a generator powered by a small gasoline engine. Five feet of reinforced concrete spanned the 2 foot 6 inch side walls. All doorways were of 5/8th inch steel plate.



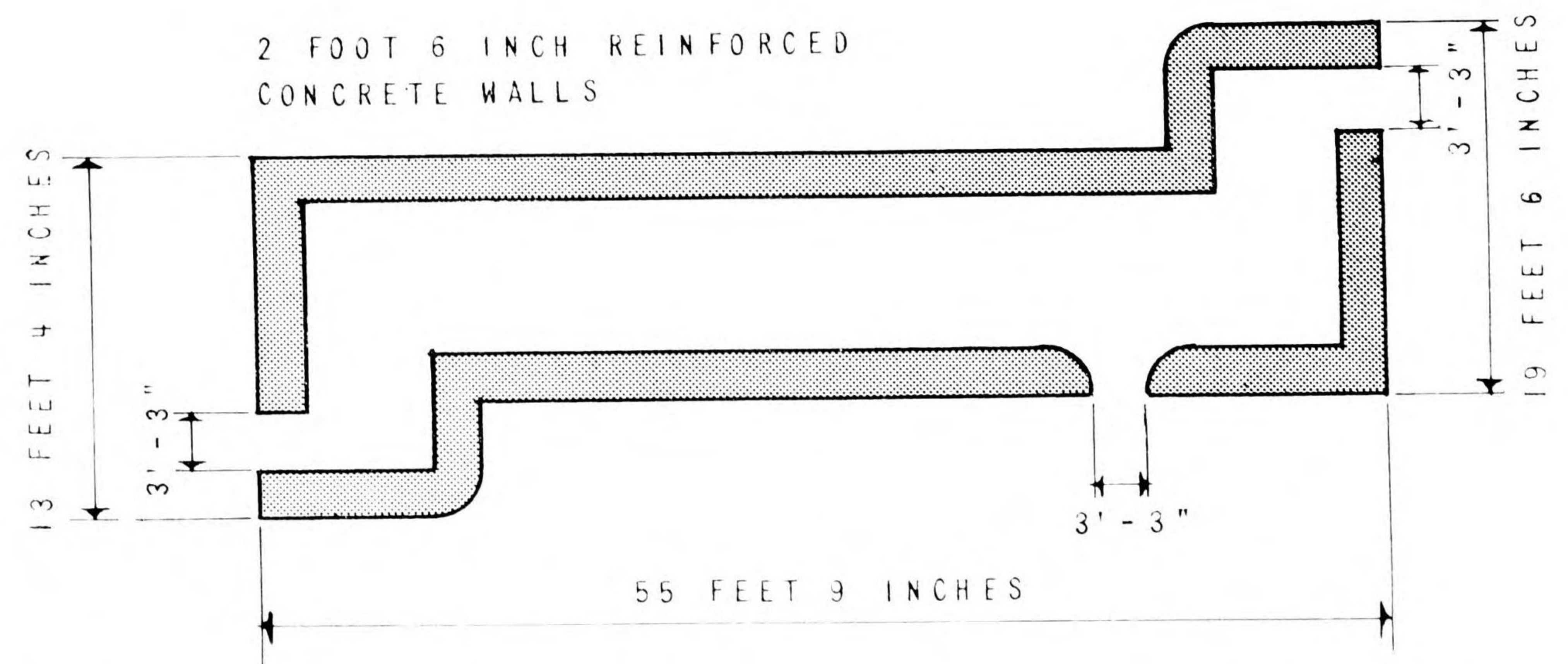
INTERIOR AND EXTERIOR OF SHELTER - ROI



## CONCRETE CONSTRUCTION

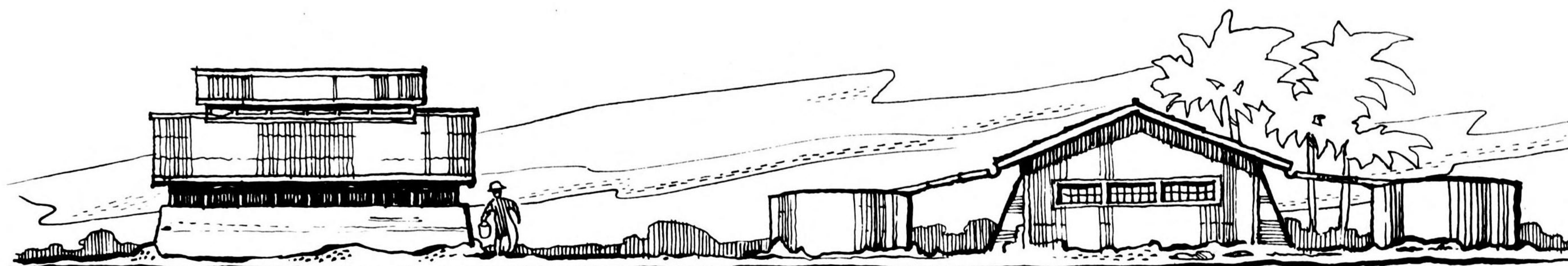


REINFORCED CONCRETE PERSONNEL SHELTER - ROI ISLAND



FLOOR PLAN OF PERSONNEL ROI ISLAND





## W A T E R C I S T E R N S

**A** great majority of Japanese held Pacific Ocean Islands depend mainly on the collection of rain-water as their source of domestic water. Elaborate systems of collection and storage of water have been adopted by the Japanese in an effort to make their air bases self sufficient in this respect. Water ships sometimes service concrete reservoirs but cannot be depended upon as the main source.

Water filtration plants are not common. Roi and Namur Islands contained a small filtration plant as part of the complex water collection, distribution and storage system employed. In this instance, water filtration and supply was further developed than in the average case.

Runoff from air strips is generally caught in concrete drainage ducts that feed concrete storage reservoirs. These ducts, square in section, are punched with small holes to receive water drained from the edge of the air strip.

The main source of rain water is from the corrugated galvanized roof surfaces of all major sized buildings. Water is fed from the surfaces directly to a standard 20 foot diameter water cistern.

This cistern stands approximately 7 feet 6 inches above natural grade. It sets on a stone foundation. The 8 inch reinforced concrete roof slab is centrally supported by a concrete column; the reinforced concrete side walls are 8 inches in thickness. Water is fed to the cistern at roof height. This form on Saipan was converted into a food storage building by the addition of a doorway cut into the side wall.

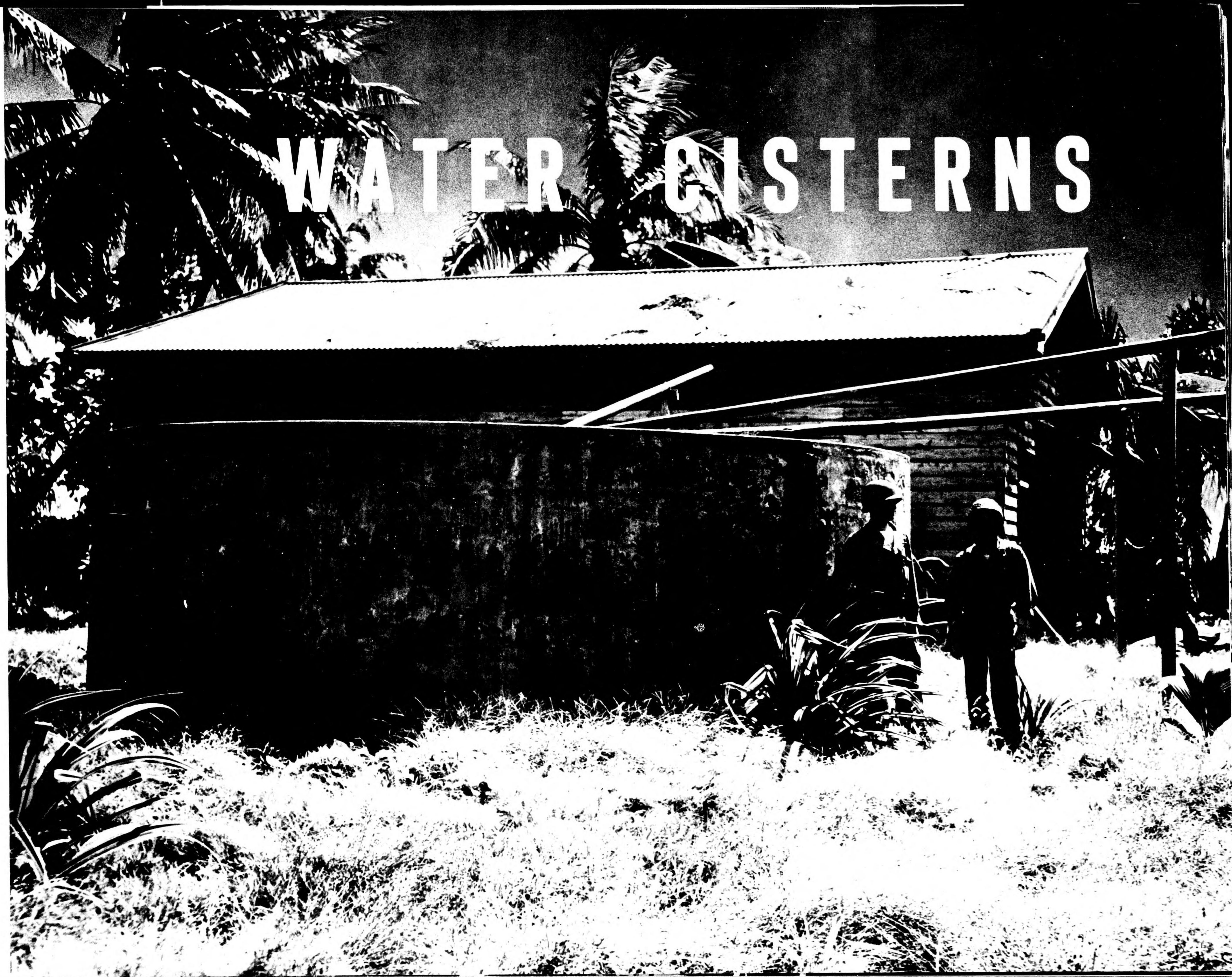
A similar circular form 46 feet in diameter is used primarily as a water reservoir. Nine equally spaced internal columns support the reinforced concrete roof slab.

Rectangular water storage tanks exist in various sizes. The form is always capped with a wood framed gable roof. The gable roof contains a continuous strip monitor. An example of this form (illustrated on page 14.04) services the standard military Power Plant.

The two common circular forms of water cisterns are illustrated on page 8.02 and 8.03.



# WATER CISTERNS



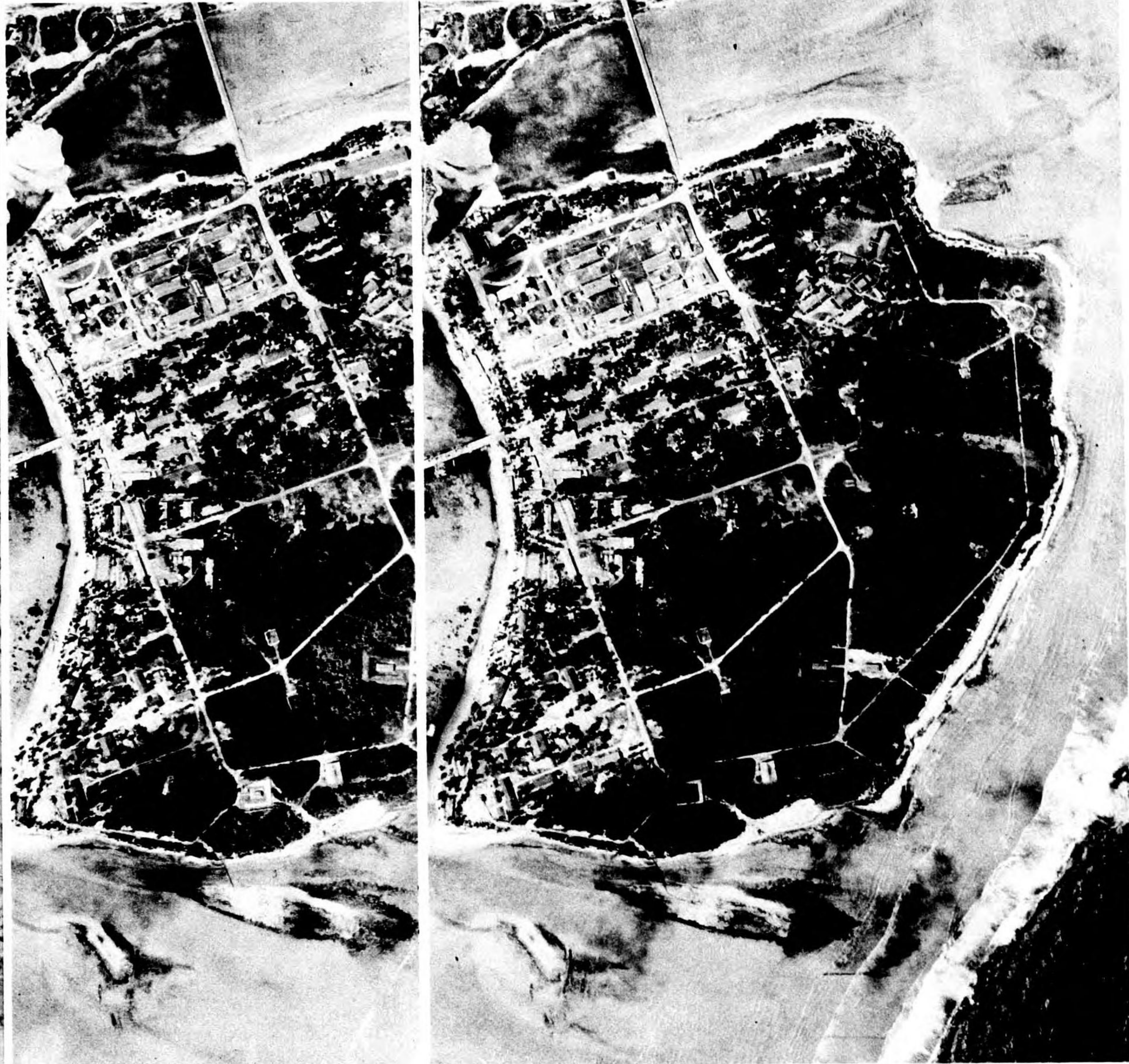


# CISTERNS

## CONCRETE CONSTRUCTION

### CONCRETE WATER CISTERNS • • NAMUR

20' DIAMETER CISTERNS NAMUR ISLAND



CISTERN  
20' DIAM.

HOSPITAL

BARRACKS

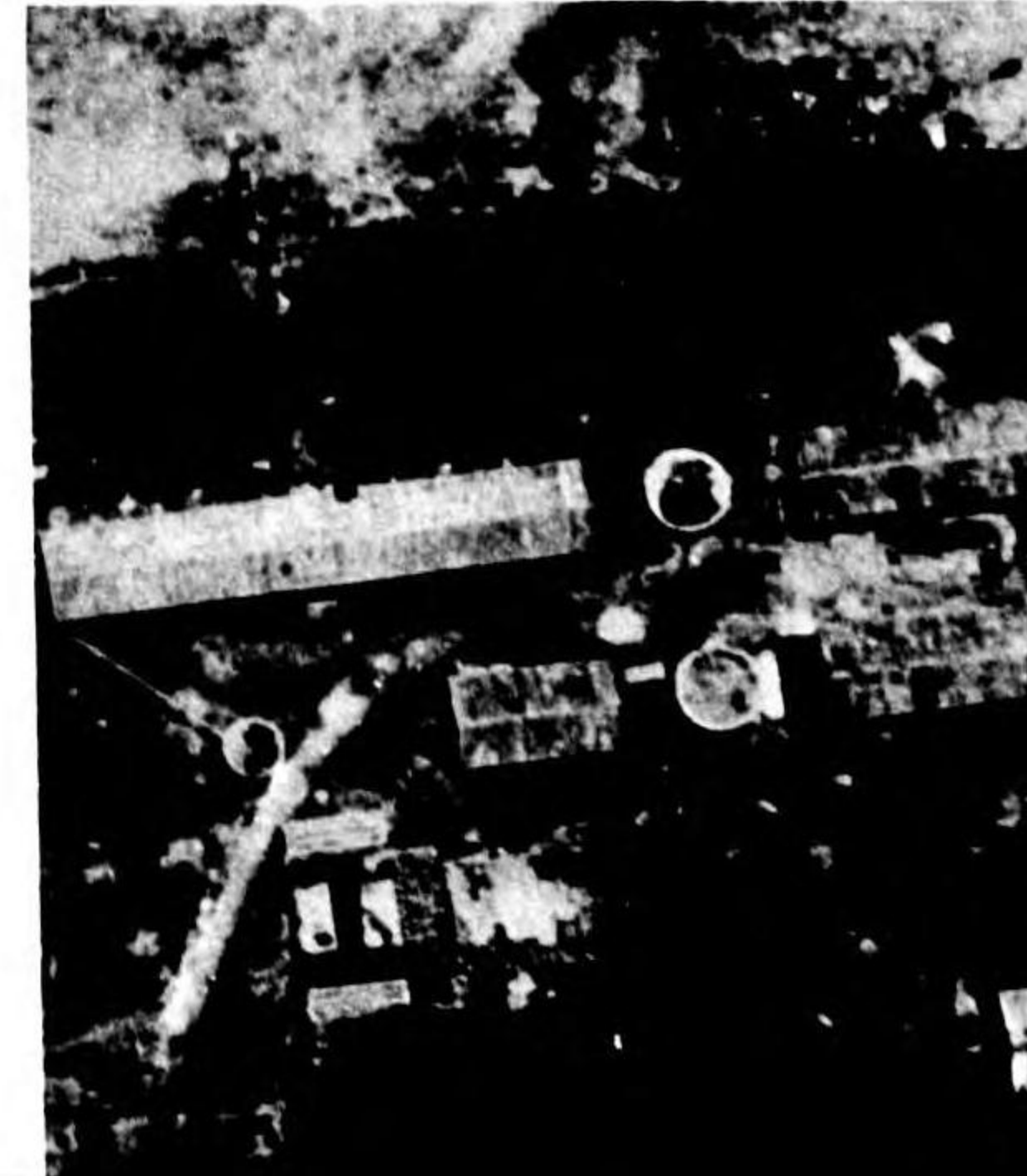
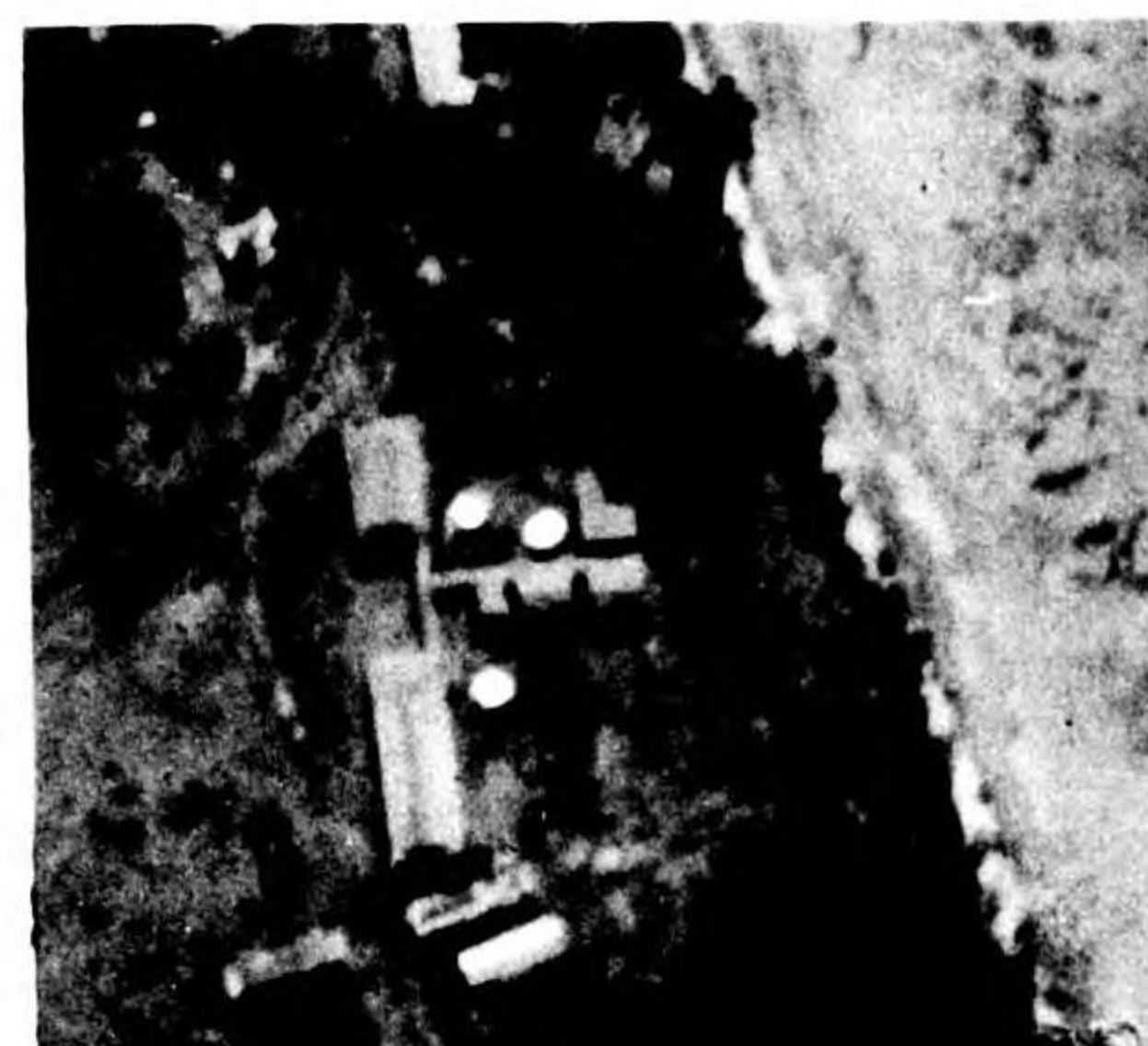
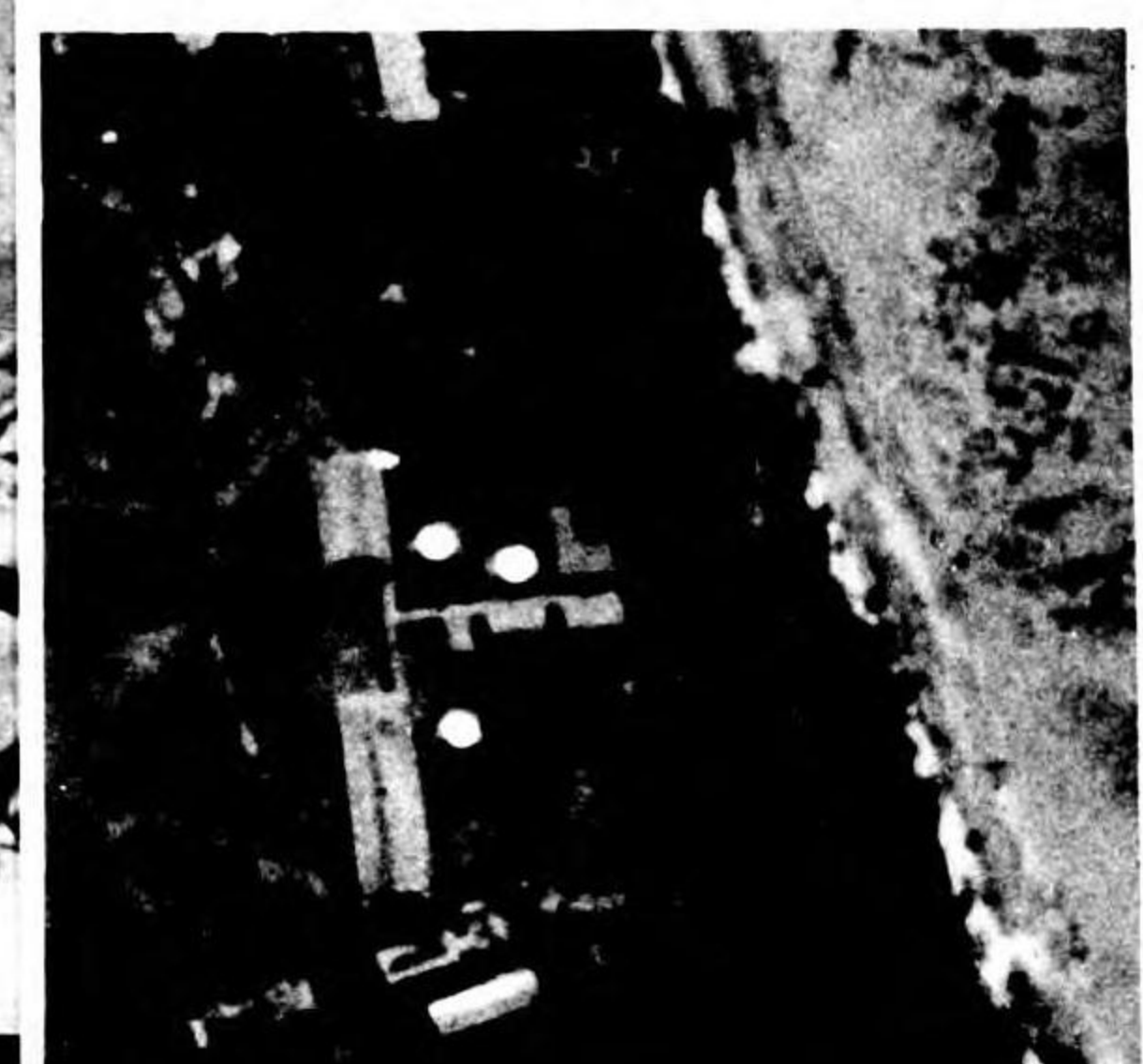
FUEL  
STORAGE



20' DIAM. CISTERNS • MAJURO

20' DIAM. CISTERNS • TRUK

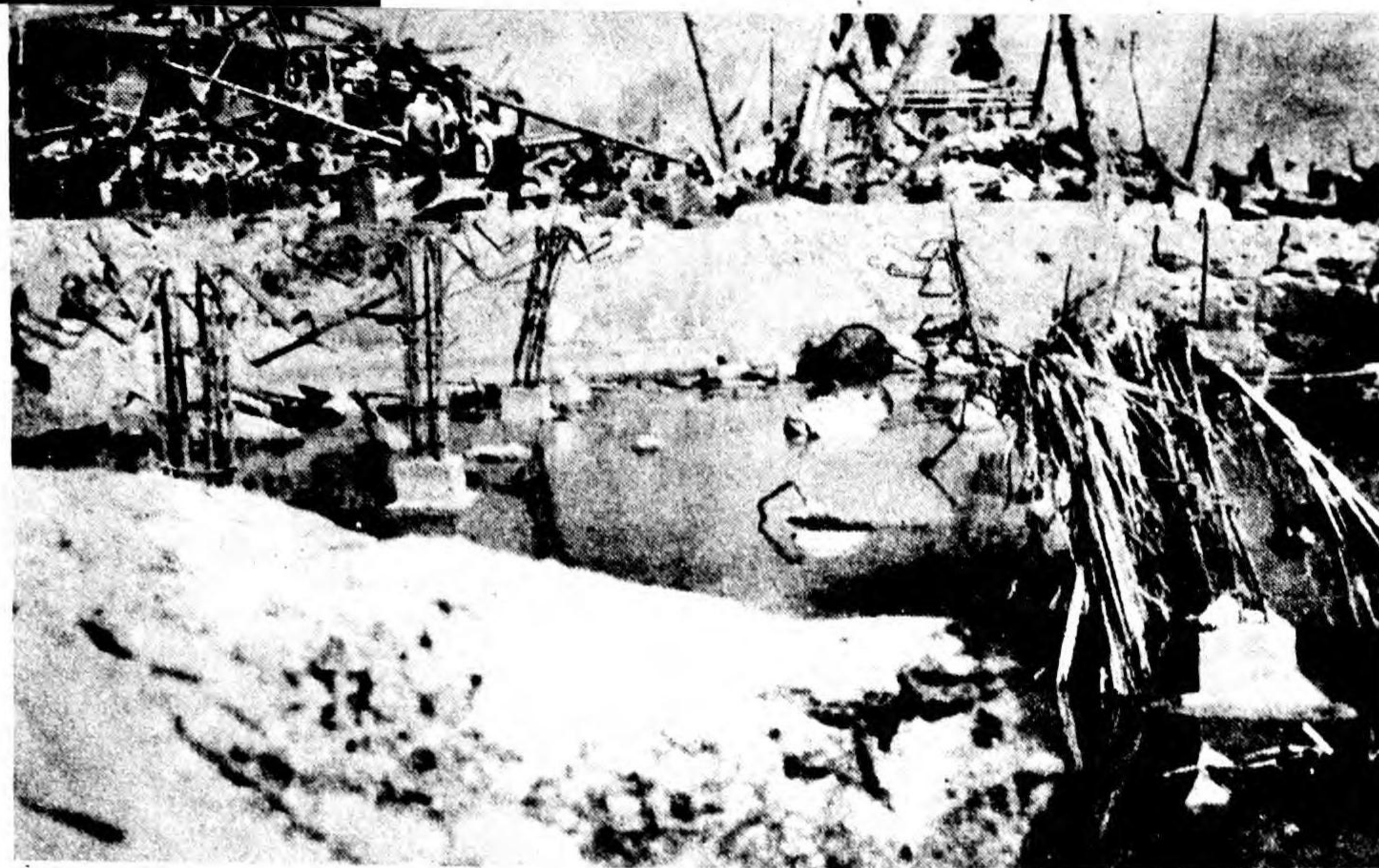
20' DIAM. CISTERNS • SAIPAN



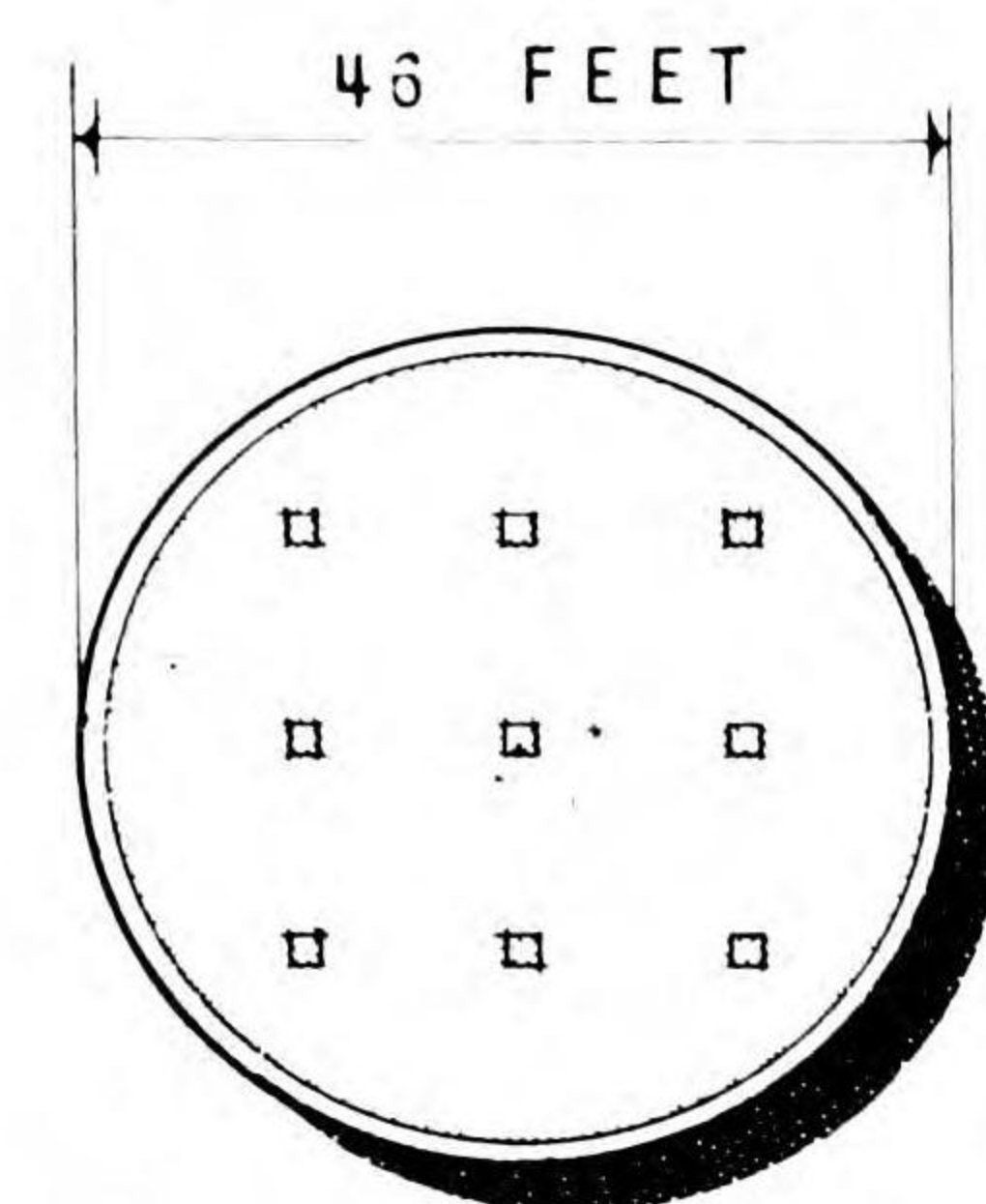


# CISTERNS

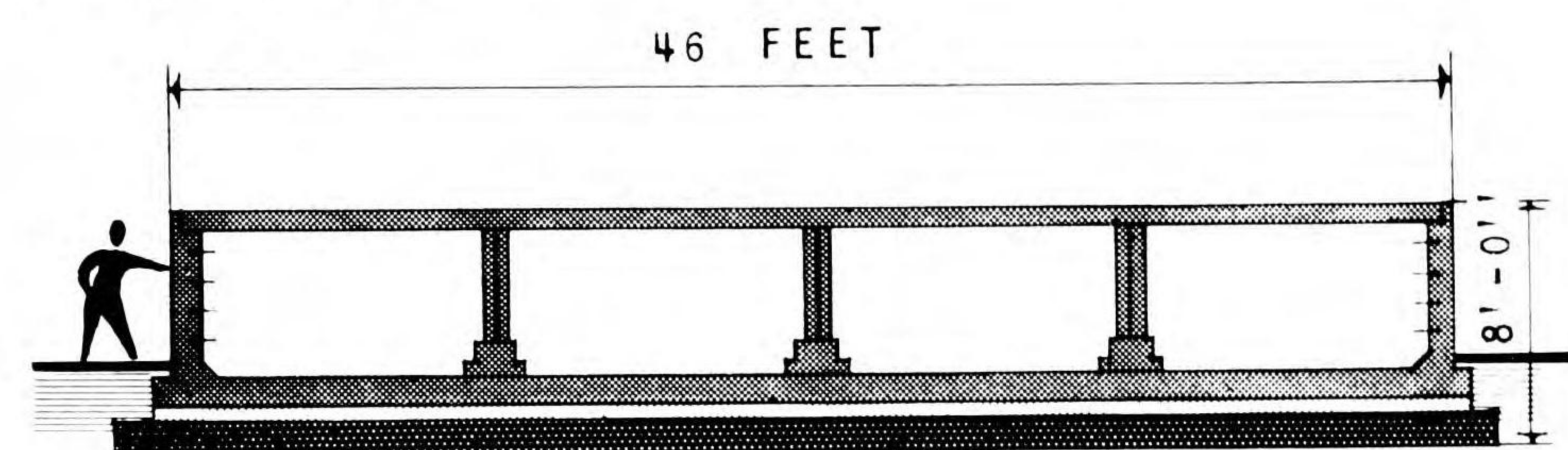
## CONCRETE CONSTRUCTION



46' DIAMETER CISTERN NAMUR



P L A N

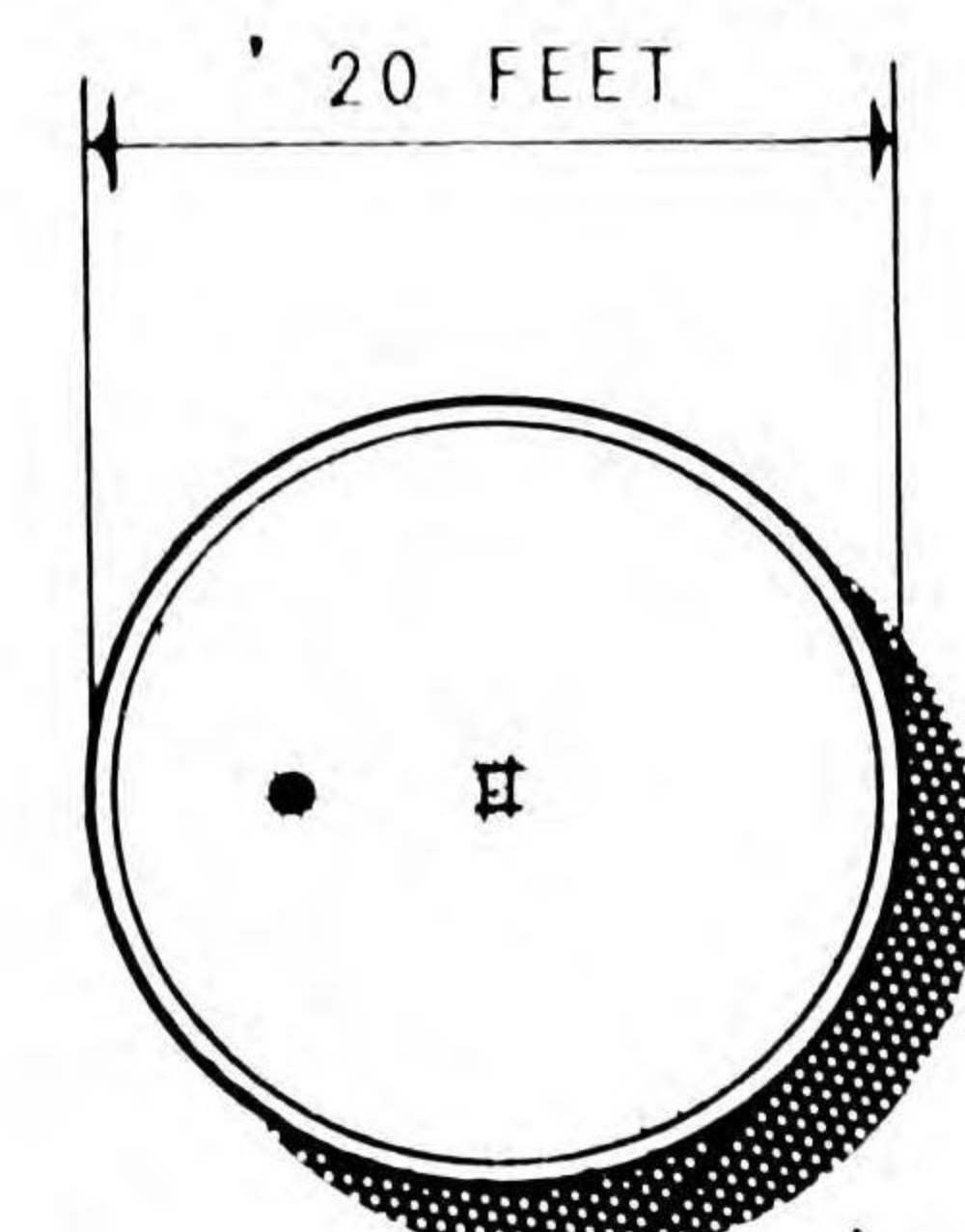


S E C T I O N

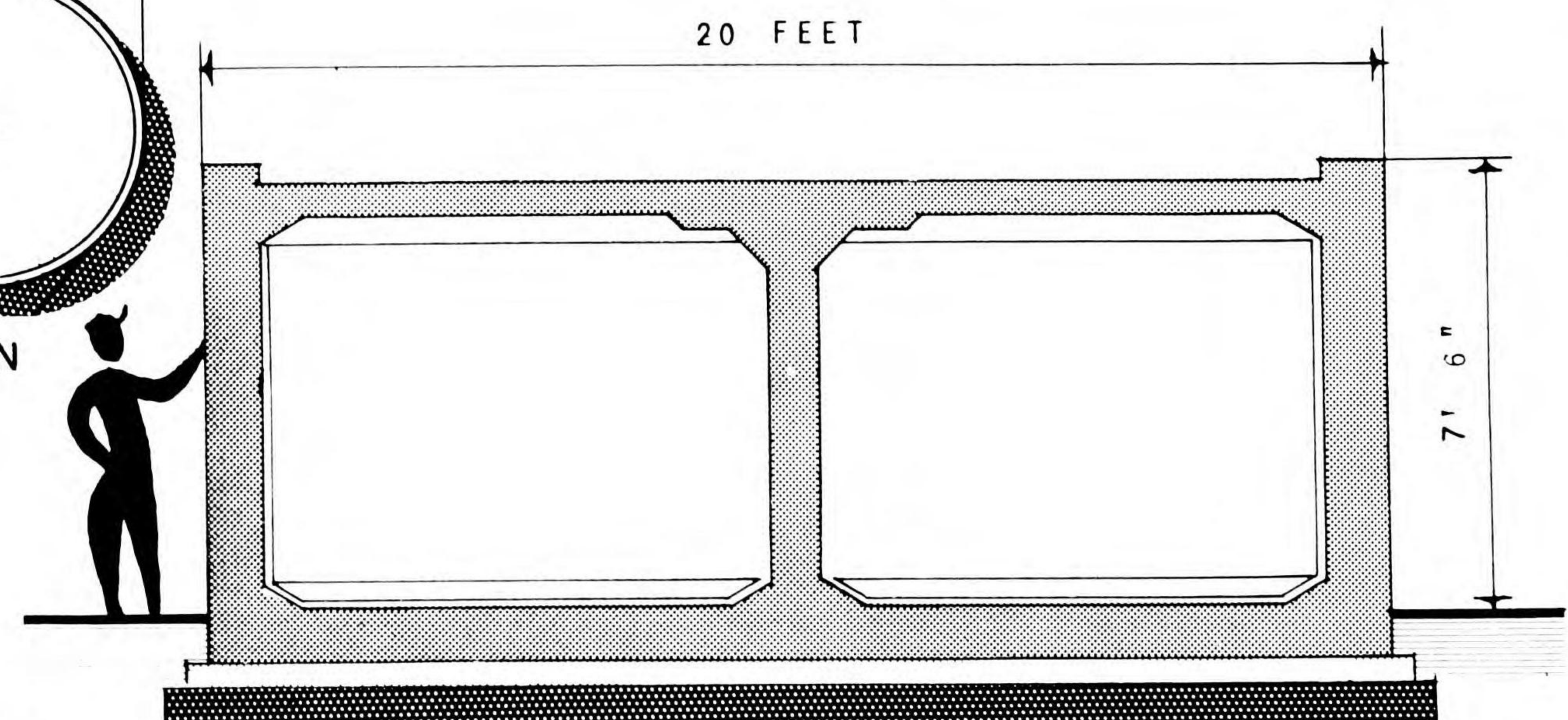
The capacity of the 46 foot diameter water collection tank is 71,400 gallons. The 20 foot diameter cistern has a capacity of 12,232 gallons.



20' DIAMETER CONCRETE CISTERN NAMUR



P L A N



S E C T I O N





## J A P A N E S E S H R I N E S

**S**hinto worship, Japan's native cult, exists on every land form occupied by Imperial troops. The shinto shrine is dedicated to the spirits of the departed, the word Shinto meaning "The way of the gods."

Although of little military value, the structural form should be recognized and distinguished from more vital installations.

The shrine is always approached by a well kept path. The arched gateway, always present, is called the "Torii". It is made up of two upright pillars and two horizontal beams. The Torii is an indispensable adjunct to the shrine and stands at the entrance to the shrine precinct.

The altar, with its delicately carved doll-size house

attached, is placed at the end of the pathway on a raised terrace with stone steps leading to it. Shrines do not necessarily face in the direction of Tokyo.

Island base shrines are purely functional and free from embellishments.

The main camp shrine at Kiska was approached by a well kept walk cut into a carefully graded terrace. The Torii was of polished cedar. Five stone steps led to a paved area containing the delicate structure of the shrine itself. On each side of the steps were 5 5-inch U. S. Navy shells which had failed to explode.

Portable midget shrines are prevalent but usually do not show up in photographs. Page 9.02 and 9.03 include examples of typical shrines found on Kiska, Tarawa, and Saipan.



# SHRINES



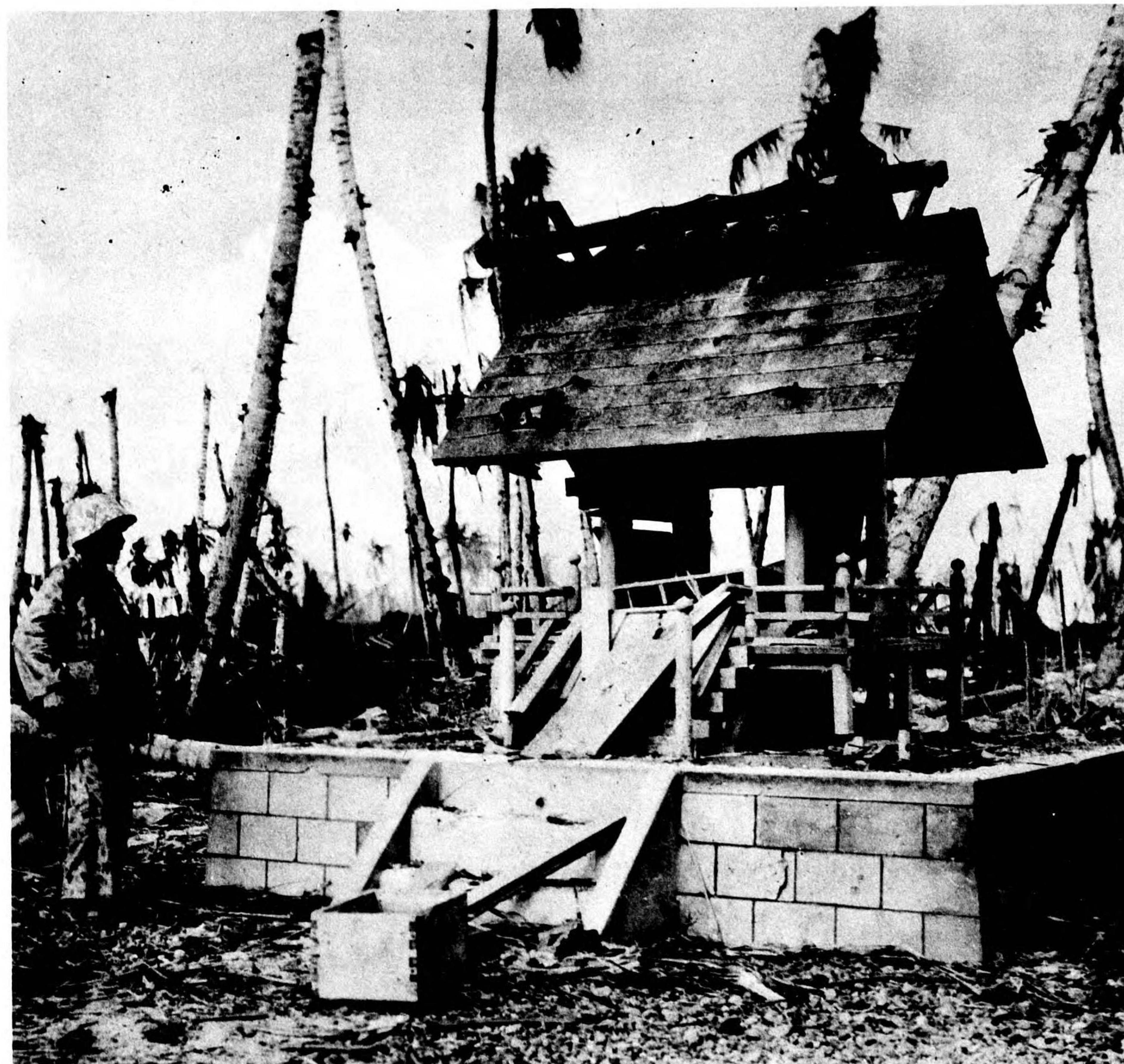
SHINTO SHRINE, TARAWA



# SHRINES

WOOD CONSTRUCTION

JAPANESE SHINTO SHRINES - SAIPAN - TARAWA



SHRINE AREA - SAIPAN.

TARAWA SHRINE.





# SHRINES

## SHINTO SHRINES - KISKA ISLAND

### WOOD CONSTRUCTION

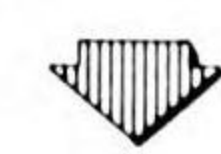


SHINTO SHRINE

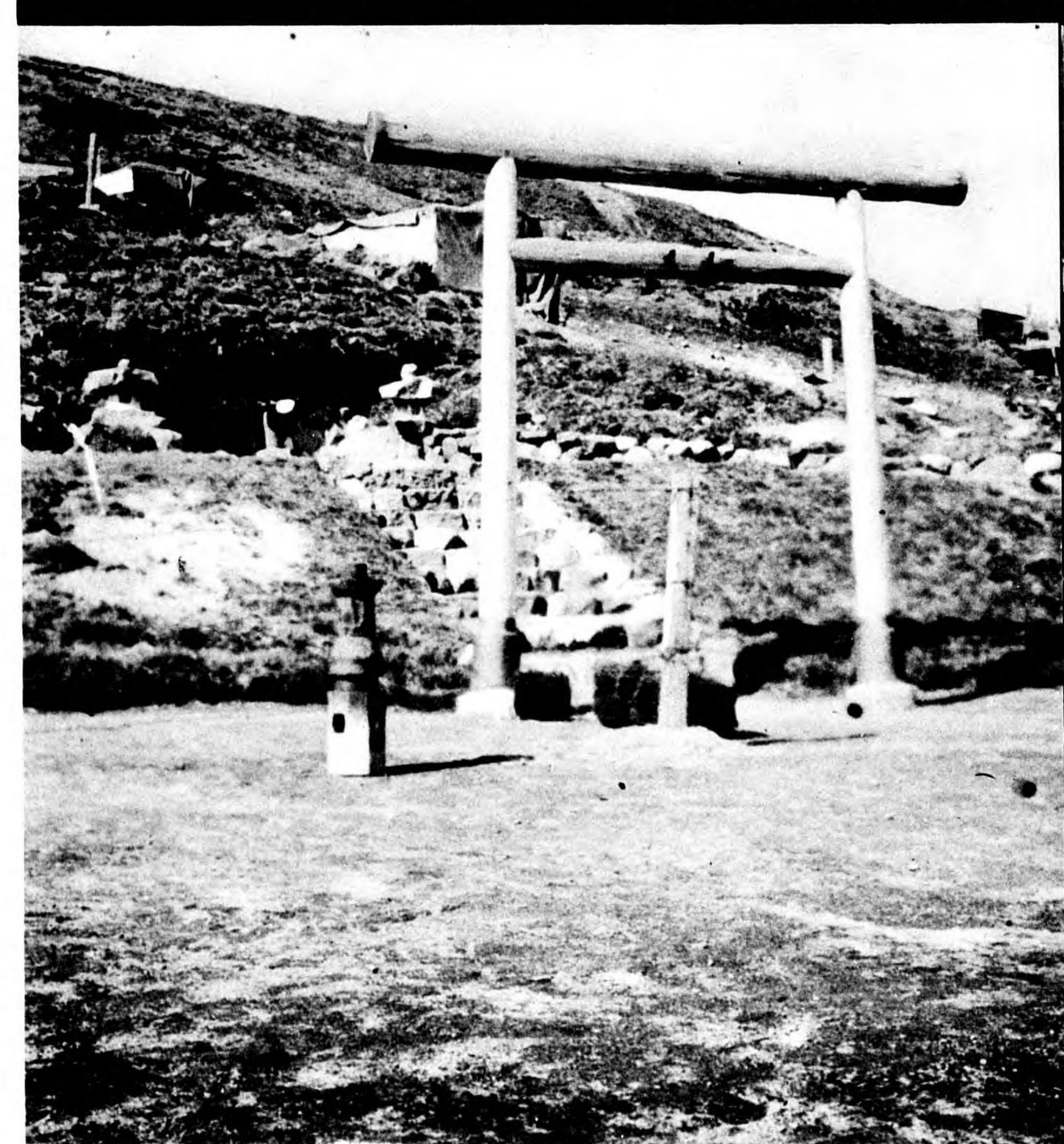
SAIPAN



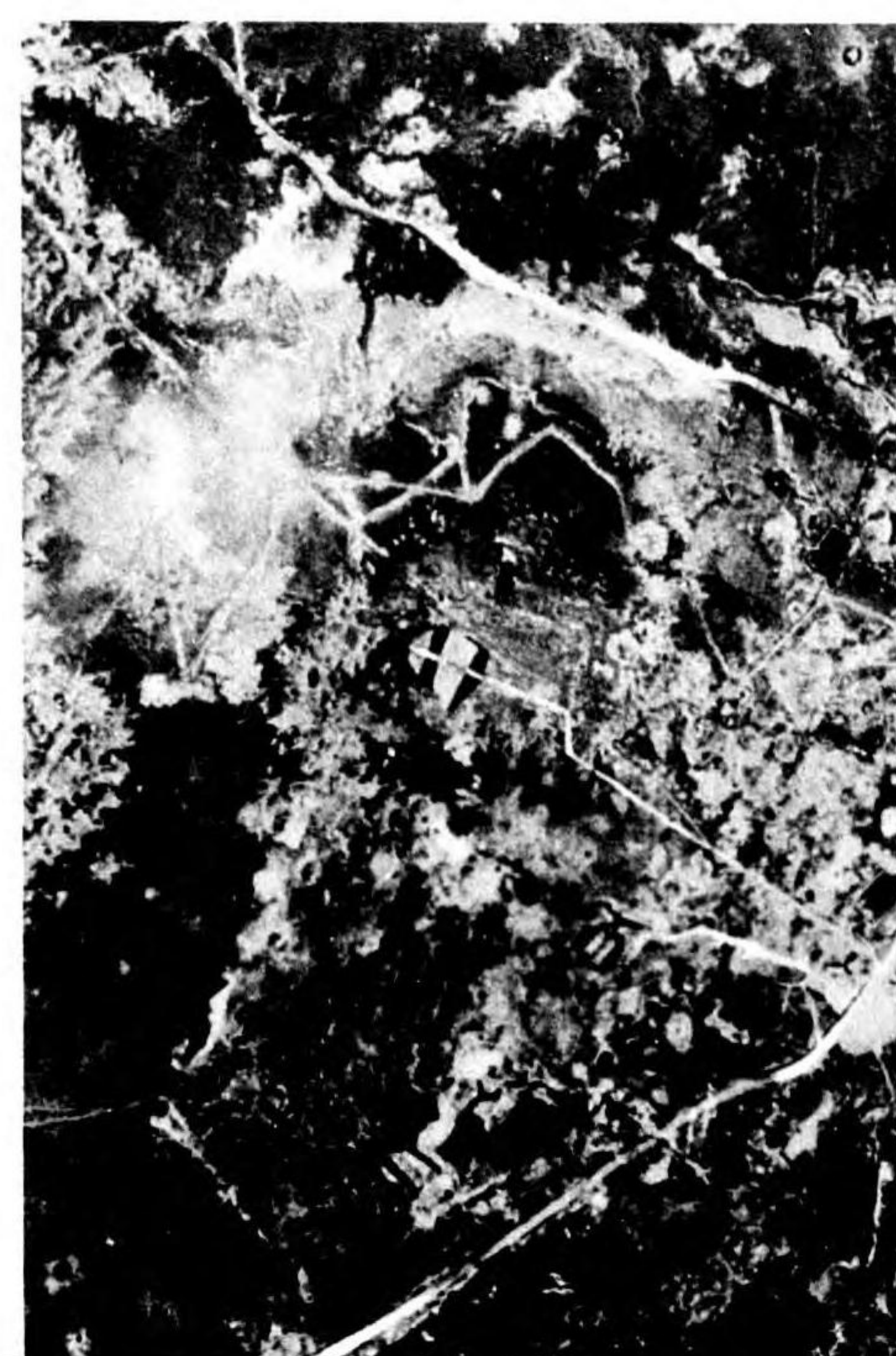
SHINTO SHRINE. MAIN CAMP



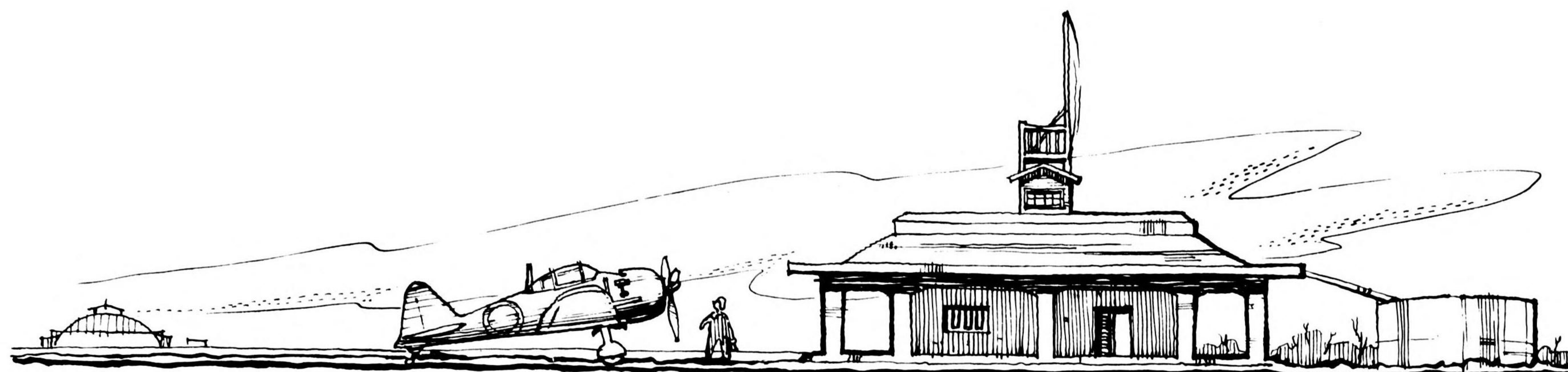
KISKA



TYPICAL SHINTO GATE . . MAIN CAMP







## ADMINISTRATION BUILDINGS

The Japanese Administration Building usually houses communication equipment as well as administrative offices.

A 2-story reinforced concrete structure, T-shaped in plan, is the most common form servicing airfields. Interior areas are devoted mainly to the housing of Medium Frequency communication equipment. The first floor of the 167 foot long flat roofed structure contains head facilities, transformers, generators, storage batteries and administrative offices. The second floor houses the highly vulnerable transmitter, a work shop and barracks space for the communication personnel. The generator room mass is 2 stories in height and is similar in plan and construction to the standard Military Power Plant generator building.

Auxiliary structures servicing the building usually include 3-20 foot diameter water cisterns, a flat roofed reinforced concrete oil storage building and a water cooling tank.

Three 60 or 75 foot lattice masts spaced 175 feet apart, equilaterally surround the building. Wooden curtain walls in some cases replace the masonry panels set between the exterior columns.

Another administration headquarters building is approximately square in plan and one story in height. This 39 x 42 foot flat roofed structure is surrounded by a 6 foot 6 inch porch and protected by 4 feet of reinforced concrete set on 18 inch concrete columns.

A wood framed tower was in some instances centrally located on the roof. In such cases the structure served as an operations building. The building is adjacent to the airstrip, usually set at the edge of the main warm-up apron. Steel plate shutters protect the 7 windows and a vault door covers the entrance. This building is generally classified as the "Air Command Headquarters."

Administrative activities on Saipan were housed in a one-story gable roofed structure as well as in the Air Command Headquarters. This wood framed structure contained space for staff members, general office personnel and duty officers. It was serviced by a connected combination latrine and wash house.

Tarawa's two story reinforced concrete command post is presented on page 10.07 as an example of the ultimate in heavy concrete construction. The aforementioned standard types of administration buildings are presented in the ensuing pages.



# ADMINISTRATION





# ADMINISTRATION

## CONCRETE CONSTRUCTION



TWO STORY ADMINISTRATION BLDG . . . R O I



10.02 RESTRICTED



ADMINISTRATION BLDG . TINIAN

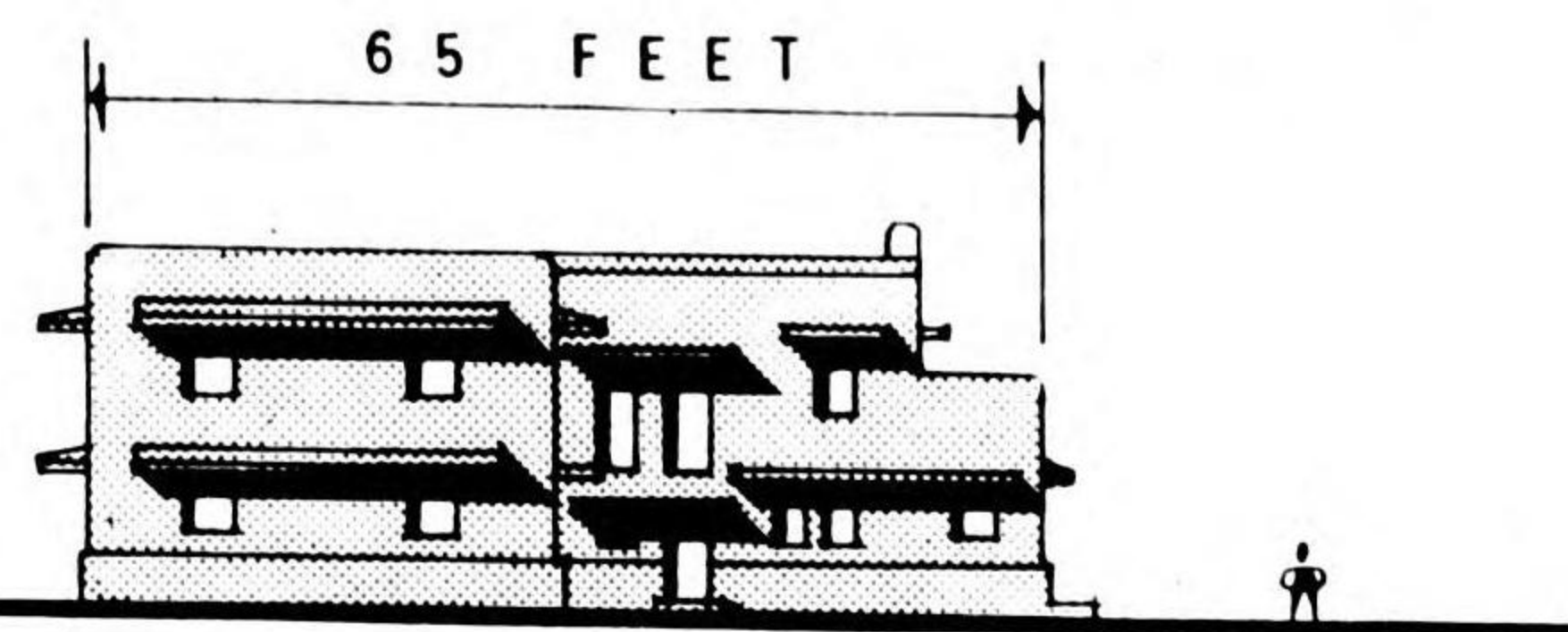
## ADMINISTRATION

This standard 2-story reinforced concrete building houses a Medium Frequency Communication Center as well as administrative personnel. The 187 foot long "T" shaped plan is distinctive to the point of making the building easily identifiable at any scale. The large room 2 stories in height, that houses the generators, is similar in plan and construction to the standard Military Power Plant generator building. Three 20 foot diameter water cisterns, a flat roofed concrete oil storage building and a water cooling tank usually are included as auxiliary units servicing the building. Three 60-75 foot lattice masts spaced 175 feet apart equilaterally surround the island headquarters.

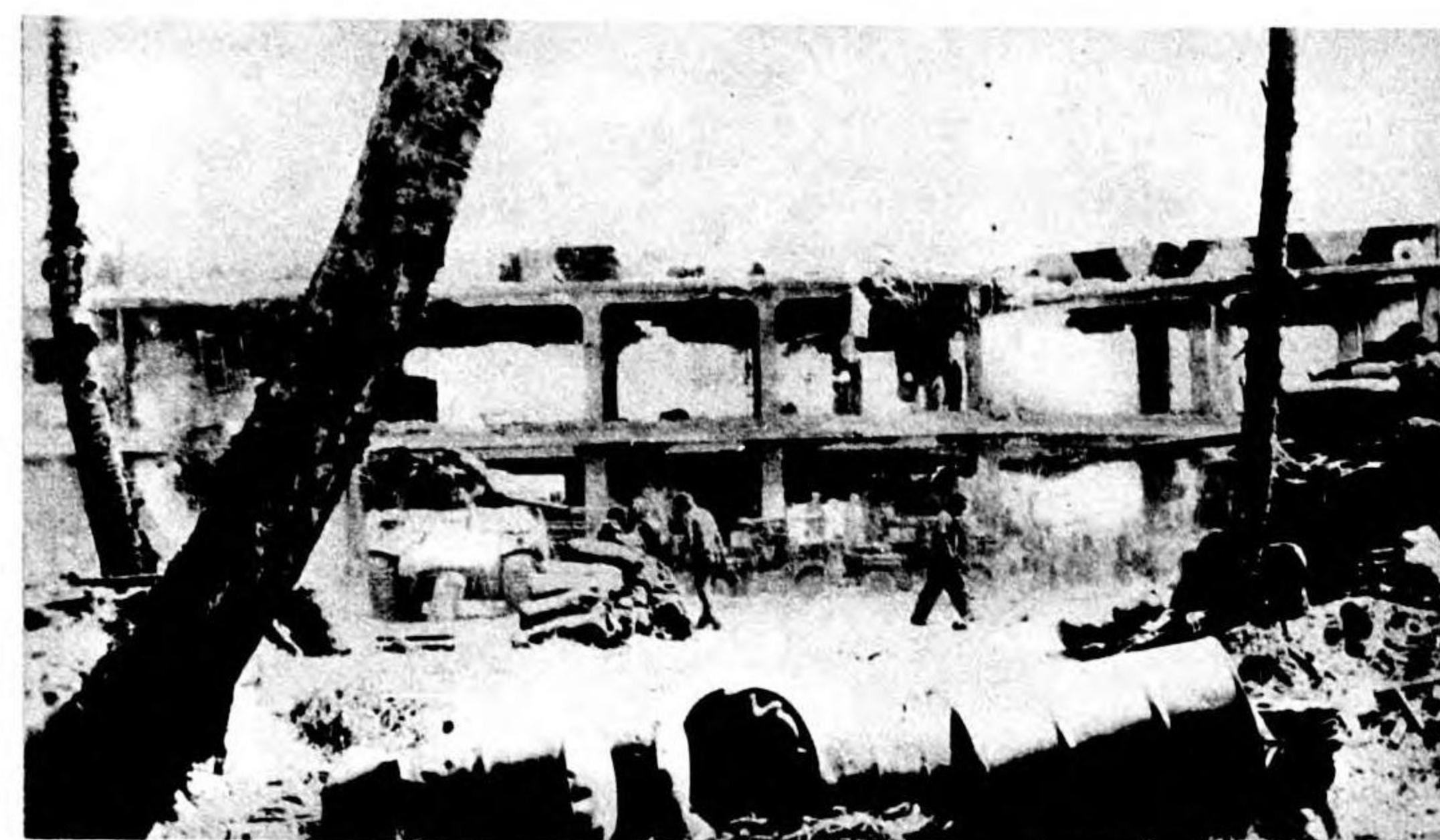
In some cases the masonry between the exterior concrete columns has been replaced by wooden curtain walls. The first floor contains head facilities, generator and transformer rooms, a storage battery room and administrative offices. The second floor contains a motor parts room, work shop, transmitter rooms and barracks space for electronics personnel.



# CONCRETE ADMINISTRATION BUILDING

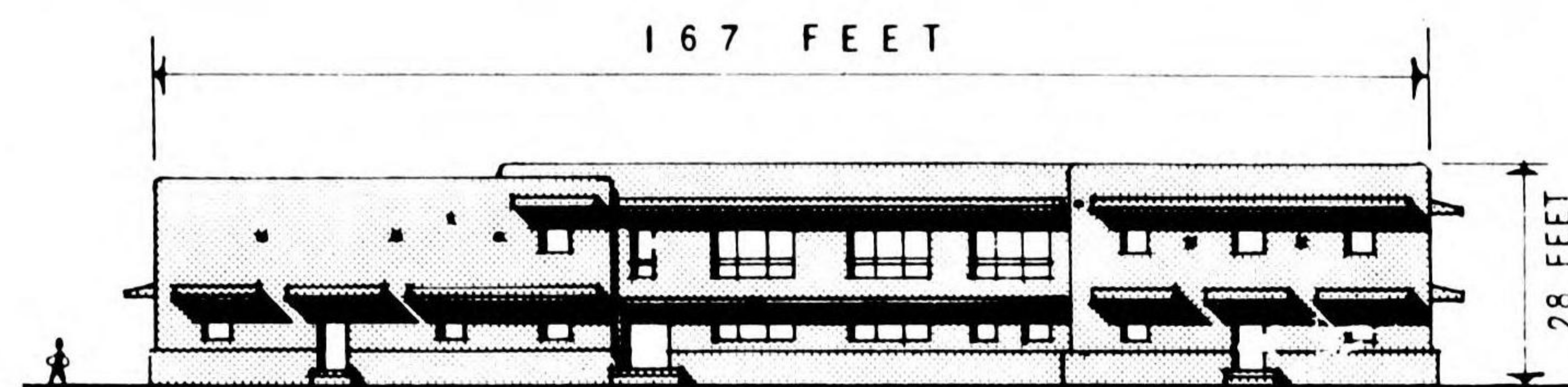


SIDE ELEVATION

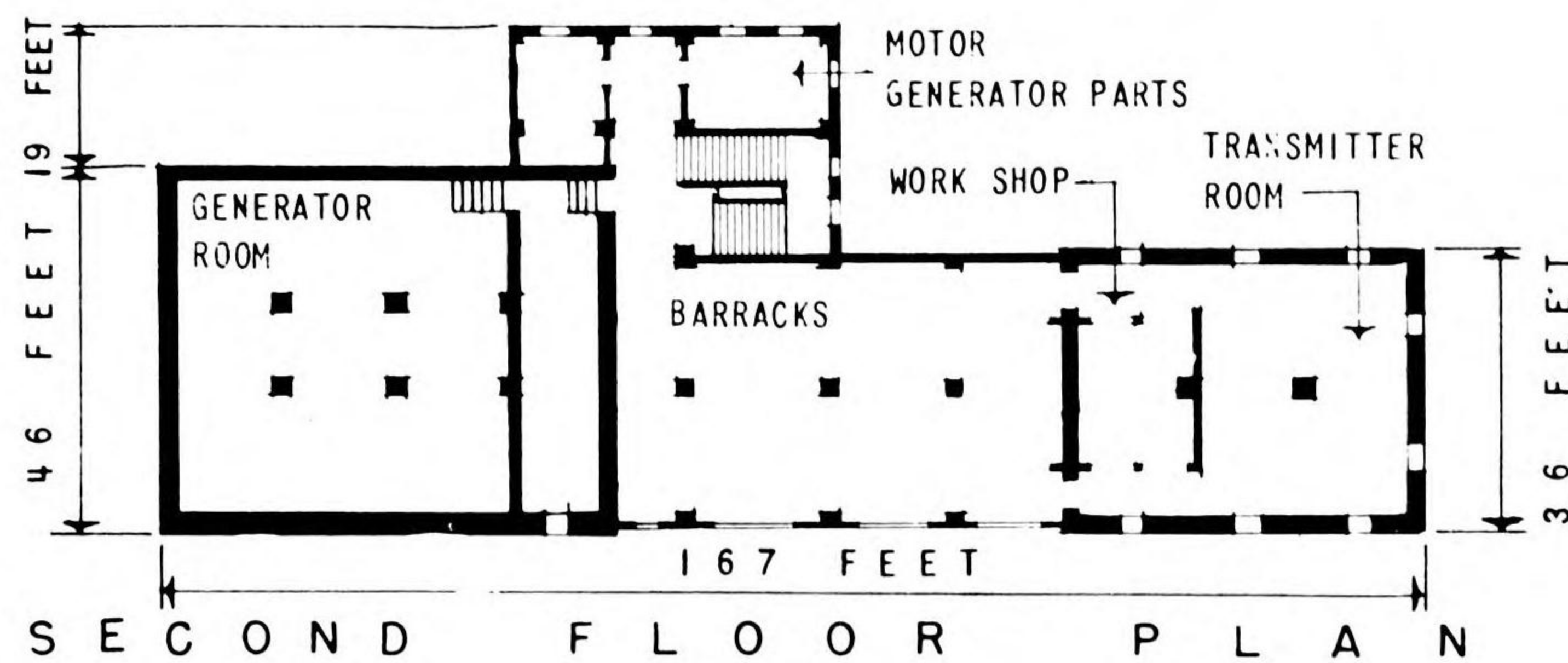
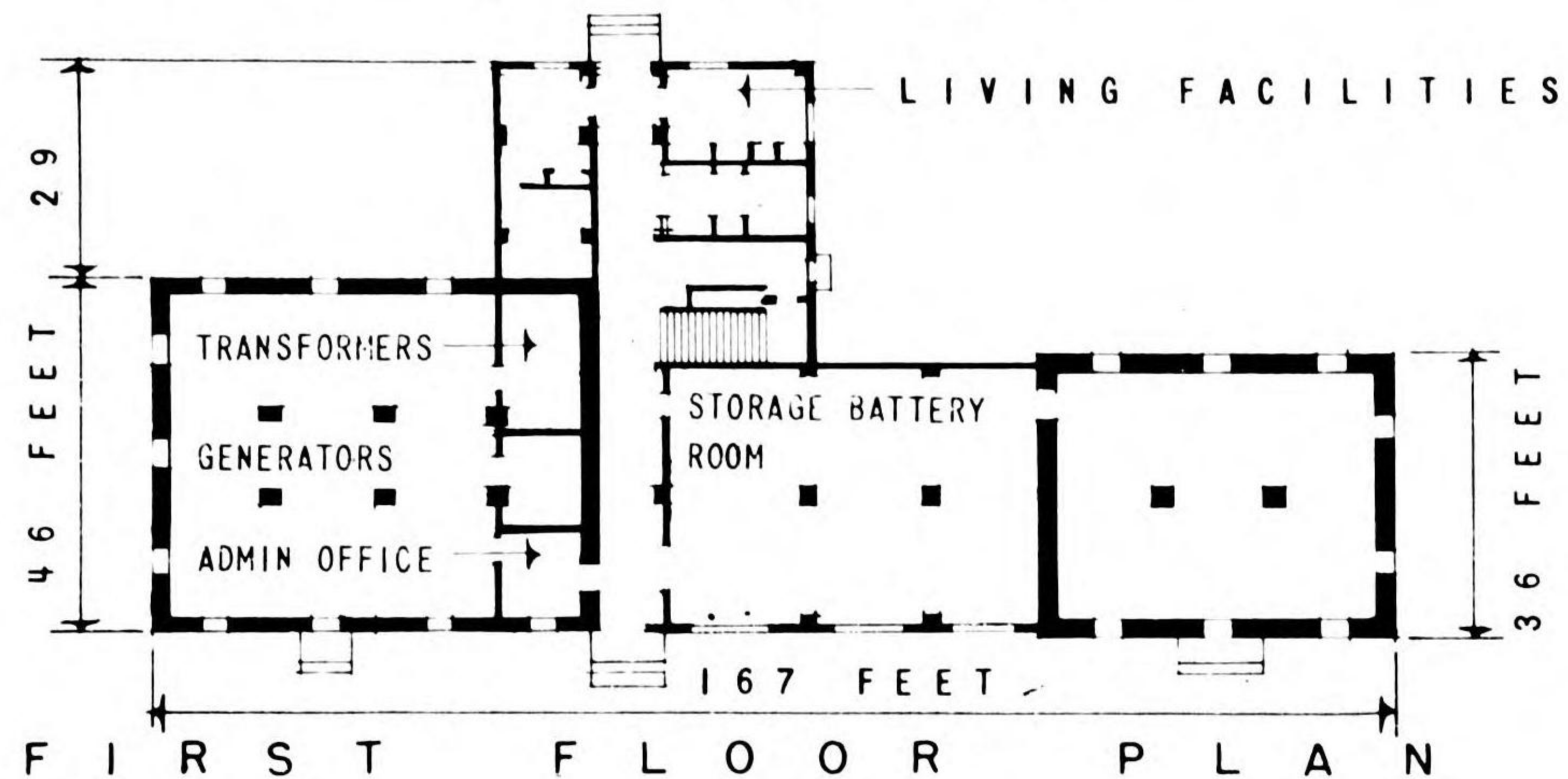


NAMUR

MALOELAP



FRONT ELEVATION



MALOELAP



# ADMINISTRATION

## CONCRETE CONSTRUCTION





# ADMINISTRATION

## CONCRETE CONSTRUCTION



AIR COMMAND HEADQUARTERS BLDG.  
HEADQUARTERS WITH TOWER

ROI ISLAND  
MALOELAP

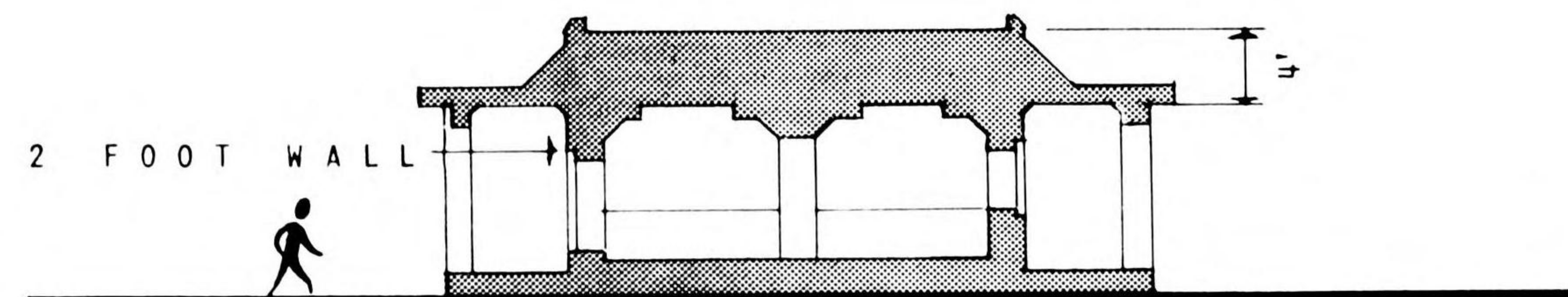


## AIR COMMAND HEADQUARTERS

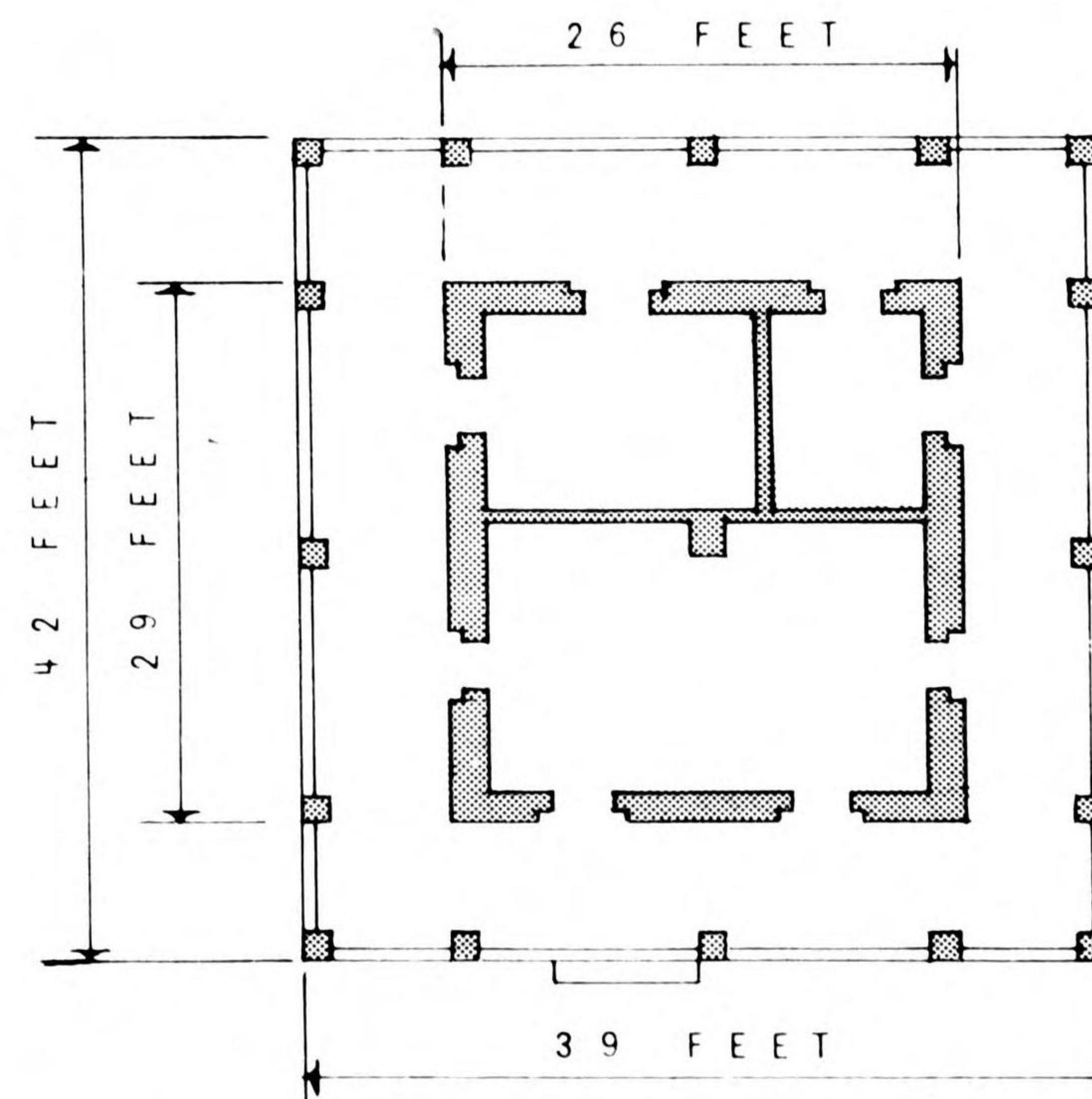
This 39 x 42 foot single storied building is protected from aerial bombing by a 4 foot roof slab of reinforced concrete. A wood framed observation tower is sometimes centrally located on the roof. In these instances the structure serves as an operations building. A 6 foot 3 inch porch surrounds the 3 room interior. Camouflage netting was applied to the structure on Aslito Airfield in an attempt to conceal its presence.



F R O N T E L E V A T I O N



S E C T I O N



F L O O R P L A N



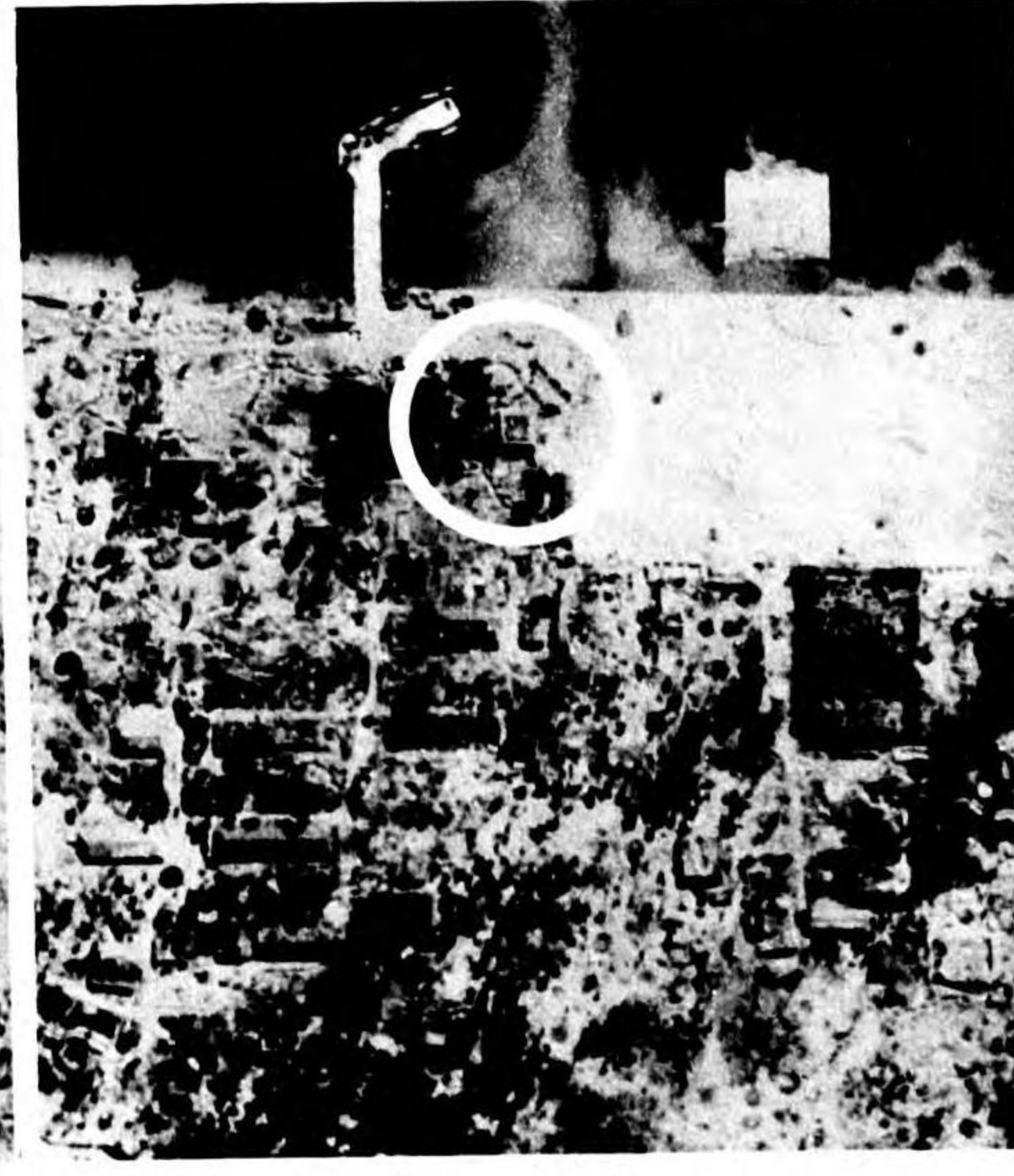
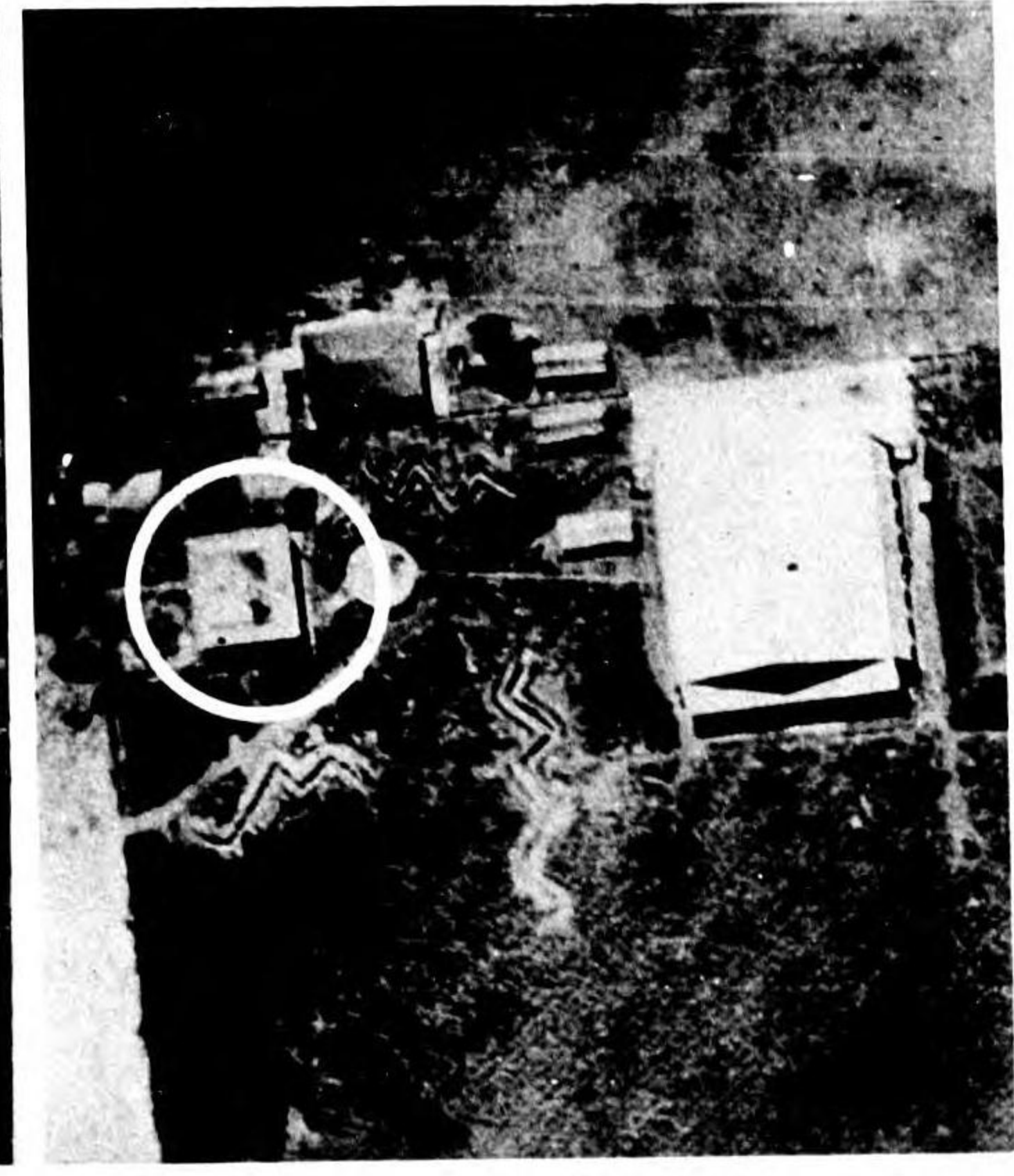
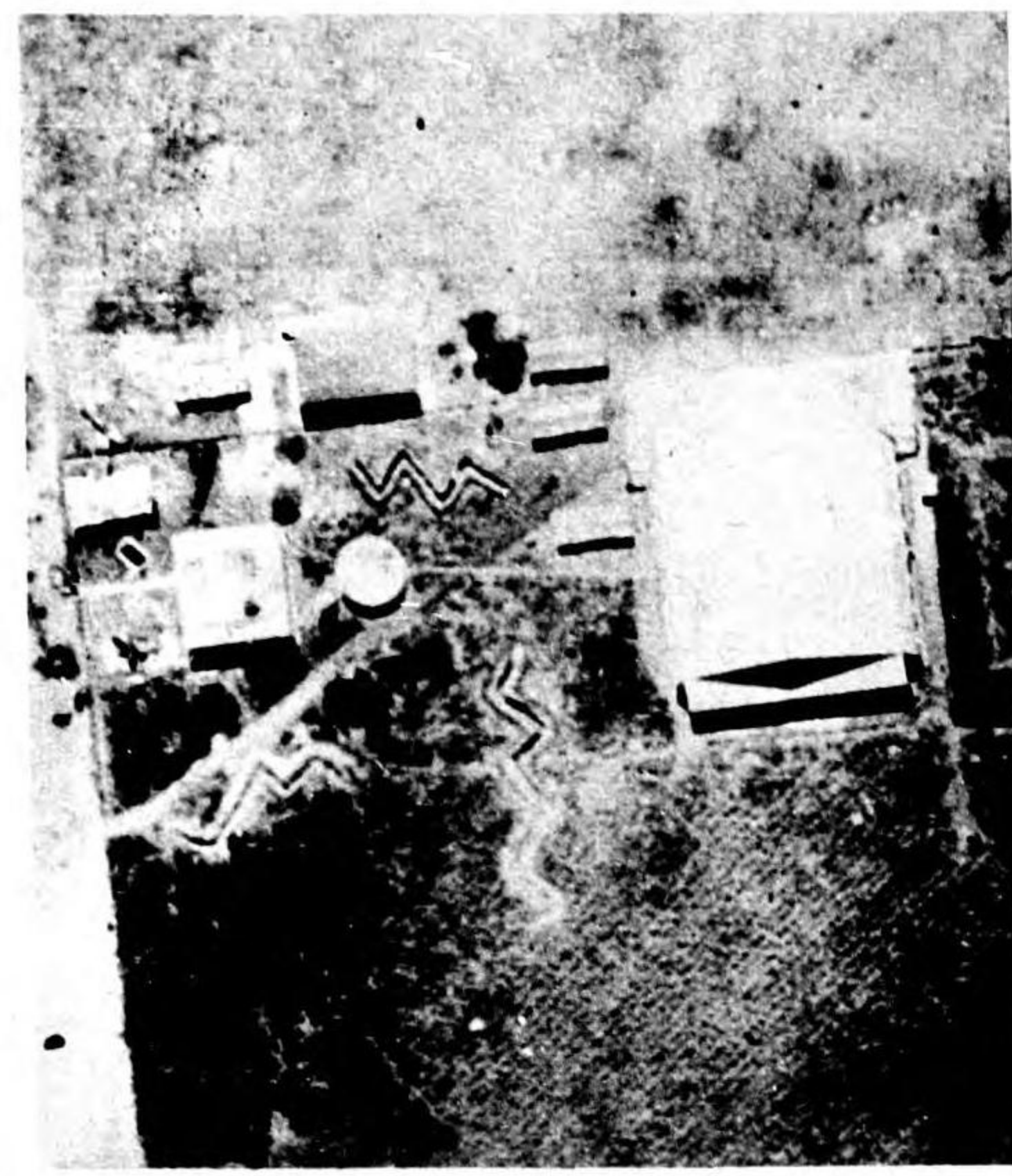
# ADMINISTRATION



## CONCRETE CONSTRUCTION






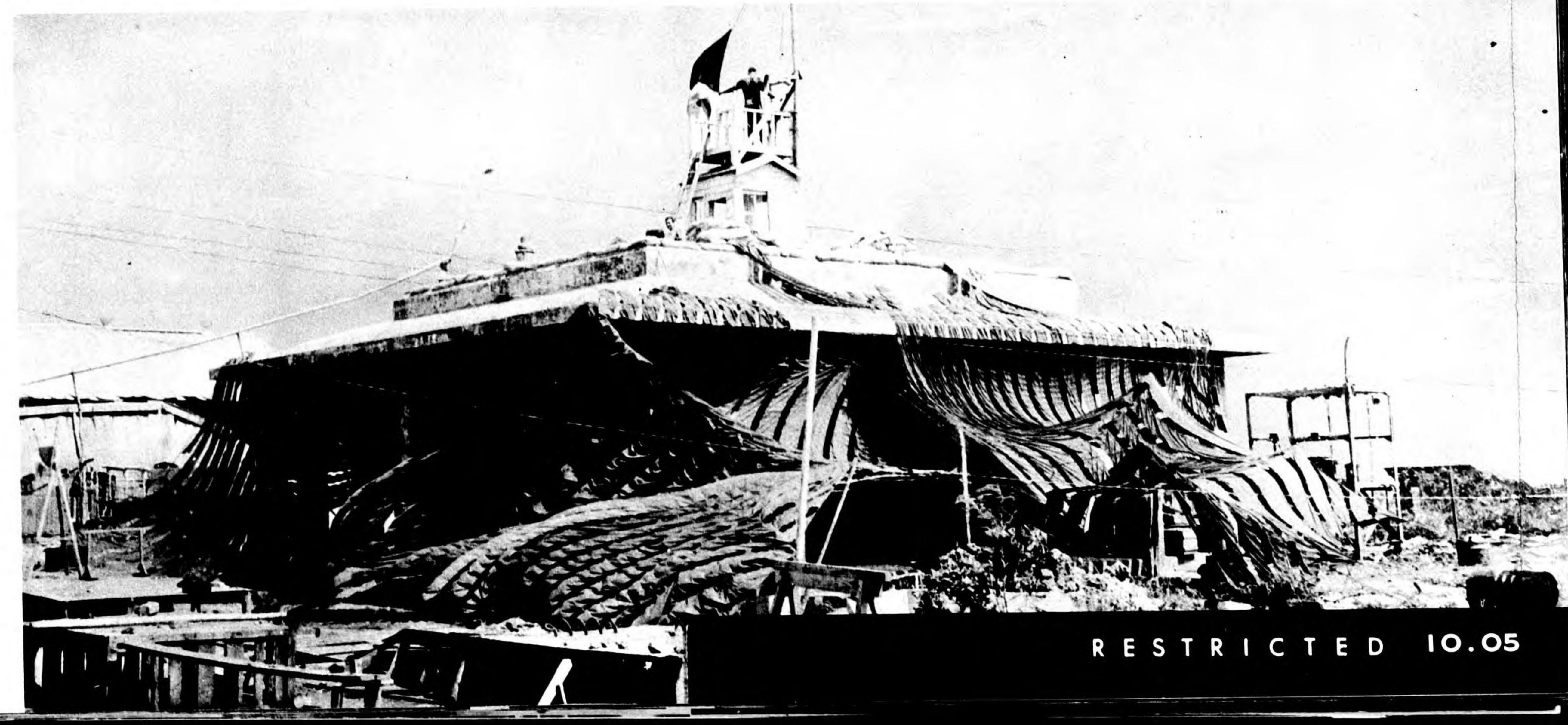
AIR COMMAND HEADQUARTERS BLDG. WITH OBSERVATION TOWER

M A L O E L A P



S A I P A N  R O I I S L A N D 

J A L U I T  C A M O U F L A G E D H D Q T R S . S A I P A N   M A L O E L A P





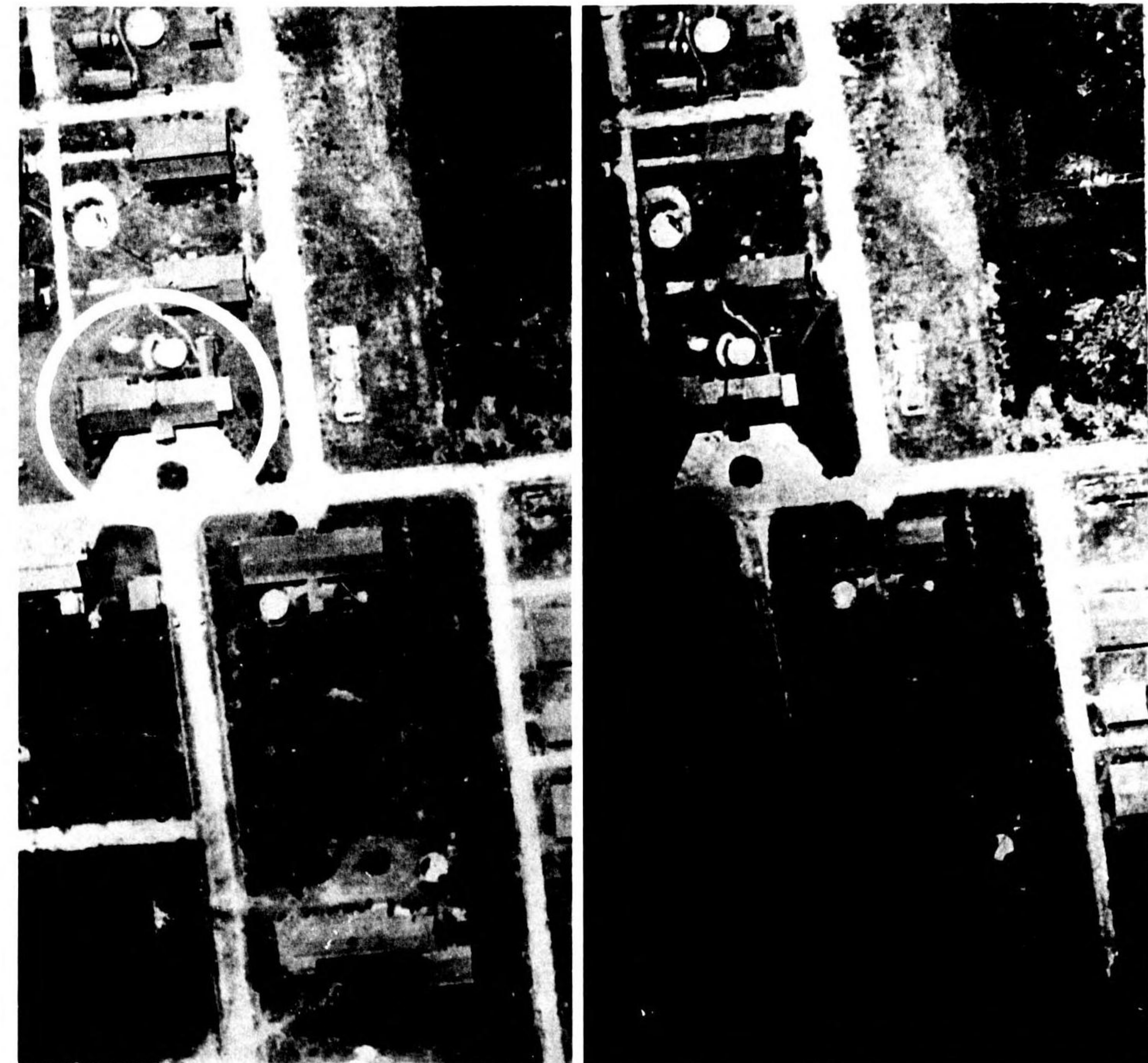
# ADMINISTRATION

WOOD CONSTRUCTION

WOOD ADMINISTRATION BUILDING

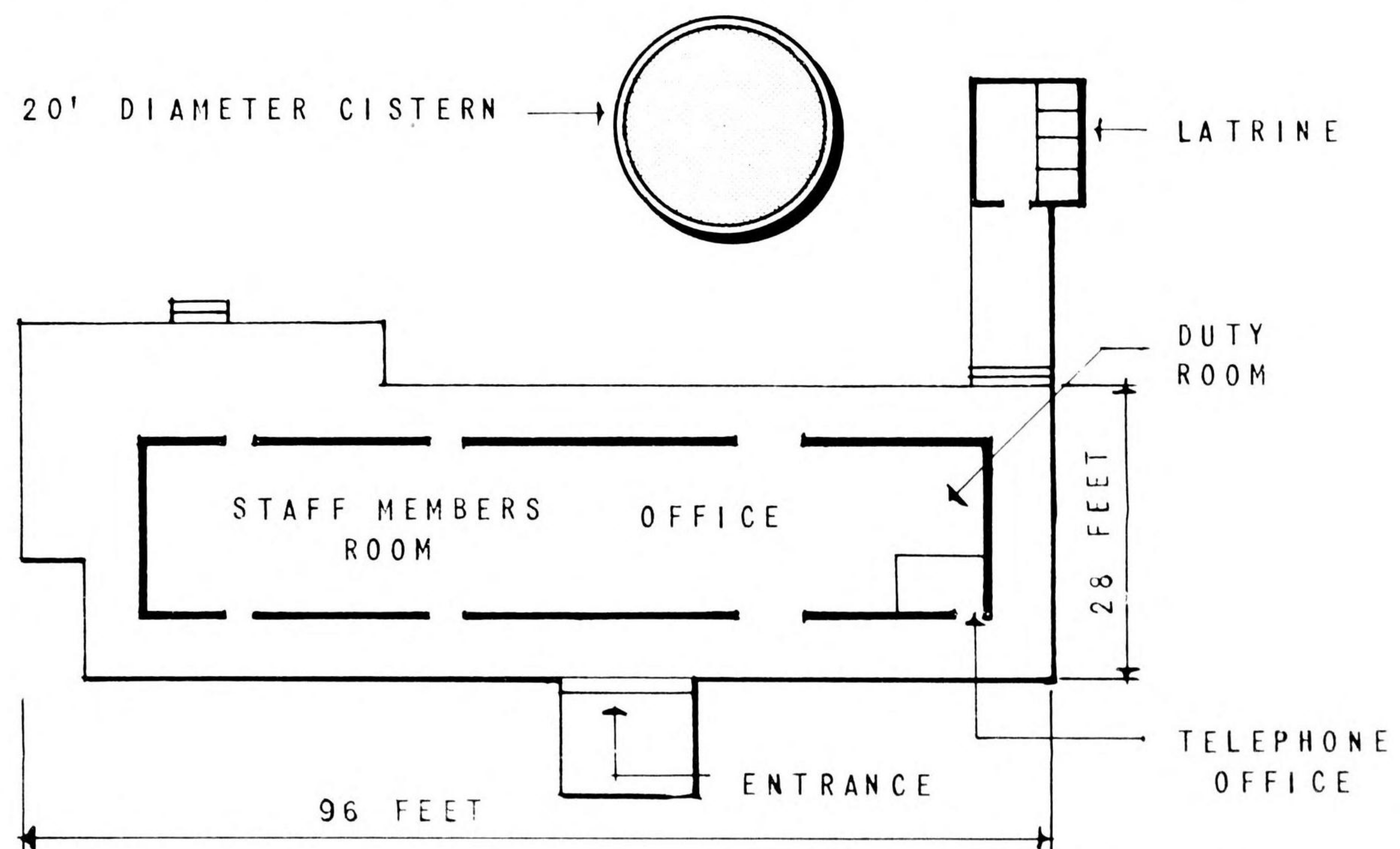


28' X 96' WOOD FRAMED ADMINISTRATION BUILDING



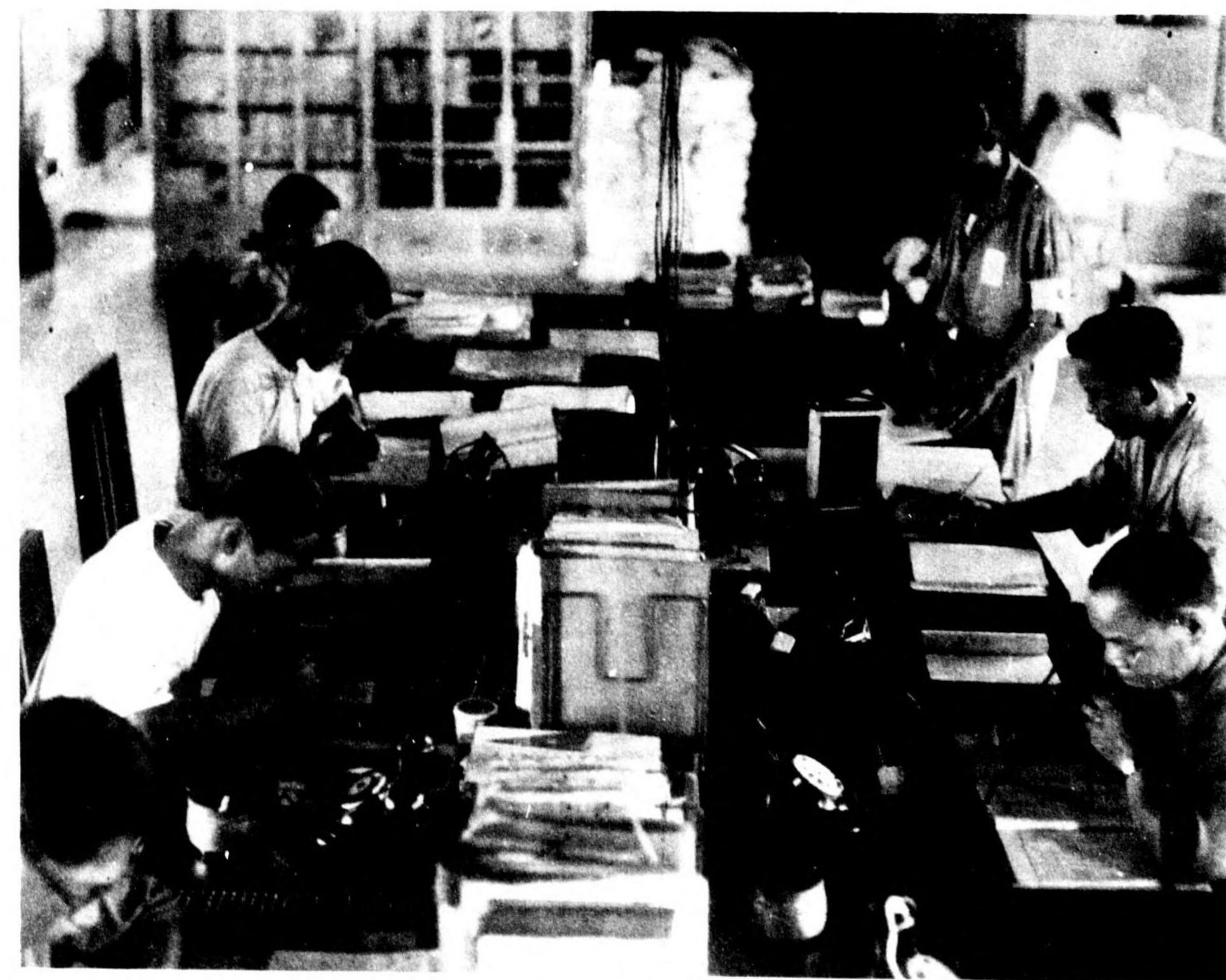
SAIPAN STEREO STUDY

SAIPAN



FLOOR PLAN OF ADMINISTRATION BUILDING

10.06 RESTRICTED



INTERIOR OF ADMINISTRATION BLDG.





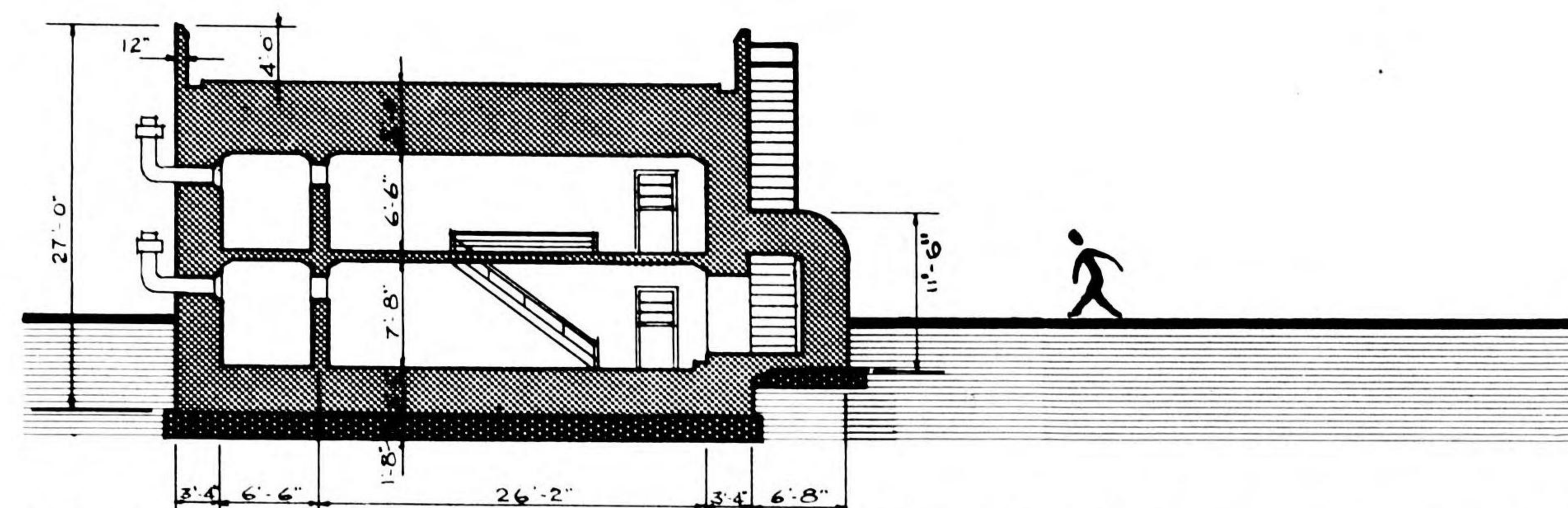
39' X 59' COMMAND POST - TARAWA



COMMAND POST - TARAWA

# ADMINISTRATION

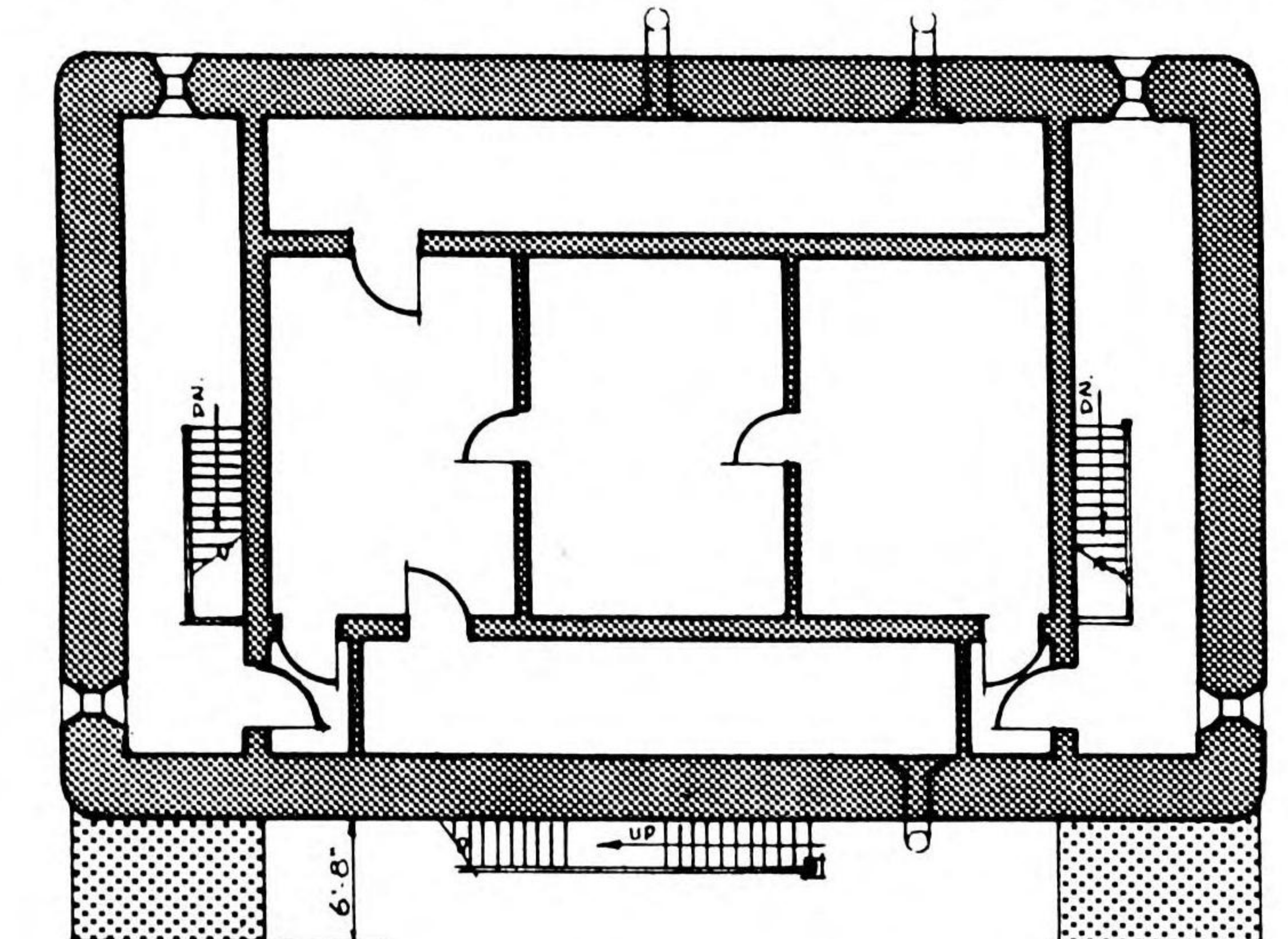
## CONCRETE CONSTRUCTION



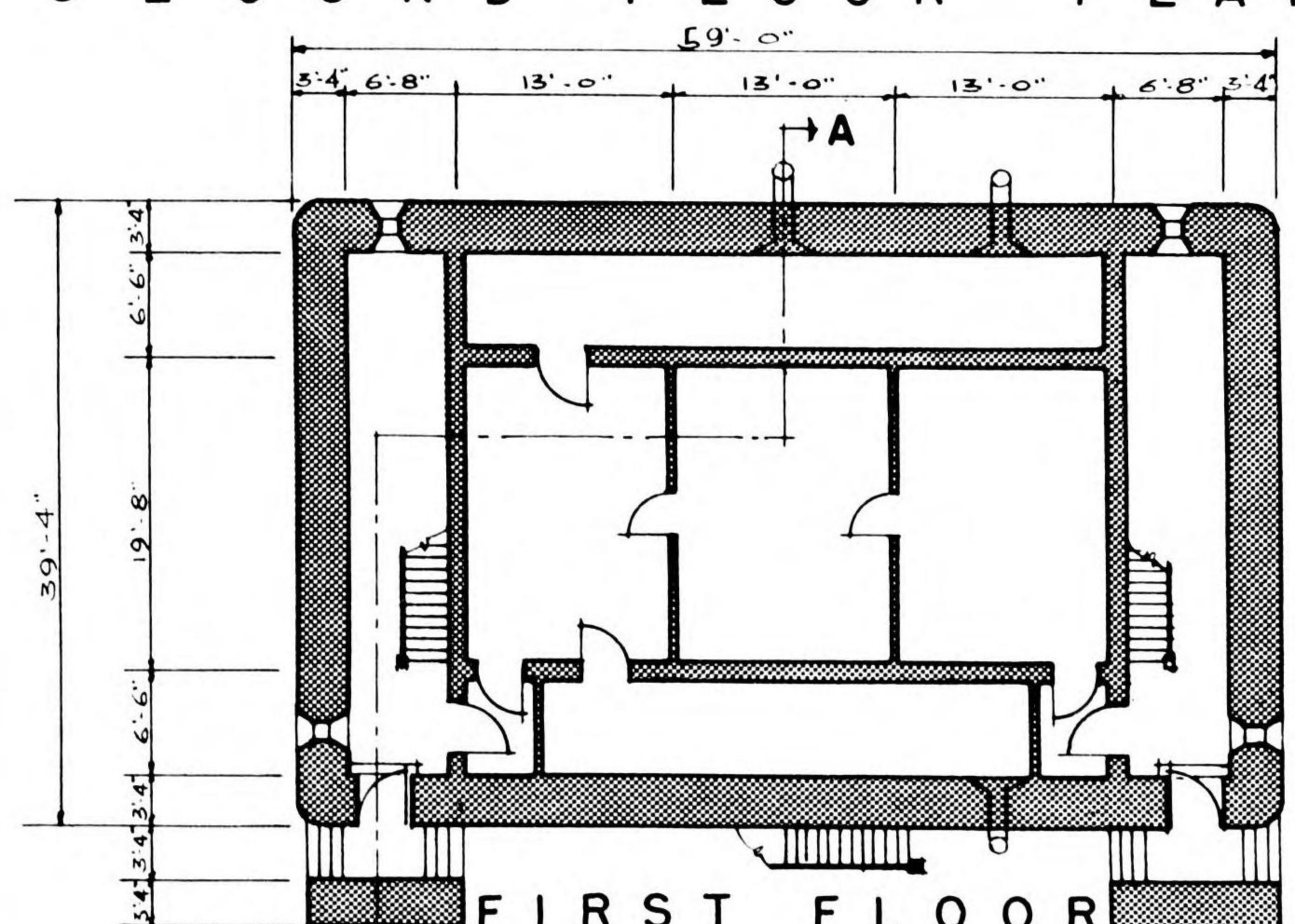
SECTION A-A CONCRETE COMMAND POST

## CONCRETE COMMAND POST

This Air Defense Command post was the largest reinforced concrete structure on Tarawa. It was the island headquarters and housed terminal facilities of radio and telephone equipment as well as administrative personnel. Sand on the 5 foot thick reinforced concrete roof slab afforded additional protection from aerial bombing. Apertures were provided for the fire of small arms and light automatic weapons. The structure withstood the direct fire of all types of artillery and had to be finally reduced by the use of flame throwers, grenades and dynamite. Because of palm fronds layed on the roof and the existance of natural growth, the building was never detected on aerial photographs.

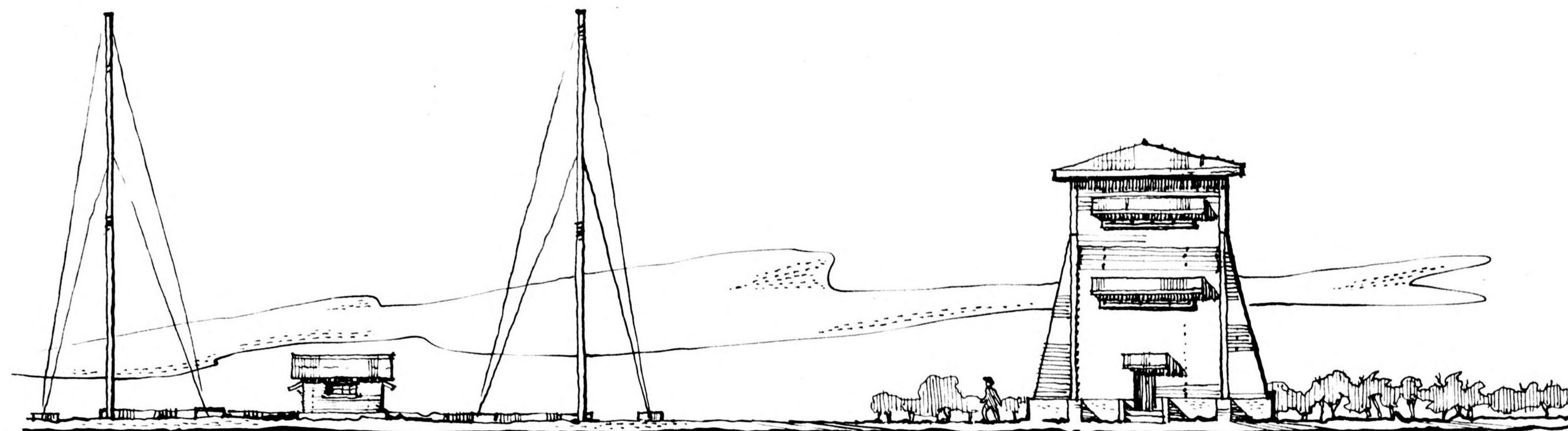


SECOND FLOOR PLAN



FIRST FLOOR





## J A P A N E S E                      E L E C T R O N I C S

**J**apanese electronics equipment is conveniently housed in buildings of standardized construction. These special function structures, distinct in plan and location, can be briefly described as follows:

Direction Finder Buildings, which are receivers of radio signals, aid in aerial navigation and fall into two distinct structural forms. The high frequency form is housed in a building square in plan and 30 feet in height. This "Housed Adcock" type encloses a set of dipoles in each of its 4 corners. The heavily buttressed building is usually found in groups of 3 in a cleared area. The groups are generally serviced by a similar buttressed form 30 by 38 feet which probably contains a generator.

Medium Frequency Adcock Direction Finder Buildings are identified by the presence of 4 stick masts 60 to 70 feet in height arranged in a square plan about the building. The receiver structure is little more than a 20 by 20 foot gable roofed shack 8 feet in height. Clearly visible buried feeds tie the base of the unipoles to the central shack.

Medium Frequency D. F. stations are usually set in circular clearings 250 feet in diameter. They are usually accompanied by High Frequency Towers, however High Frequency Towers are often found alone.

The "T" formation of buildings servicing D. F. include

offices, communications, barracks, baths, and messing facilities, and are connected by a narrow covered passageway.

Construction housing weather prediction equipment falls into a standard pattern. The main weather station building is a wood framed gable roofed structure with a 2 story flat roofed tower at one end. The building contains offices and transmitter facilities. Barracks buildings are adjacent to the station, which is also serviced by a small generator structure and 20 foot diameter water cisterns. Three small instrument houses are in line and adjacent to the station. These 3 to 5 foot square shacks contain instruments for determining temperature and barometric pressure. In order to receive standard constant readings, the structures are painted white.

A 50 foot steel tower containing wind speed and direction recording instruments, and 2 spliced wood stick masts also service the station. Weather stations are commonly found on shore lines, isolated from other airfield construction.

A medium frequency communication center is elaborately housed in the standard Administration Building illustrated on page 10.03.

Electronics installations discussed are illustrated in the ensuing pages.



# ELECTRONICS





# ELECTRONICS

## WOOD CONSTRUCTION

### STANDARD 20 X 20 DIRECTION FINDER BUILDING



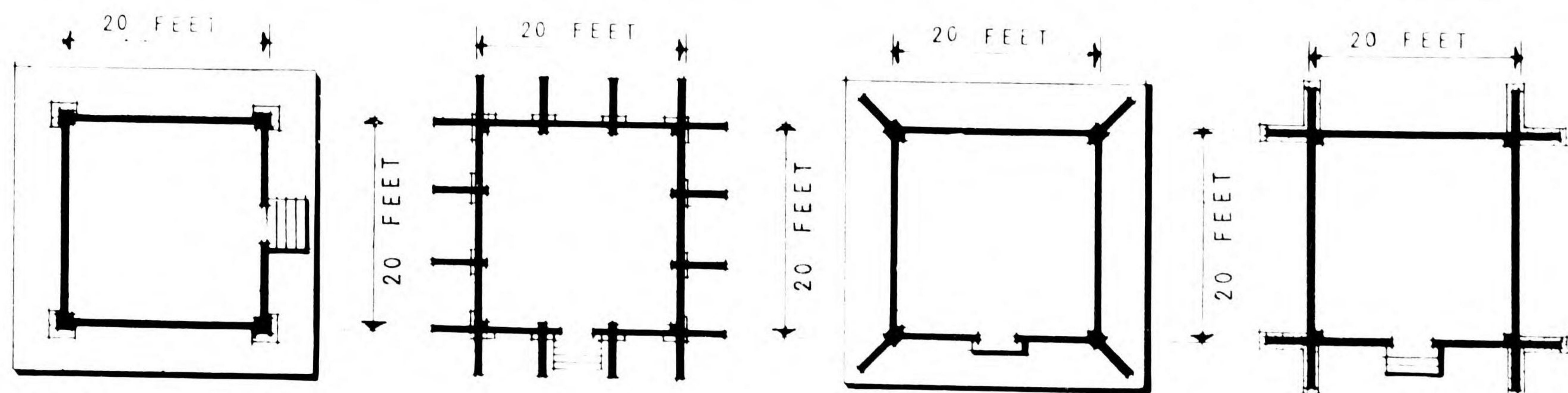
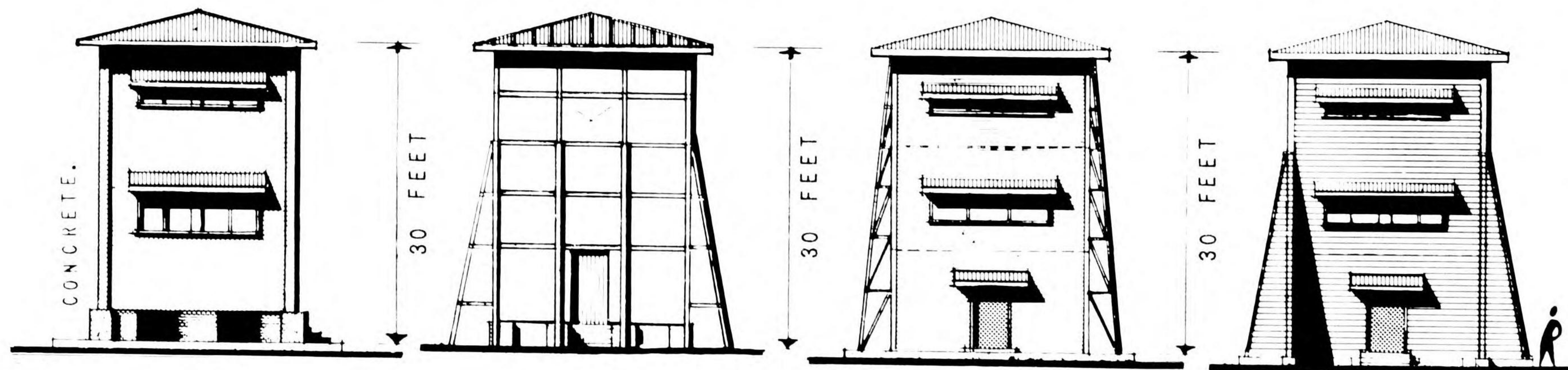
20' X 20' D. F. BLDG. • MAJURO



20 X 20 AND 30 X 38 D. F. BUILDINGS - STEREO STUDY . . . MAJURO



11.02 RESTRICTED



VARIATIONS IN TYPICAL D. F. CONSTRUCTION



## WOOD CONSTRUCTION

### TYPICAL DIRECTION FINDER STRUCTURES

**D**arrit Island, Majuro, contains the typical High Frequency Direction Finder setup complete with Communication Center and probable generator building. In this case, the buttressed 20 by 20 foot D. F. building was treated architecturally to a greater degree than is usual. Structural variations occur in other areas but the outside dimensions and function of the structure is essentially the same. A hipped roof caps heavily buttressed side walls. Wooden awnings protect the banks of sliding windows. The buttresses extend 6 feet beyond the concrete foundation of the building.

The "T" formation of buildings adjacent to the D. F. setup completely house communications personnel operating the station.

This "Housed Adcock" setup is usually accompanied by a Medium Frequency D. F. station. Ulalu and Rabaul contain combinations of the High and Medium Frequency stations. Note the well worn pathways between the installations. Direction Finders are receivers of radio signals and are an aid to aerial navigation.

DIRECTION FINDER GENERATOR BLDG. AND CENTER ULALU.



D.F. AND ADCOCK INSTALLATION • RABAU





# ELECTRONICS

## WOOD CONSTRUCTION



## STANDARD DIRECTION FINDER INSTALLATION - TRUK

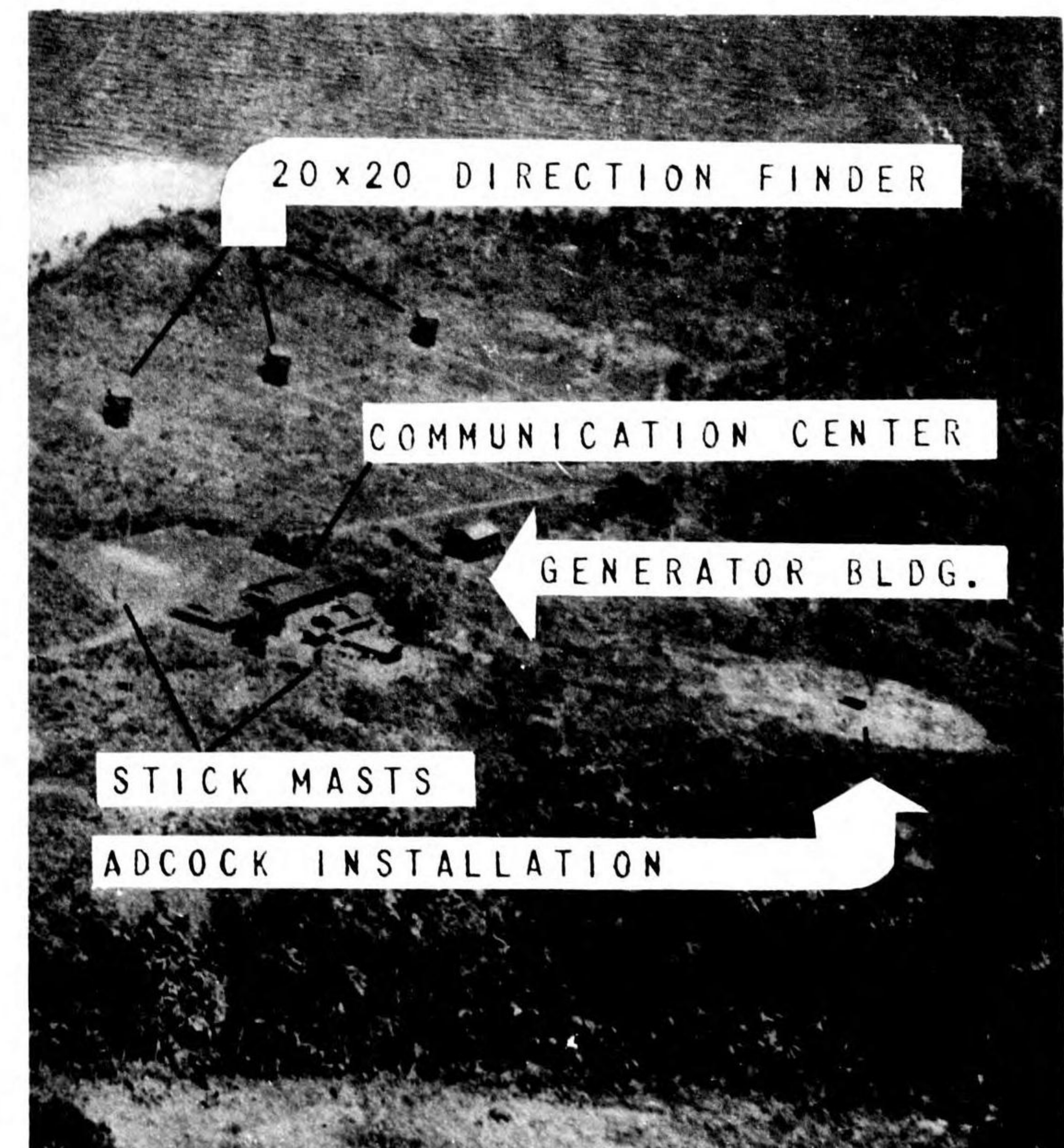
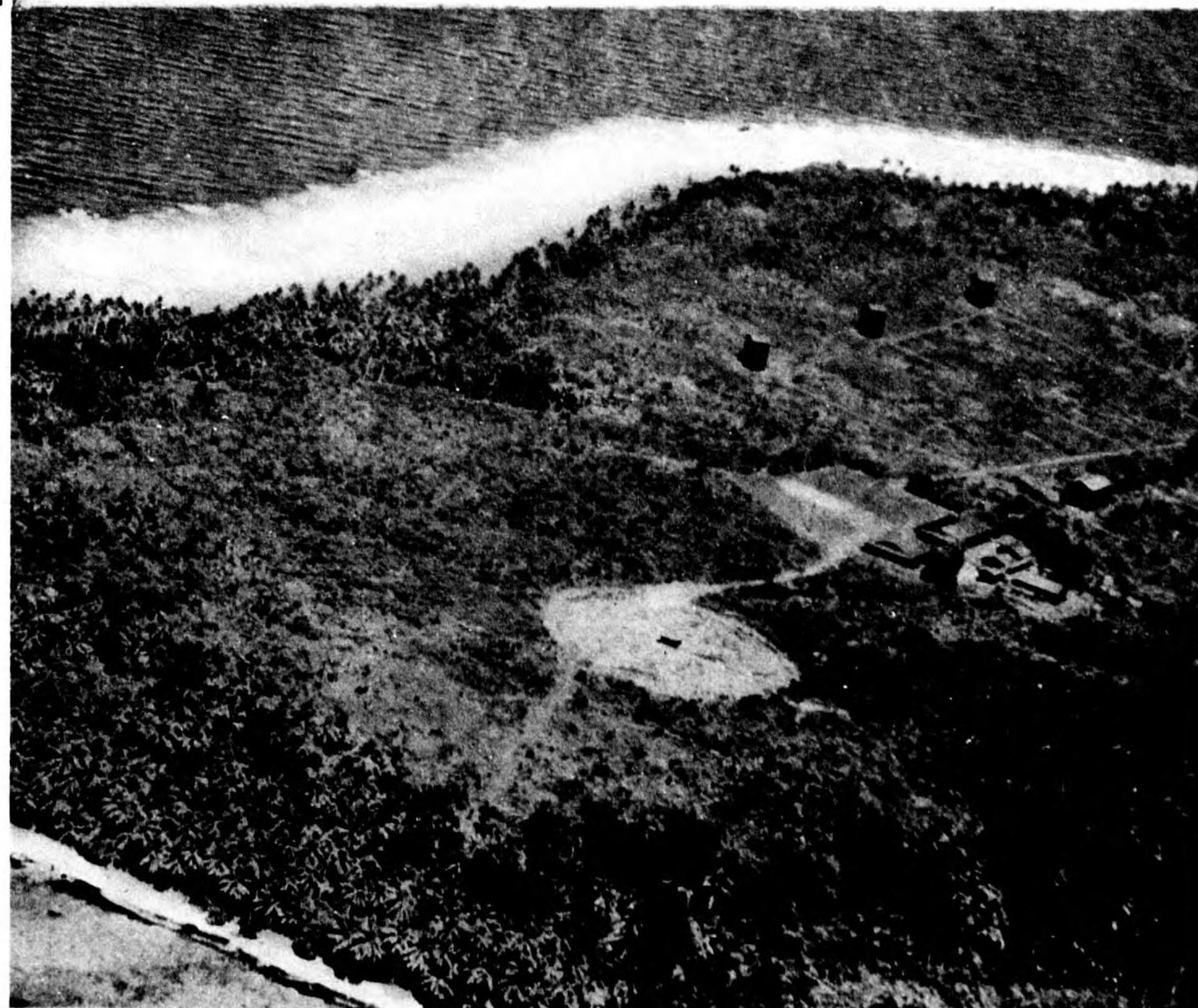
**A** typical example of the Medium Frequency Direction Finder Station accompanies the High Frequency Housed Adcock installation on Truk. This simplest form of "Fixed" Adcock is set in the center of two separated circular clearings 250 feet in diameter. The identical pair on Truk are adjacent to the "T" formation Communication Center. The central shack is a wood framed gable roofed structure 20 feet square and 8 feet high. Wooden awnings protect the windows on the gable ends of the building. Four unipoles 60 to 70 feet in height surround the building, each 50 feet away from the center of the receiving unit. Two concrete 3 foot square blocks serve as dead man anchors for cables supporting the four unipoles. Buried feeds supply electrical connection between the four unipoles and the control shack. Fill covering these buried feeds shows clearly in aerial photographs of the installation.

Note that the three buildings constituting the High Frequency D. F. station are oriented alike with respect to North. Opposite corners of the structures are oriented north and south or east and west.

Medium Frequency D. F. station unipoles mark the cardinal points of the compass. Track activity is clearly visible between all units of the combination Medium and High Frequency installations on Truk.

### DIRECTION FINDER INSTALLATION .

T R U K





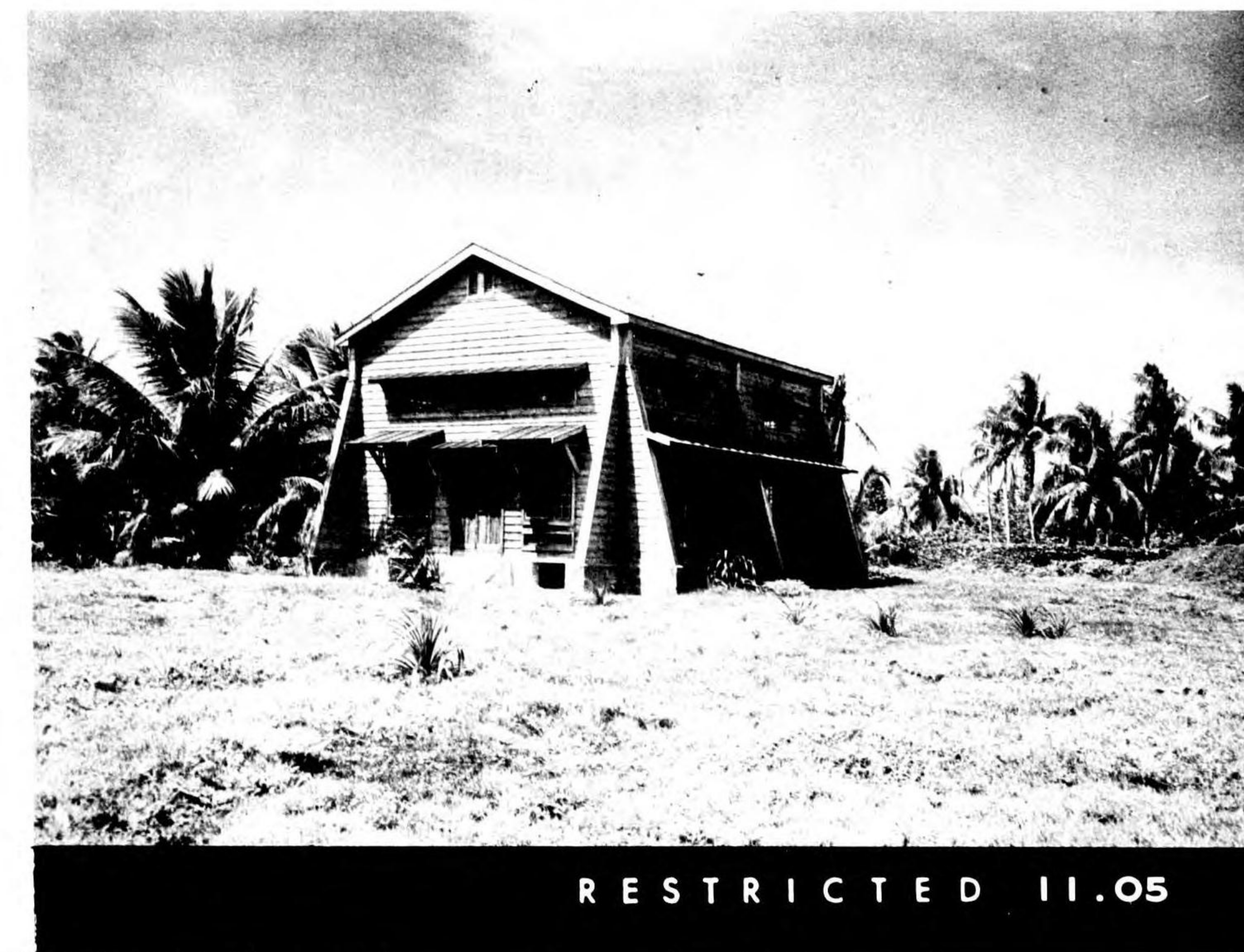
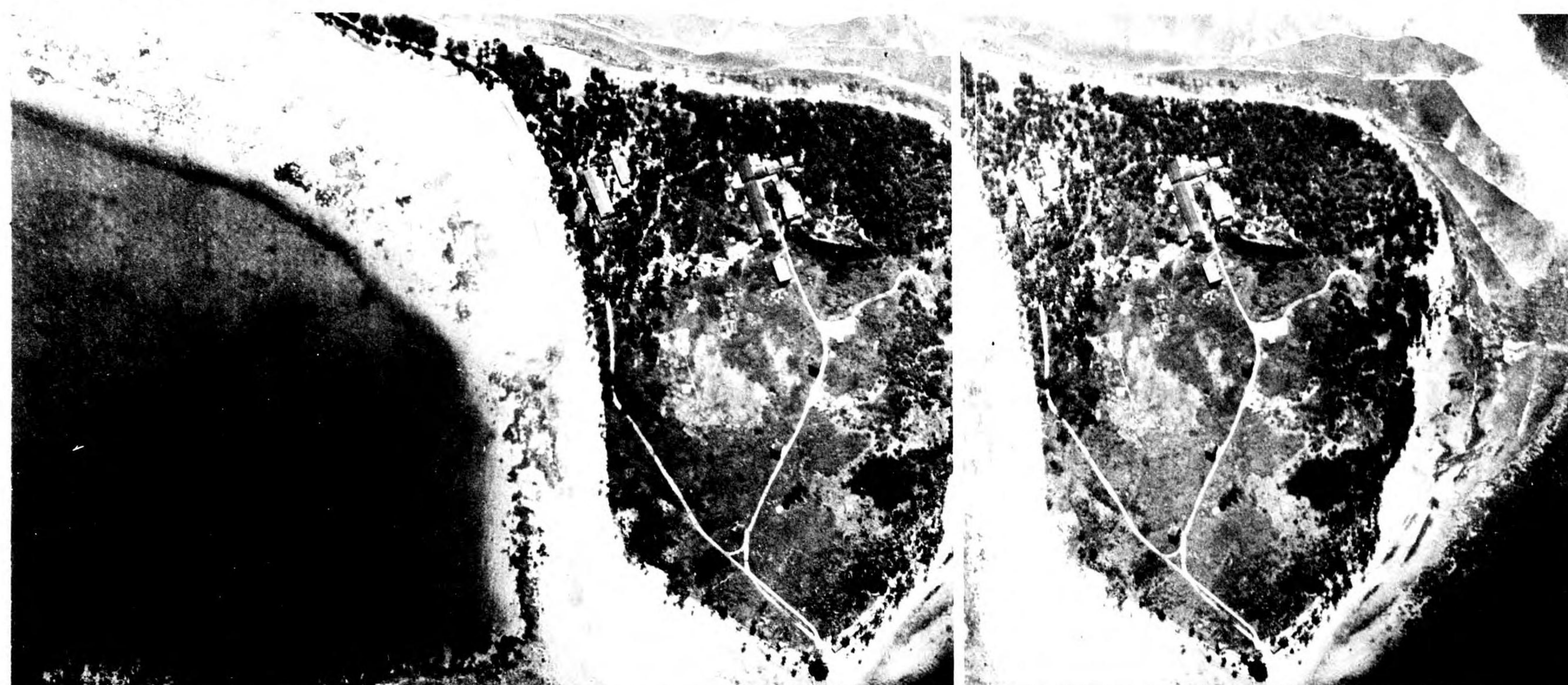
## DIRECTION FINDER INSTALLATION - JALUIT

## WOOD CONSTRUCTION



ELECTRONICS PERSONNEL HOUSING CENTER - GENERATOR BUILDING AND 20'X20' D.F. INSTALLATIONS • • JALUIT  
STEREO STUDY - JALUIT

30'X38''DF AND GENERATOR BLDG. • MAJURO





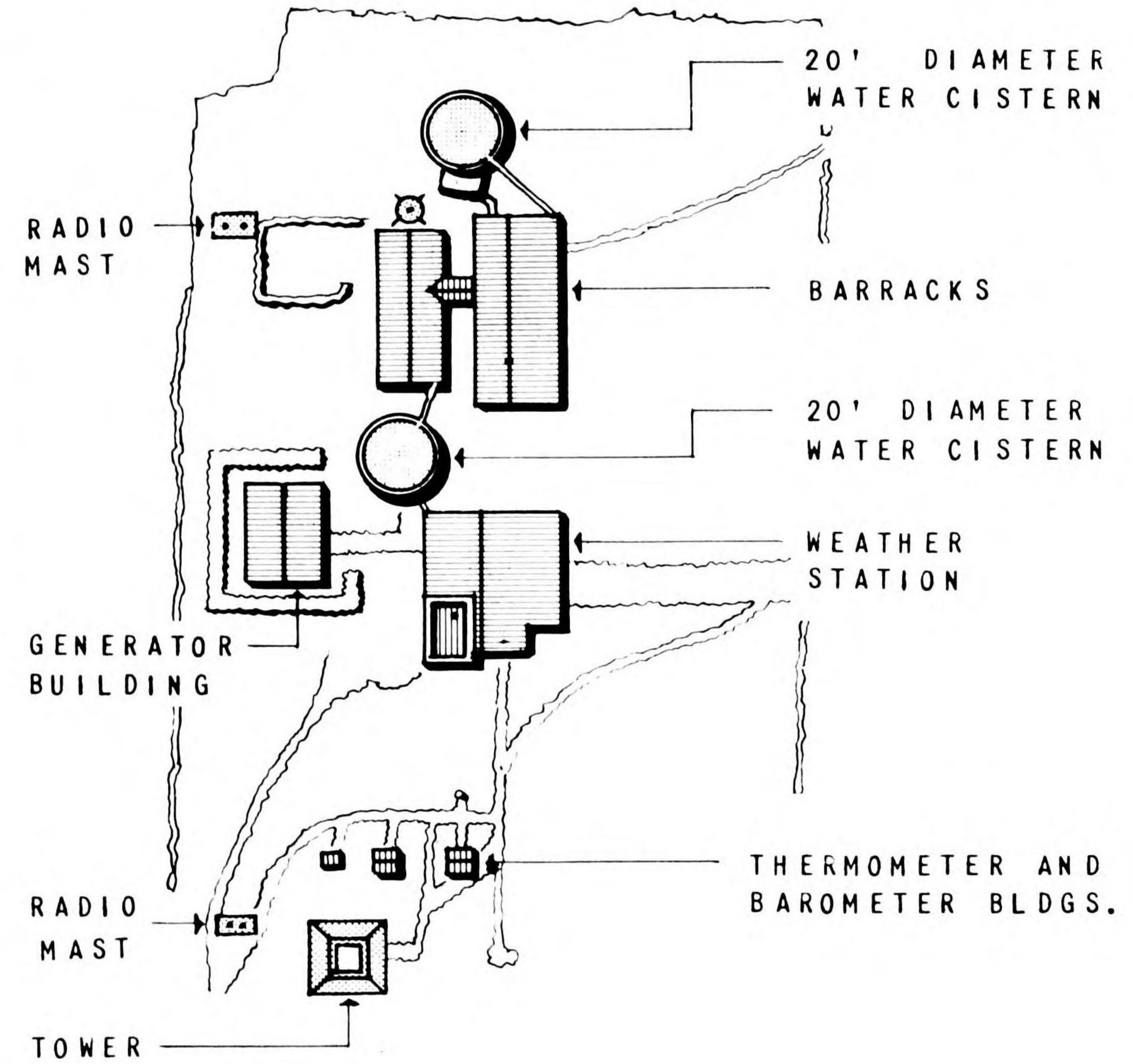
# ELECTRONICS

## WOOD CONSTRUCTION

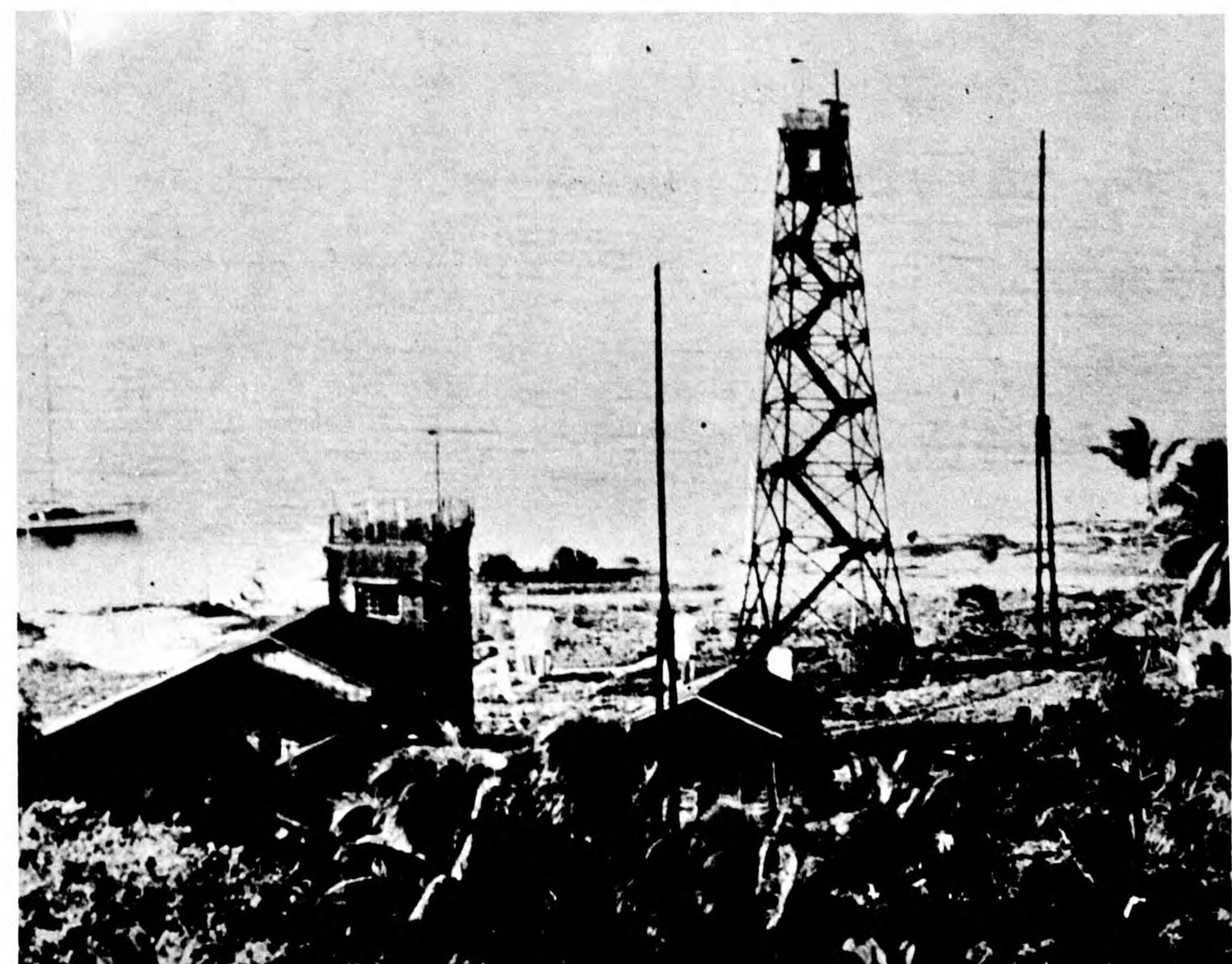
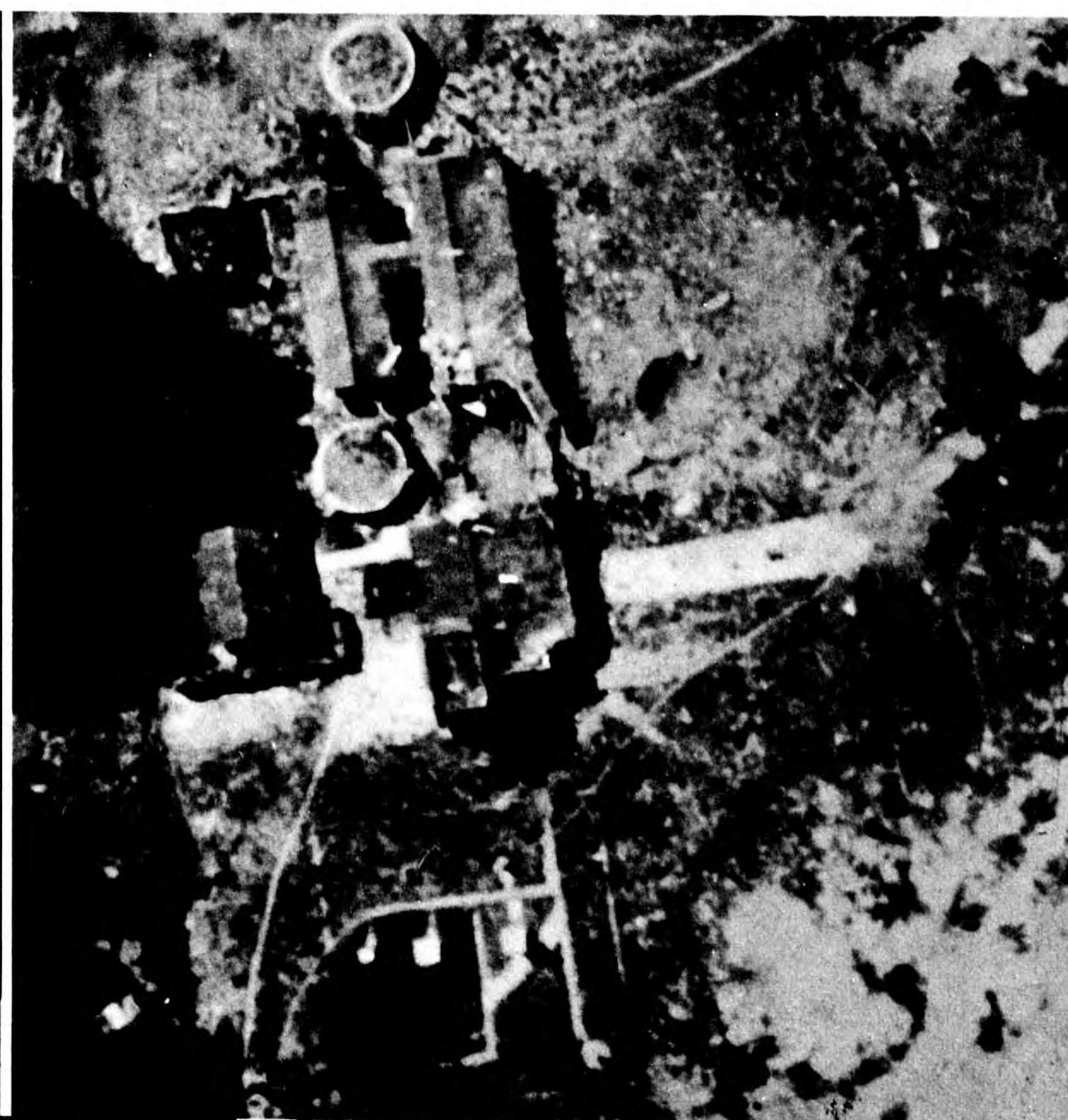


WEATHER STATION . . . RONGELAP

### WEATHER STATION - RONGELAP



TYPICAL WEATHER STATION PLAN





## RADIO WEATHER STATION LAYOUT - NAMONUITO ISLAND

WOOD CONSTRUCTION



WEATHER STATION



NAMONUITO



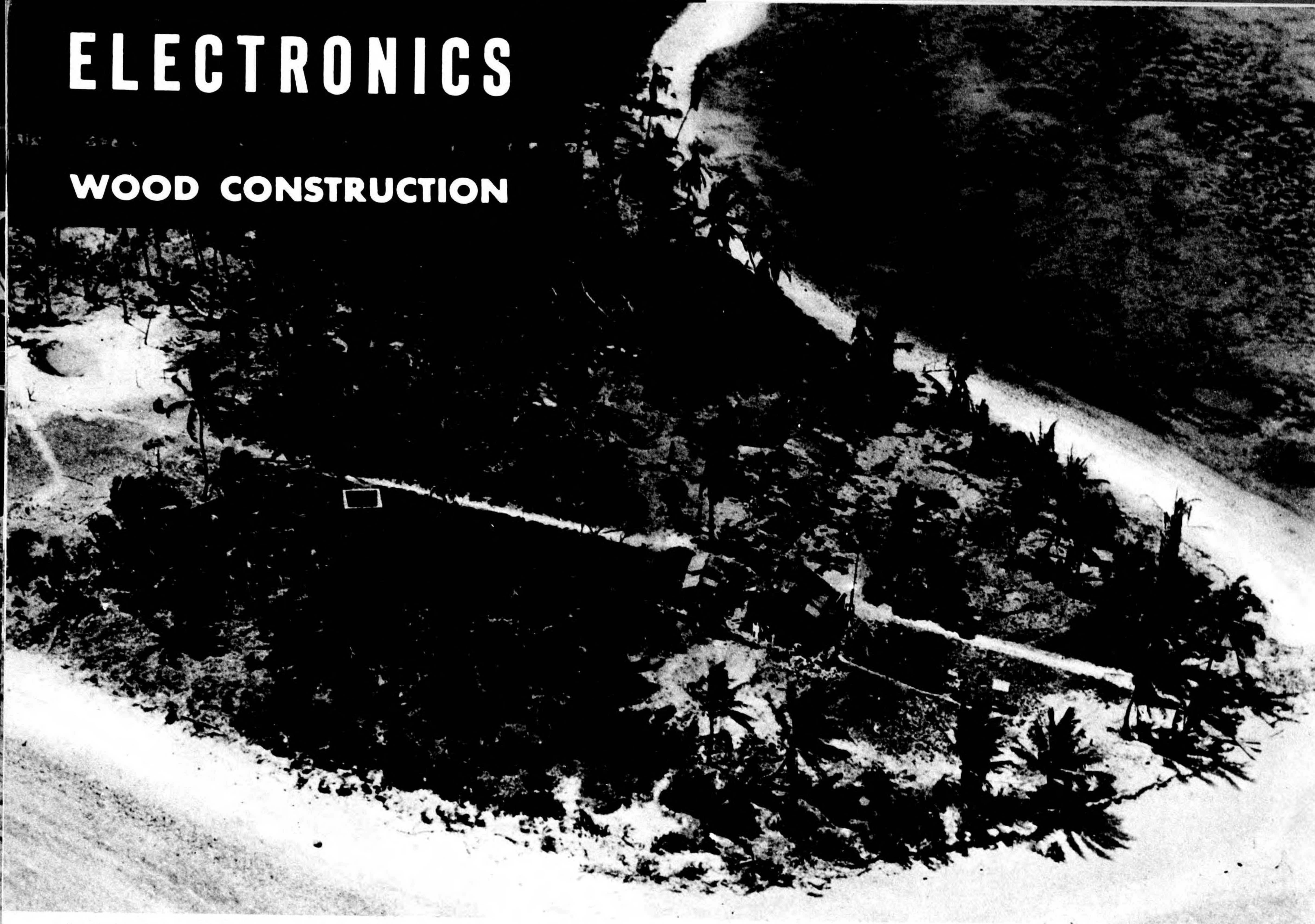
WEATHER STATION

NAMONUITO



# ELECTRONICS

## WOOD CONSTRUCTION



RADIO - WEATHER STATION - UJAE ISLAND

MARSHALL ISLANDS

## WEATHER STATION - UJAE

Ujae Island contained, before application of U. S. aerial bombing, a typical weather station. Certain features, although not standard in arrangement, are always present. The main building is a gable roofed, wood framed structure with a flat roofed two story tower on one of the gable ends. It houses the transmitter and work space for personnel.

Three 3 to 5 foot shacks are adjacent to the main building. They house instruments for determining temperature and barometric pressure and are always painted white.

Concrete water cisterns are present when domestic water is not plentiful. A generator building and barracks structures also service the station.

Wind speed and direction is recorded on instruments set on top of a 50 to 60 foot tower that is square in plan. Two spliced wood stick masts support antennae connected to the reporting station inside the main building.

A tide gauge house is present if the weather station is near water. Namonuito Iwo Jima, Pingelap and Ujae illustrate typical weather stations.

STEREO STUDY





# ELECTRONICS

## STANDARD RADIO WEATHER STATION LAYOUTS

## WOOD CONSTRUCTION



WEATHER STATION MATSUWA

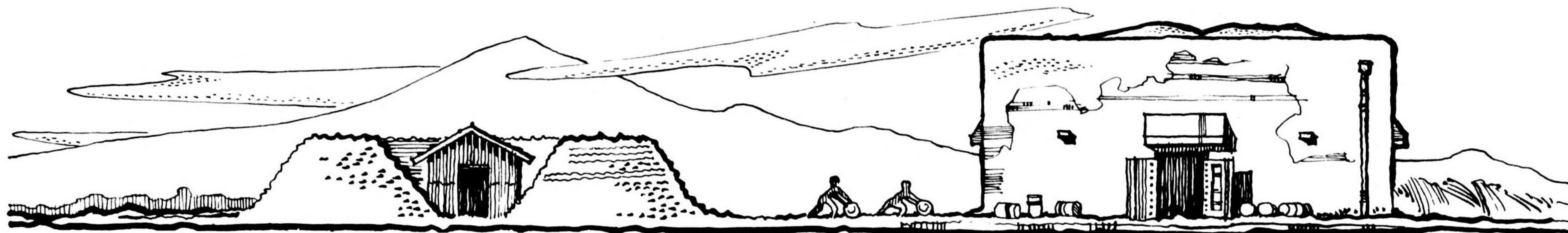
WEATHER STATION IWO JIMA

WEATHER STATION

PINGELAP







## S T O R A G E                      B U I L D I N G S

**T**he design of a Japanese storage building is dictated by the commodity stored. Standard permanent storage structures have been developed which are commonly found servicing Japanese Airfields.

Fuel in drums is stored in a reinforced concrete building approximately square in plan. This 52 by 57 foot flat-roofed form always contains either gasoline or fuel oil in metal drums. Vents are set in the side walls but are not visible in vertical photographs. Four interior columns support 3 feet of reinforced concrete roof slab. One foot of sand is applied to the flat roof below the parapet as additional protection. This building is found in pairs or groups of 3, isolated from other airfield construction.

A similar structure, square in plan usually accompanies the fuel storage building. A porch extends from the front wall. This building always houses ammunition. A

ventilator set midway on each of the side walls is clearly visible in vertical photographs. Construction of the ammunition storage building is identical to that of the fuel storage form.

Food storage buildings of wood construction are set on concrete foundations. Gable-roofed storage buildings usually contain a continuous louvred monitor.

A below grade type of water reservoir also acts as a settling tank. The earth covered roof is pierced by rows of circular ventilators.

Wood framed storage buildings surrounded by a high earth revetment always contain some form of high explosive.

These briefly discussed storage structures are illustrated in the ensuing pages.



# STORAGE

