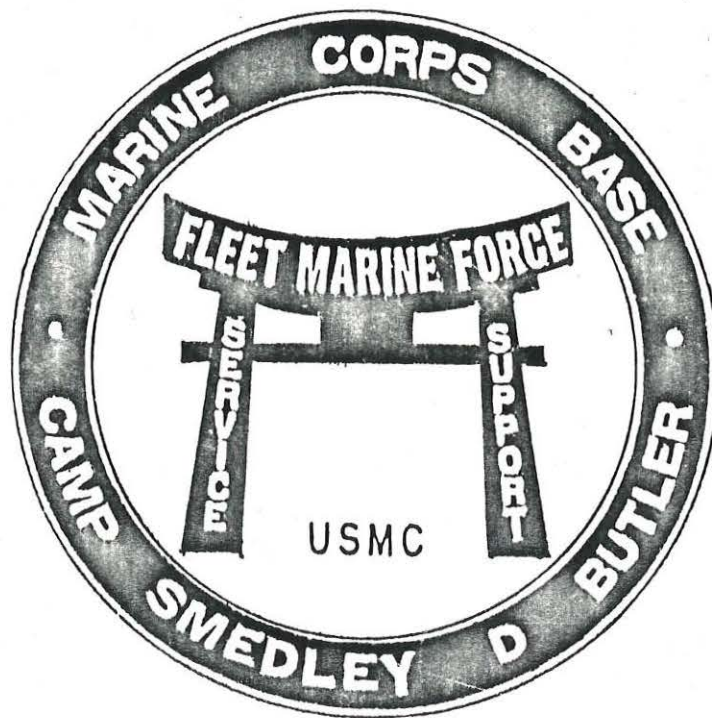


FOUO/NOFORN

# CAMP MCTUREOUS

## MASTER PLAN



OKINAWA, JAPAN

PREPARED BY: FACILITIES ENGINEER MCB CAMP BUTLER OKINAWA, JAPAN

FOUO/NOFORN



DEPARTMENT OF THE NAVY  
HEADQUARTERS UNITED STATES MARINE CORPS  
WASHINGTON, D.C. 20380-0001

IN REPLY REFER TO  
11010/2  
LFF-1/27  
05 FEB 1997

From: Commandant of the Marine Corps  
To: Commanding General, Marine Corps Base, Camp Smedley D. Butler  
FPO Seattle 98773-5001

Subj: PRE-FINAL MASTER PLAN, CAMP MCTUREOUS

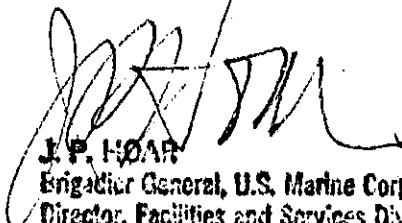
Ref: (a) CG, MCB, Camp Butler ltr 11000 Code 14/64/304 of  
29 July 86

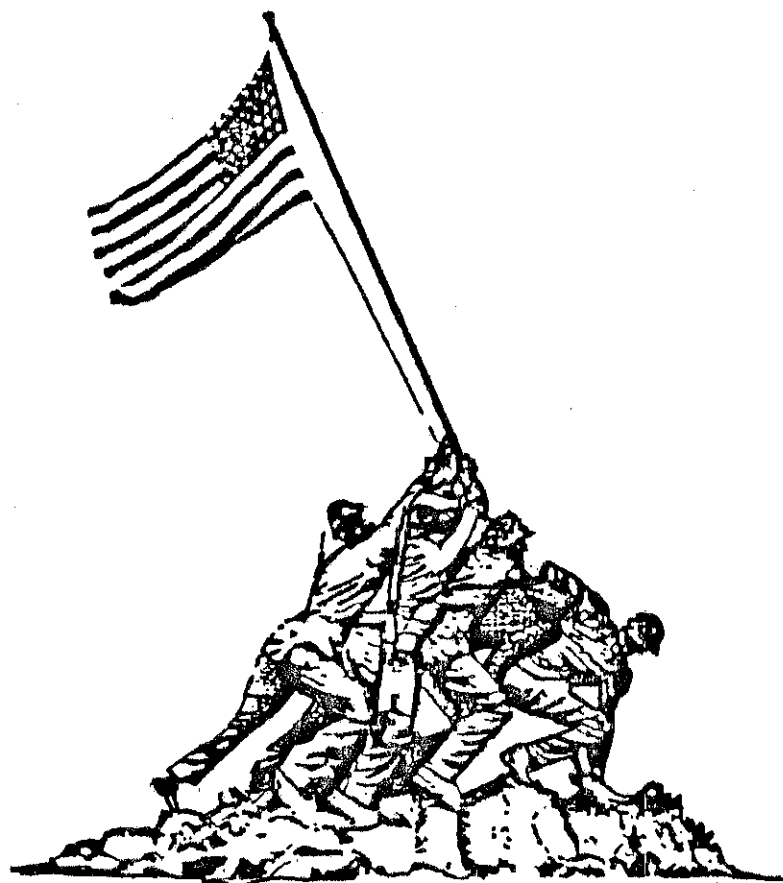
1. We have reviewed the subject Master Plan which was submitted by the reference. The plan is approved with the following comments:

- a. Place the Table of Contents at the front of the document.
- b. Include an Index of Structures with a coded matrix to enable the reader to locate all structures on one or more of the included maps.
- c. Include a map showing restrictions, if any, on future development.
- d. On page F-3: R-2 project, Youth Center, has not been funded for design.

2. This Master Plan approval constitutes site approval of the projects shown in Section I. Any major deviation must be submitted to this HQ for approval.

Copy to:  
COMMARCORBASESPAC (15B)  
DEPCOMMARCORBASESPAC (FWD)  
COMPACNAVFACENGCOM (Code 20)

  
J. P. HOAR  
Brigadier General, U.S. Marine Corps  
Director, Facilities and Services Division  
Installations and Logistics Department  
By direction of  
the Commandant of the Marine Corps



**MCB CAMP SMEDLEY D. BUTLER**

**CAMP McTUREOUS**

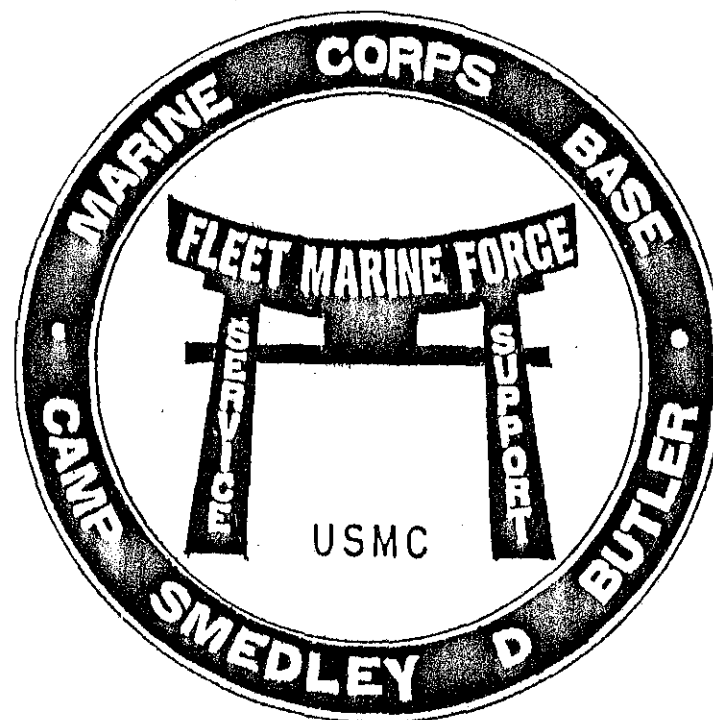
**MASTER PLAN**

**OKINAWA  
JAPAN**

# CAMP MCTUREOUS

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## MASTER PLAN

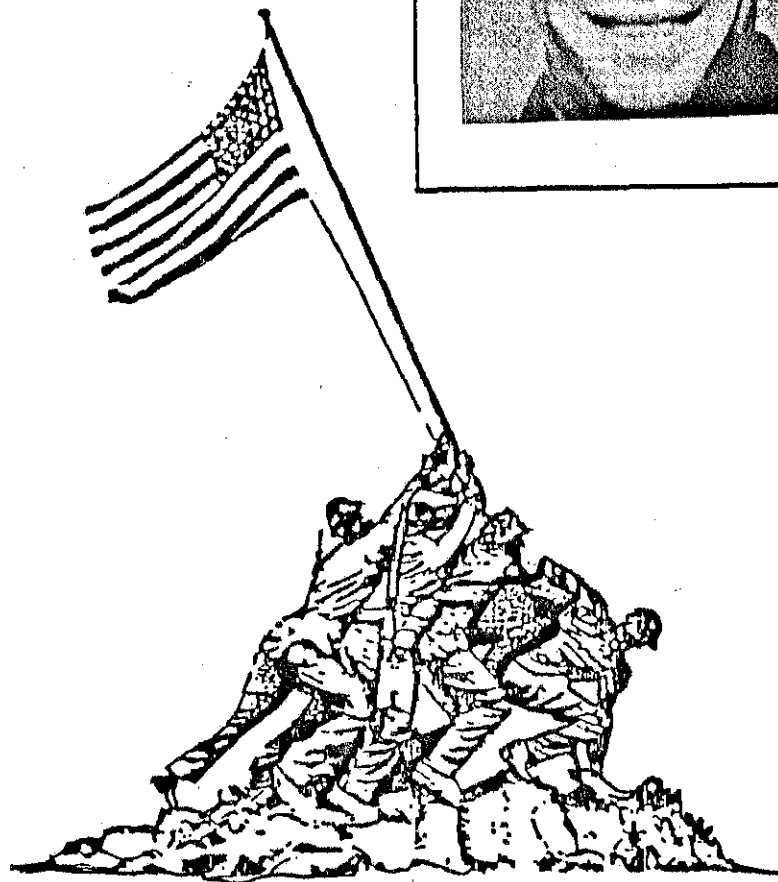


**OKINAWA, JAPAN**

**PREPARED BY: FACILITIES ENGINEER MCB CAMP BUTLER OKINAWA, JAPAN**

## RECORD OF CHANGES

[illegible]



## PVT ROBERT M. McTUREOUS, in memoriam

Ten Marines earned the Medal of Honor during the Battle of Okinawa. Eight of them never lived to wear it. Private Robert Miler McTureous Jr. was one of them.

Age 21, McTureous, a native of Altoona, Fla., was serving with 3rd Battalion, 29th Marines, 6th MARDIV, during action against Japanese forces on Okinawa.

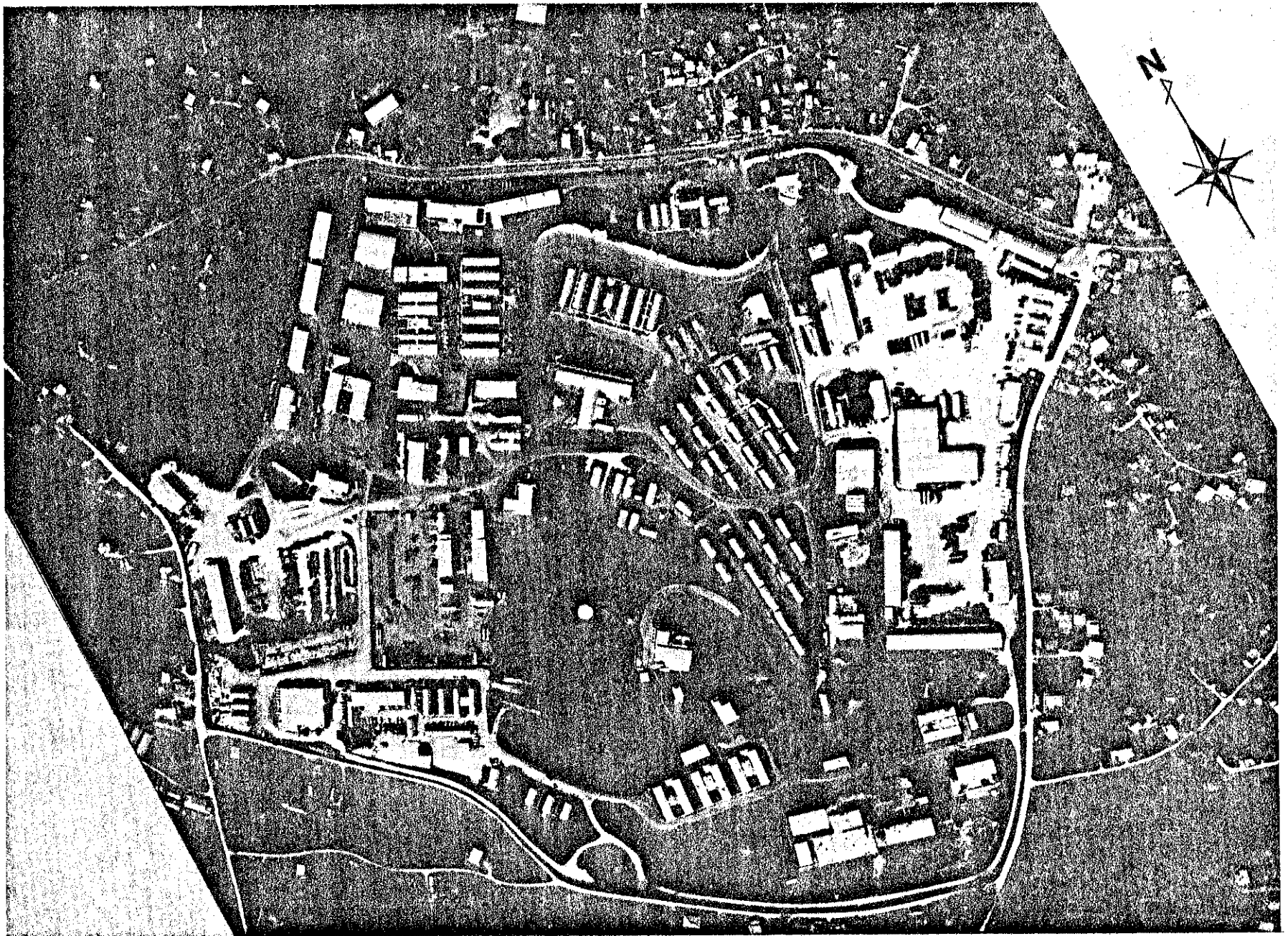
On June 7, 1945, McTureous' company had just seized its objective. Quick to observe his company's stretcher bearers who were suddenly shot by slashing machine gun fire as they attempted to evacuate the wounded to the rear of their position, he quickly filled his jacket with hand grenades and charged the enemy occupied caves where hostile fire was coming from.

During his one-man assault he tossed grenades into the cave entrances diverting the heaviest fire from the stretcher bearers to his own position.

Out of grenades he replenished his supply of the explosives and continued his assault against the enemy until he sustained serious wounds.

Aware of his own condition, he crawled nearly 200 yards to a sheltered position behind friendly lines before calling for aid.

McTureous had succeeded in neutralizing the enemy fire by killing six Japanese troops and effectively destroying the enemy concealed positions.



**CAMP MCTUREOUS**

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# EXECUTIVE SUMMARY

## 1. INTRODUCTION

This Plan was prepared by the Public Works Branch of the Facilities Engineer Division, Marine Corps Base Camp Smedley D. Butler. Its purpose is to act as a guide for the future use and facility development of USMC Camp McTureous, Okinawa, Japan.

## 2. MCB CAMP S.D. BUTLER

MCB Camp Smedley D. Butler, Japan, is comprised of eight major USMC camps on Okinawa and Camp Fuji on Honshu Island, as illustrated by Plates A-1 and A-2. Including maneuver areas, MCB Camp Butler constitutes more than 81,456 acres and 3,527 buildings and structures with a replacement value in excess of \$1.3 billion dollars.

## 3. CAMP MCTUREOUS

Camp McTureous (USFJ Facility Number 6031) is subordinate to MCB Camp Butler. Camp McTureous is the proposed site for 625 units of military family housing, based on the Okinawa Housing Development Plan, a service-coordinated, multi-year development plan. This plan satisfies the directives of the 21 December 1983 Memorandum of Agreement between Headquarters,

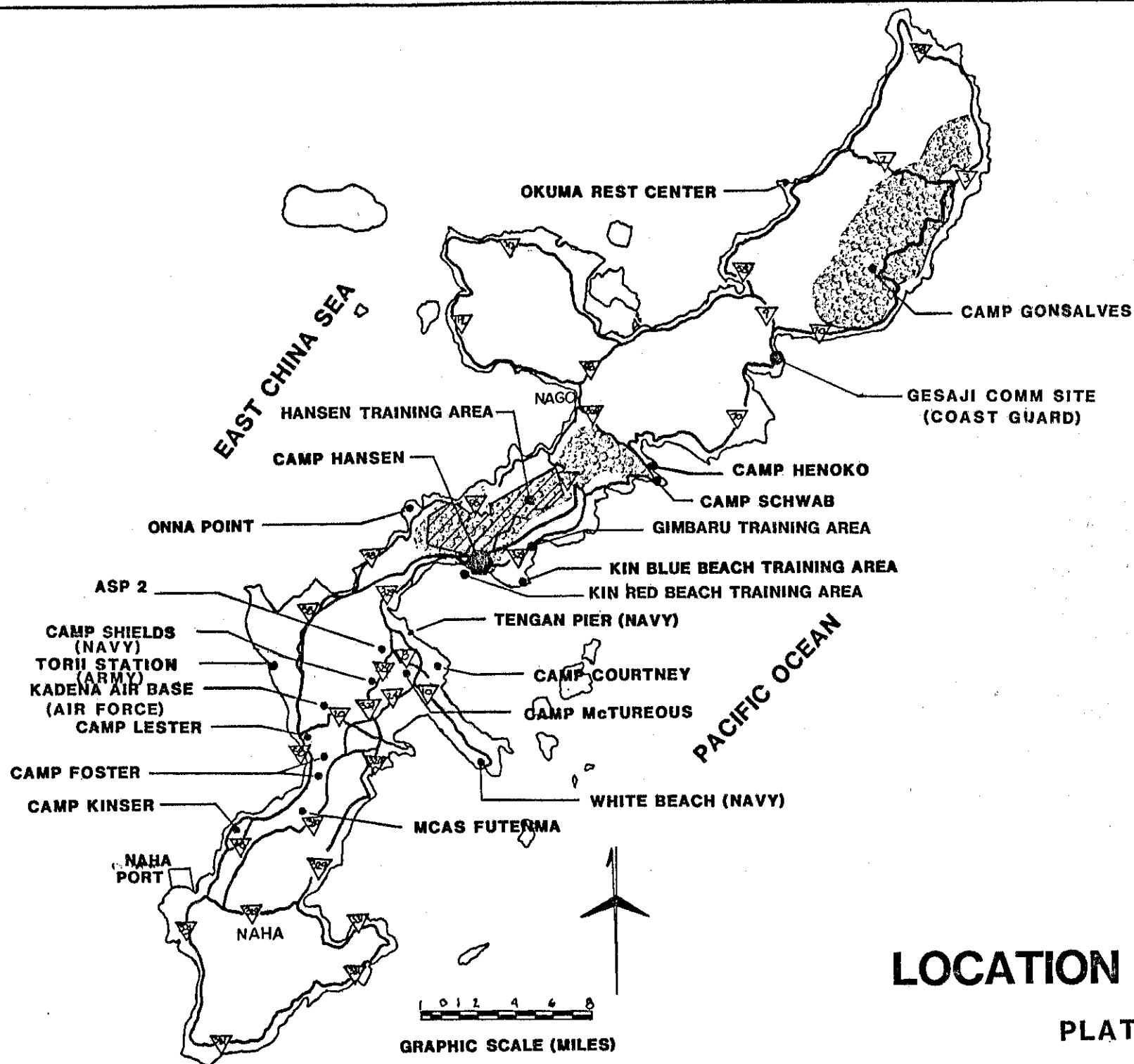
USAF and Headquarters, USMC, including the requirement to provide housing for the conversion of 3,581 USMC unaccompanied tours to accompanied tour status.

## 4. PURPOSE OF THE PLAN

The primary purpose of the Master Plan is to provide a realistic, orderly, and achievable development scheme for Camp McTureous, taking into account the interrelationships and needs of the component organizations and users within the installation, and recognizing the natural and man-made environmental constraints which limit and define construction opportunities. Other objects are the identification trends and potential growth impacting on land utilization, and the inventory of information vital to future planning episodes.

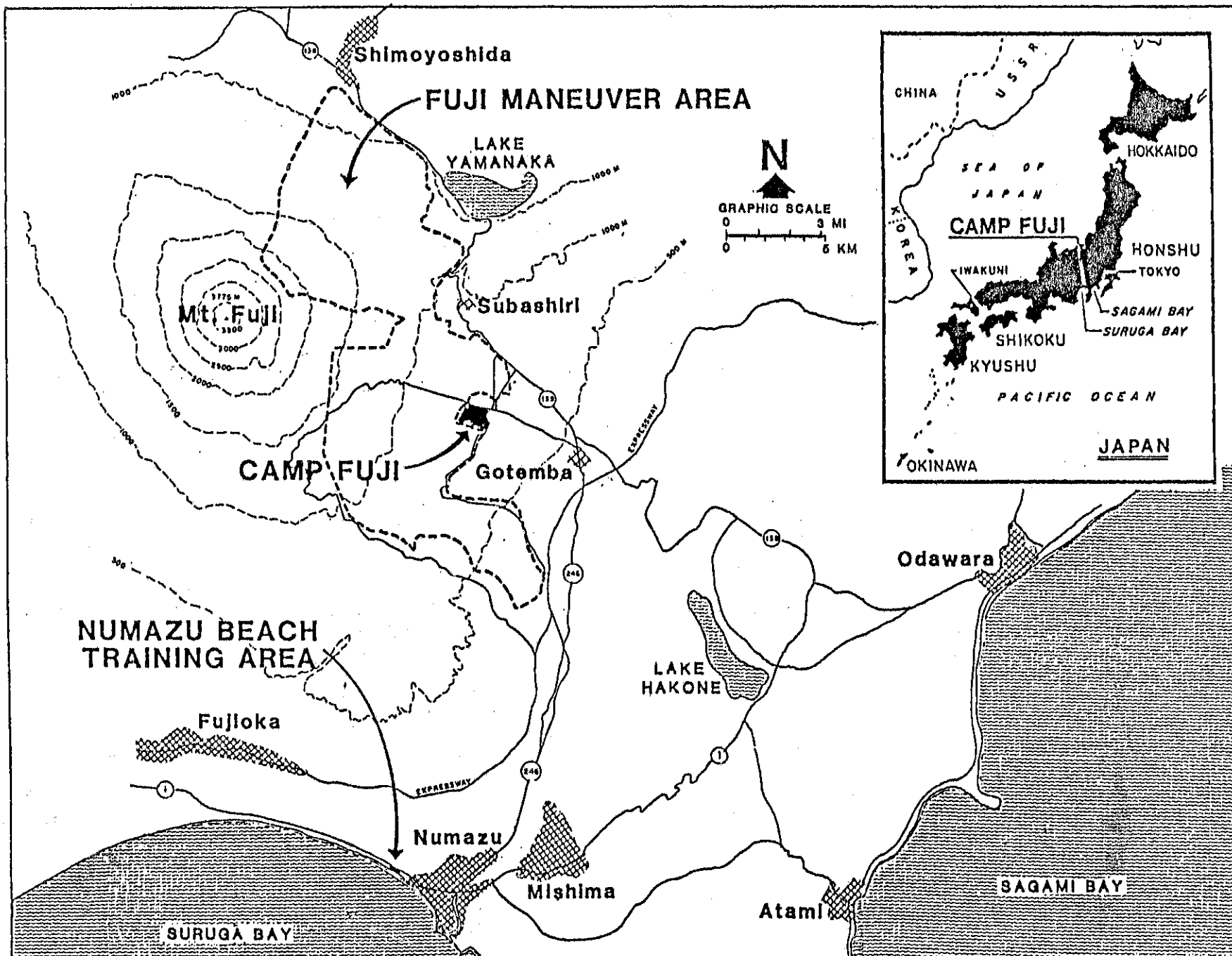
## 5. METHODOLOGY

Because of the dynamic and volatile nature of host-nation construction programs, Facilities Engineer for MCB Camp Smedley D. Butler directed in 1983, the in-house publication of a family of Master Plans which precipitated the timely resolution of facilities issues and assisted the capture of over \$200 million in the host-nation funding.



**LOCATION MAP**

**PLATE B-1**



**LOCATION MAP  
CAMP FUJI**

**PLATE B-2**

The draft Master Plan for Camp McTureous was published in May 1984. This "final" Master Plan itself represents only a fragile milestone subject to continued policy and programming change at an international level. With this in mind, the final Master Plan must be viewed as a stepping stone in a dynamic intercourse expected to challenge facilities planners and installation commanders through the 1990s.

## **6. MAJOR RECOMMENDATIONS**

A. Concurrence with the Bachelor Housing Master Plan for USMC, Japan-wide, published in draft November, 1985.

B. Concurrence with the Okinawa Housing Development Plan (OHDP), a service-coordinated multi-year development plan, published jointly by MCB Camp Butler and representatives of the Air Force, Navy, and Army on Okinawa. This plan recommends 625 military family housing (MFH) units for Camp McTureous, as well as community support facilities for Camp McTureous and nearby Camp Courtney.

C. Full implementation of the Base Exterior Architecture Program to improve the visual landscape at Camp McTureous and to support pride and professionalism.

D. Full implementation of the Capital Improvements Plan in found in Section G.

E. Implementation of a Demolition Plan to permit construction of out-year projects and for environmental enhancement.

## **7. FOLLOWON STUDIES**

### **A. ON-GOING STUDIES**

The following studies are underway at this time and will be incorporated into the Master Plan upon completion:

1. A study to identify all MCB Camp Butler borrow and file locations.

2. A cultural assets inventory has been undertaken in cooperation with the University of the Ryukyus.

3. A Utilities Improvement Program is under study by MCB Camp Butler and the Government of Japan, to insure that out-year infrastructure projects are programmed to support the Capital Improvements Plan generated by this Master Plan.

4. Identification of watershed and flood hazards maps for MCB Camp Butler, to include the Tengan River.

### **B. RECOMMENDED STUDIES**

The following studies are recommended for implementation:

1. A Navy Assessment and Control of Installation Pollutants Study.

2. A Land Management Plan, Turf Management Plan, and a portion of a Comprehensive Land Management Plan, is currently underway.

# INTRODUCTION

## A. LOCATION OF CAMP McTUREOUS

Camp McTureous (USFJ Facility Number 6031) is subordinate to Marine Corps Base, Camp Smedley D. Butler, and is located in the central portion of Okinawa on the eastern (Pacific) side of the island. It is approximately 1/2 mile southwest of the Camp Courtney REX Area along Okinawa Highway 8 between the villages of Takoji and Agena. Camp McTureous is located in the northern population centroid of MCB Camp Butler (See Figure C-1).

## 1. PLANNING OBJECTIVES

The primary purpose of this Master Plan is to provide a realistic, orderly, and achievable development scheme for Camp McTureous, taking into account the interrelationships and needs of the component organizations and users within the installation, and recognizing the natural and man-made environmental constraints which limit and define construction opportunities. In conjunction with the development of conceptual land use, an implementation plan is proposed to insure a logical and unencumbered construction sequence.

A second objective is to identify trends and potential growth of functions having an impact on land utilization (including potential encroachment), and to provide a development scheme responsive to change.

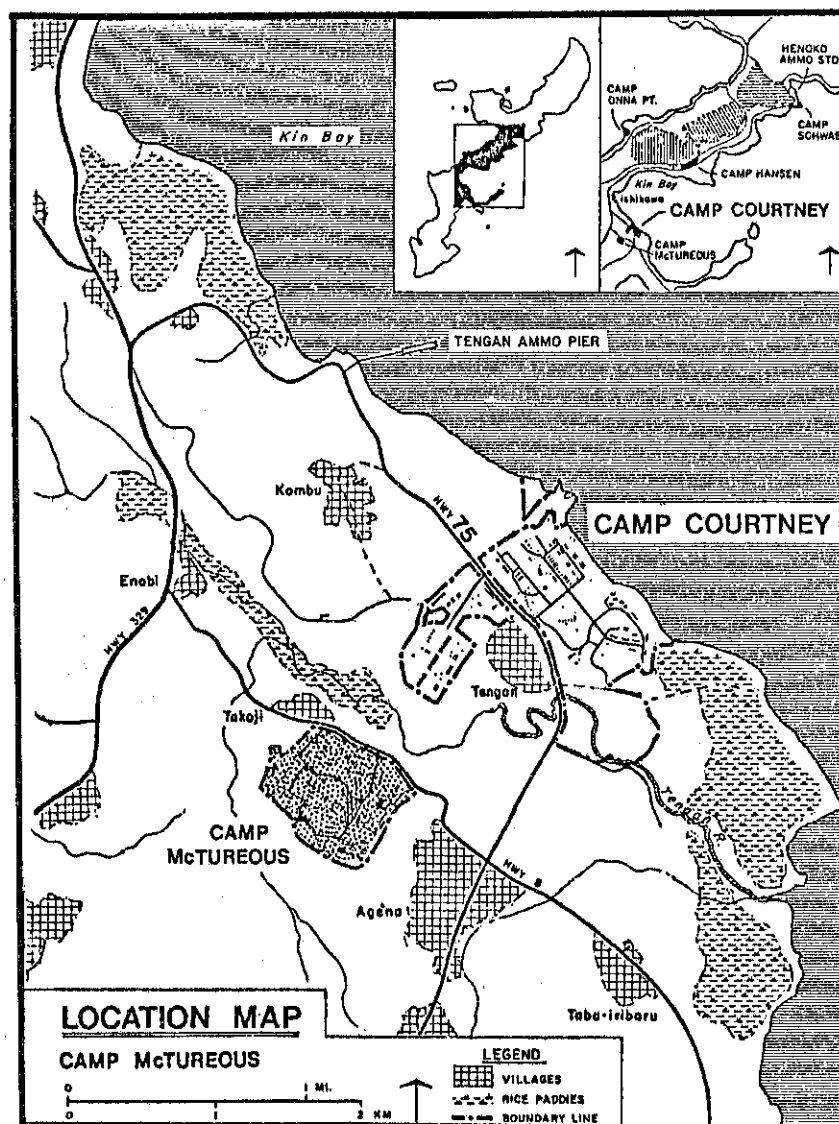


FIGURE C-1

An additional purpose of the Master Plan is to inventory and collect information useful to the planning process to insure its availability for future planning episodes. Having paid the cost of site investigation once, the taxpayer should not be obliged to pay it twice.

## 2. SCOPE AND USE OF THE MASTERPLAN

This Master Plan is based on real-time requirements validated by the Facilities Engineer, MCB Camp Butler, as reflected in the Base Facilities Requirements List and other pertinent planning documents. The plan is intended to be a viable document that can be adjusted to accommodate changes, and will be updated by the Public Works Branch of the Facilities Engineer Division as required. The Plan is published in loose-leaf format to insure flexibility (please note the Record of Changes form provided at the front of the plan). The readership is requested to post changes as received.

## 3. METHODOLOGY

The MCB Camp Butler Master Plan, last completed in September 1980, required an update in accordance with NAVFACINST 11010.63B. Historically, Marine Corps Master Plans for Butler/Futenma have been published in three volumes: (a) Camp Fuji on Honshu Island, (b) MCAS Futenma on Okinawa Island, and (c) all remaining installations on Okinawa.

Mainly because of the dynamic and volatile nature of host-nation construction programs, a

new concept was developed in 1983, warranting the publication of a family of Master Plans covering each installation in a separate volume. Special editions addressing the BEQ/BOQ Development Plan and a Recreational Master Plan were also envisioned. The advantages of in-house masterplanning include:

- a. Installation Master Plans are developed by order of priority, and individual planning issues can be fasttracked for timely resolution.

- b. Installation Commanders have easier access to information, which facilitates use.

- c. Flexibility in draft and final publication is achieved. Post-final update capability allows continued use of the document as a real-time reference.

- d. Reduction of generic inventory and blanket recommendations which do not address developmental constraints such as construction sequencing and programming delays.

- e. The establishment of a corporate approach to facilities planning at the Marine Corps Base level.

It must be recognized that the volatile and dynamic nature of host nation construction programming has maximized the degree of rework associated with each Master Plan. The draft Master Plan for Camp McTureous was published in May 1984. The "final" Master Plan, published in June 1986, itself represents only a fragile milestone subject to continued policy and



**CAMP MCTUREOUS LOOKING WEST, c. 1984**

programming change at an international level. With this in mind, the final Master Plans must be viewed as stepping stones in a dynamic intercourse expected to challenge facilities planners and installation Commanders through the 1990s.

#### 4. FORMAT OF THE PLAN

The Master Plan is published in accordance with NAVFACINST 11010.63B (except as directed by CMC letter 110 10/2 LFF-1/27 dated 5 February 1987). Several "user friendly" format changes have also been incorporated. These include:

a. Demographic information provided by the Commandant, U.S. Marine Corps, and the 1985 Okinawa Housing Development Plan formed a basis for analyzing expected population and user needs. The selection of community support facilities by the Public Works Branch was based on both quantitative analysis of the basis facilities requirements (BFRs) and qualitative assessments developed in discussion with the MCB Camp Butler Special Services Officer and the USAF Base Civil Engineer at Kadena Air Base.

b. A "best-guess" construction schedule for all capital improvements initiated by the Master Plan is articulated in Section H. This section is designed to assist the installation Commander in the management of change generated by construction, demolition, renovation, and reallocation of facilities.

#### 5. RELATED PUBLICATIONS

The readership would benefit from cross-referencing the following publications:

a. Okinawa Regional Profile (draft), published by PACNAVFACENGCOM, February, 1986.

b. MCB Camp Butler Recreational Master Plan (draft), unpublished.

c. Joint Services Development Plan for Military Family Housing, published by USMC/USAF/USN/USA Okinawa, 12 September 1985.

# EXISTING CONDITIONS

The purpose of this section is to report the data base developed during the Data Collection Phase of the Master Plan. Information is graphically portrayed on map plates indicating a regional, local, camp, or site-specific data base.

## 1. REGIONAL OVERVIEW

The Okinawa Regional Profile published in February 1986 by Pacific Division, Naval Facilities Engineering Command, is considered a companion document to this master plan. Readers are invited to review the regional profile for general background on Okinawa and military holdings.

### A. INTRODUCTION

The Ryukyu Islands, of which Okinawa is the largest, are part of a chain extending from Japan to New Guinea and forming the geographic limits of the West Pacific Ocean from 45° North Latitude to 0° Latitude. The Sea of Japan, the East China Sea and the South China Sea separate these islands from mainland Asia.

The Ryukyus are strategically located in this island chain and are within easy reach of some of the most important cities in Asia. Okinawa is centrally located between Japan and Taiwan and consist of 72 islands divided into three major groups: Okinawa Gunto, Miyako Gunto and

Yaeyama Gunto. The translation for "gunto" is "group of islands." These three guntos make up a total land area of 848 square miles. The Okinawa Gunto contains an area of 544 square miles with the main island of Okinawa having 454 square miles of this total.

Figure D-1 shows the geographic relation of Okinawa to the rest of Japan and Asia.

### B. HISTORY

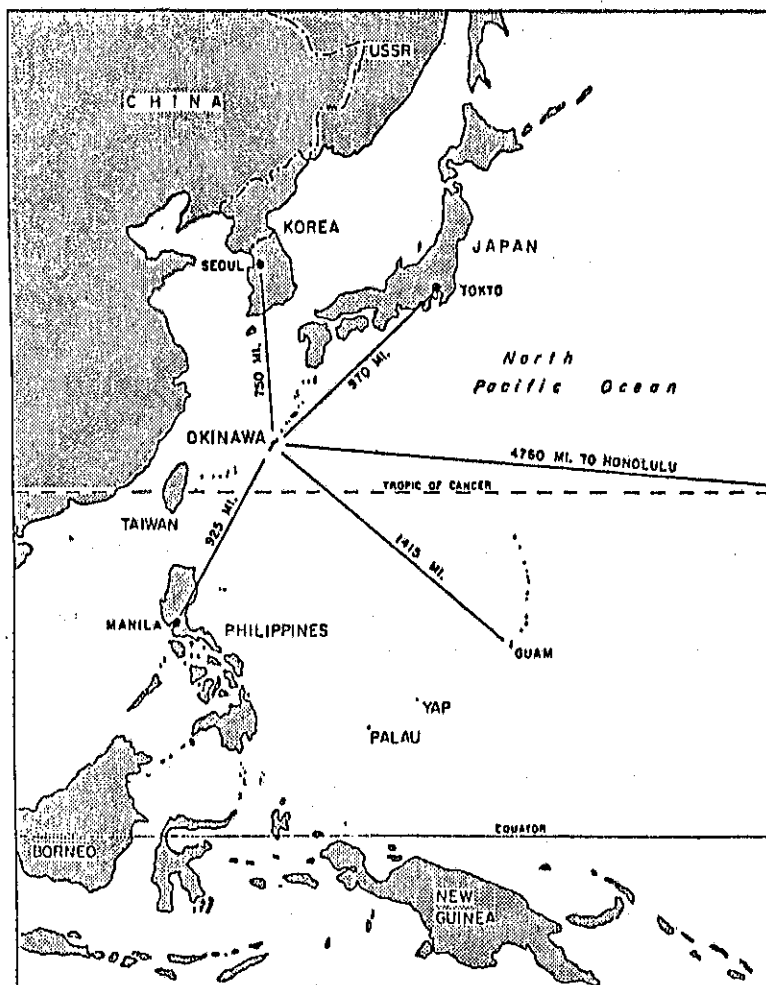
The original inhabitants of the Ryukyu Islands are believed to have moved southward from Japan proper some 3,000 years ago.

Ethnically, the people of Okinawa are said to be mixture of at least three groups: Mongolian, Ainu and Malayan. As for their culture, these sea-faring people adapted what they borrowed from their neighbors, creating their own unique culture.

Prehistoric Okinawa is as recent as the 14th century, when writing was introduced from Japan. The only knowledge we have of Okinawa prior to this time is often unreliable and sketchy.

Formal trade began with China in 1372 when the Okinawans began to pay tribute to the Ming Dynasty. However, the tribute was a small price to pay for the prosperous trade between the two countries, that chiefly benefited Okinawa.

Okinawa was divided into three kingdoms; north, south and central-until the 15th century. At



REGIONAL MAP

**FIGURE D-1**

that time, Sho Hashi became king of the central kingdom and subsequently conquered all of Okinawa. He established his government in the new capitol of Shuri.

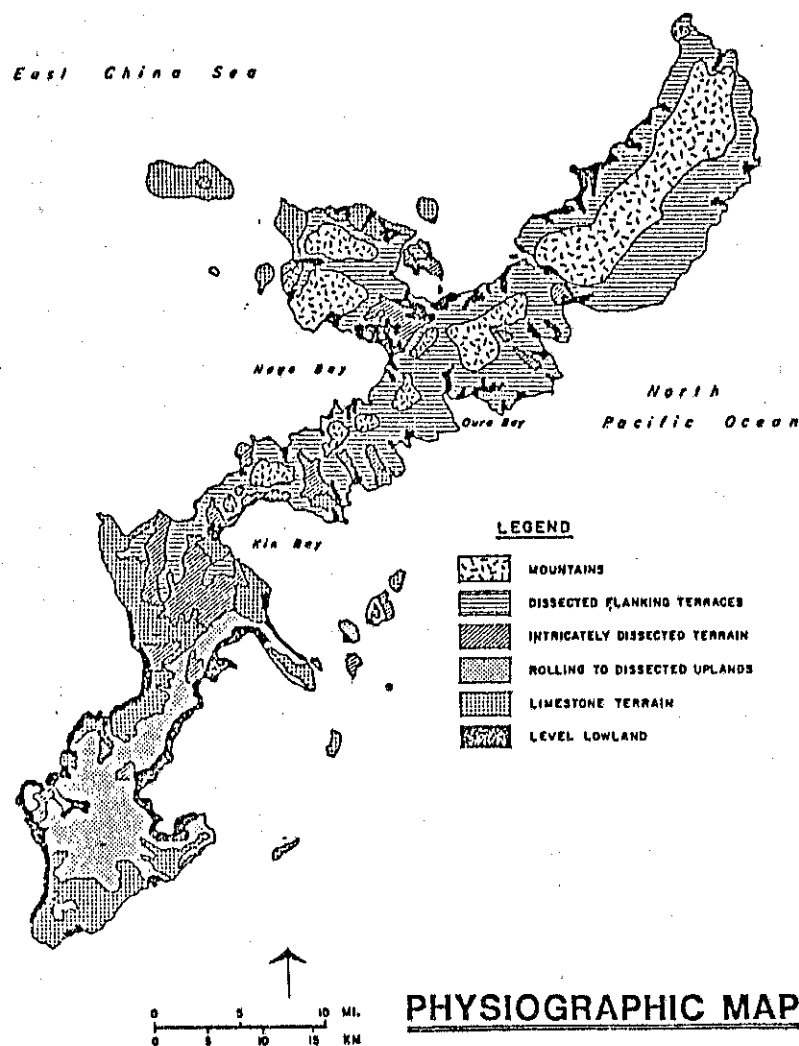
A "golden age" for the Ryukyus extended from 1398 to 1573. During this period, the Okinawa people maintained contacts with Japan, China and as far away as Indonesia and Thailand. Okinawan crafts were perfected, and music, poetry and dance, unique to Okinawa, flourished.

In 1609, a band of warriors from southern Japan invaded Okinawa. For the next 270 years, Okinawa remained "independent" but was forced to pay tribute to the conquerors. Tightrope diplomacy was practiced as the Okinawans still paid tribute to China and did not want to offend either giant.

The situation became trickier when Commodore Perry's fleet landed in Naha in 1851 to open trade and relations with the United States. Other European expeditions soon followed, and the Japanese feared losing control of Okinawa to "outside interests."

Japan sent a military expedition to the island in 1868, and in 1879, Okinawa became Japan's newest prefecture. The official language became Japanese and the education and political system of the island was rapidly converted to conform to the dictates of mainland Japan.

Due to its geographical situation, Japan turned Okinawa into a bastion to guard the southern approaches to Japan during WWII. The Okinawan



**FIGURE D-2**

were, chief sufferers at the close of the war in 1945. The three month Battle of Okinawa caused widespread destruction and the deaths of over 100,000 non-combatant Okinawans, in addition to military casualties of 60,000 Americans, and 110,000 Japanese.

In 1972, the Ryukyu Islands were returned to Japan after being under American administrative control since the end of WWII.

## C. GEOLOGY

### 1. GEOLOGIC SETTING

Okinawa and most other islands of the Ryukyus are the exposed crest of a large, curved submarine ridge that extends about 750 miles from the south tip of Kyushu, Japan, to the northeast coast of Taiwan. The ridge is separated from the Philippine Sea basin by steep slopes and a trough, the Ryukyu Trench, which south of Okinawa is more than 24,000 feet deep. Another trough about 7,000 feet deep lies between the ridge and the shallow platform of the East China Sea to the northwest.

The Ryukyu Trench, the ridge and the depression to the northwest, are known collectively as the Ryukyu Arc. The arc is one of several geologically active zones along the western side of the Pacific Basin. It is the site of numerous earthquakes, and on its western side, of active volcanoes.

Physiographic map is shown by Figure D-2.

## 2. HYDROLOGIC DATA

Conspicuous difference is observed between the central and southern districts and the northern district of Okinawa Island in terms of topography and geology. The central and southern districts feature gentle hills with few rivers, since the Shimajiri strata of the Neocene formed the basement are mainly composed of softer pelite, and Ryukyu limestone of the Quaternary Period there above filled the hollows of the basement and formed a plane. Furthermore, due to ves-ticular Ryukyu limestone, the basement forms an effective subterranean water basin where meteoric water is stored.

On the contrary, the northern district features steep mountains mainly consisting of Nagojiri strata of late Mesozoic Era with slate, phyllite, schist, and Kayo stratum of psammite, alternation of pelite strata and psephite which was formed between Mesozoic Era and Palaeocene Period.

Approximately 300 rivers, regardless of size, exist in Okinawa Prefecture. However, the size is generally small and only 37 rivers have more than 10 km<sup>2</sup> of basin. Most of the rivers are steep brooks of shore streams, which are apt to result in abrupt inundation following to peculiar short-time downpour. Calamities are often caused by flash floods.

However, in the central and the southern districts are large rivers such as Ishikawa river, Tengan river, Hija river, Kokuba river on the west, the number of rivers in these districts is less than that of other districts. Most

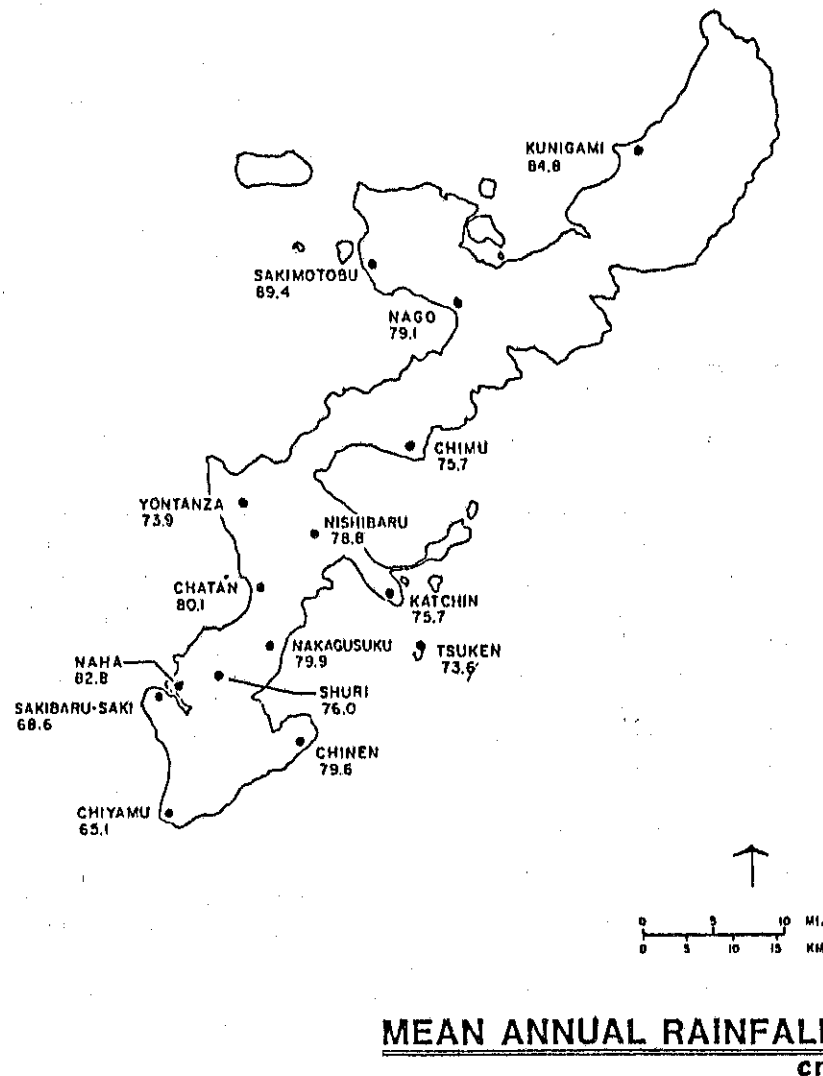


FIGURE D-3

rainfall penetrates into the ground and forms subterranean streams. Along the coastline many flowing-outs are observed.

## D. METEOROLOGY

Okinawa is characterized by a humid subtropical climate due to its proximity to the Tropic of Cancer and the warming influence of the Kuroshio, or Black Current. The Kuroshio is a major ocean current which originates from equatorial currents east of Taiwan and passes west of Okinawa, northward to Japan. Temperatures, salinity and transparency of Kuroshio waters are typically high. The Kuroshio is the north Pacific's equivalent of the Gulf Stream and similarly has a moderating effect on both nearby coastal waters and climate. Winters are mild, while summers are humid because of the persisting warm ocean current throughout the year. The yearly average temperature is 22.4°C (72.3°F), which is 5.3°C (41.5°F) higher than Kagoshima on Kyushu island. With the location of the Ryukyus in the East Asia Seasonal Wind zone, wind blows from northeast in winter and southeast in summer.

Both winter and summer winds bring about the typical seasonal climates. The weather is rather unstable and changeable in spring and autumn when the seasonal winds change.

Following to the ebb and flow of the seasonal winds, the monthly average temperatures are the lowest and highest in January and July, respectively. The record of the monthly precipitation (rainfall) shows two peaks a year: One is in

the rainy season of June and the other in the typhoon season of August.

### 1. TEMPERATURE

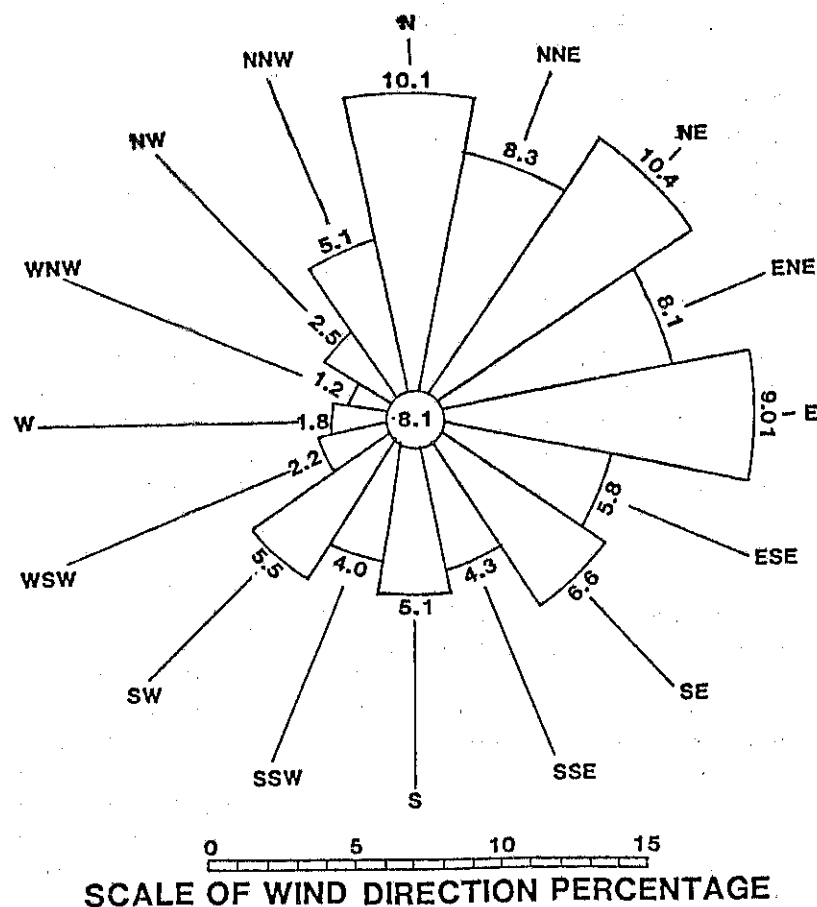
The average weather data taken in Naha for 30 years from 1951 through 1980 indicate the mild temperature with 22.4°C (72.5°F) on a yearly average, 28.1°C (82.6°F) in summer (July) and 16°C (60.8°F) in winter (January).

### 2. PRECIPITATION

Large rainfall is generally observed in the summer with rather little rain in the winter. Total precipitation in a year reaches as much as (84 in.) with (11.5 in.) of the maximum in June and (4.6 in.) of the minimum in December.

### 3. WIND

Following the gradual diminishing of the northeast seasonal wind which blows for about six months with its peak in January and February, the rainy season comes from spring to early summer. It is called "Sumanbosu" which characterizes the Okinawa Region. Then, the rainy season is over with the starting of the summer seasonal wind which is known as "Kachipe". "Sumanbosu" of Okinawa is not different from "Tsuyu" of mainland Japan, though a slight time difference is observed. The summer season substantially starts after the rainy season, then it turns into winter season with the northeast seasonal wind. Yearly average wind velocity is (11.2 mph) and most of the wind directions are from the northeast.



DIRECTIONAL WIND ROSE AT MCTUREOUS

#### 4. SOLAR INFORMATION

The duration of sunshine sums up to 2,047 hours a year and the percentage of possible sunshine is 46% a year. The yearly average humidity recorded is 77%.

#### 5. RAINFALL

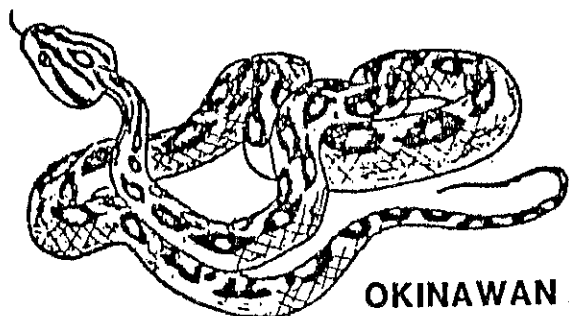
Rainfall throughout the island varies from about 89.4 at Sakimotobu to 65.1 inches at Chiyama (see Figure D-3)

### E. FLORA AND FAUNA

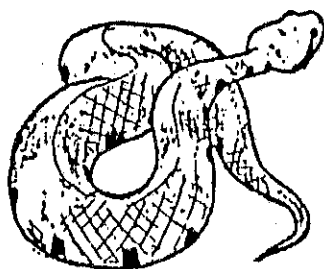
#### 1. FLORA

Okinawa includes two subregions of the Camellietea japonicae (evergreen broad-leaved forest) zone. The northern Okinawa subregion is characterized by Psychotrio-Castanopsion sieboldii associations while southern Okinawa is characterized by Psychotrio manillensis-Acerion oblongi associations. Many native forest stands in central and southern Okinawa were destroyed during the Battle of Okinawa in 1945. Forests of northern Okinawa were subsequently harvested because of the great demand for firewood and reconstruction materials after the war. Replantation programs since that time have helped to reestablish forests.

The overall vegetation of Okinawa was surveyed in 1973-1975 by the Japan Environment Agency and includes several different general vegetative cover types. Much of northern Okinawa is



OKINAWAN HABU



HIMEHABU



SAKISHIMA HABU

characterized by a Castanopsis custidata forest region and Pinus lutchuensis substitutional communities. Southern Okinawa includes several Chenopodietea weed communities in fields and Miscanthus sinensis - Zoysia japonica communities. Occasional Leucaena glauca; Phragmitetea and Potamogetonetea, and Cycas revoluta or Livistona subglobosa communities also occur throughout Okinawa in smaller pockets of land.

The vegetation on Okinawa varies from tropical at sea level to subtropical at elevations above 1,300 feet. Even at lower elevations however, the climate is not wet enough to support the rain forest type growth of the true tropics. Both trees and shrubs are relatively small, and the natural cover is difficult to penetrate. In the limestone areas especially, normally tall trees are stunted by lack of water, and twisted and bent by winds.

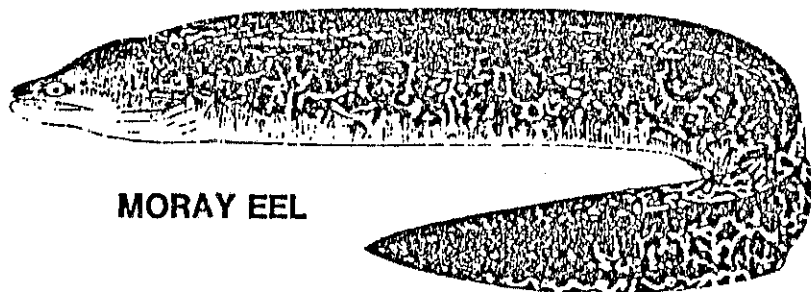
## 2. FAUNA

### A. LAND MAMMALS

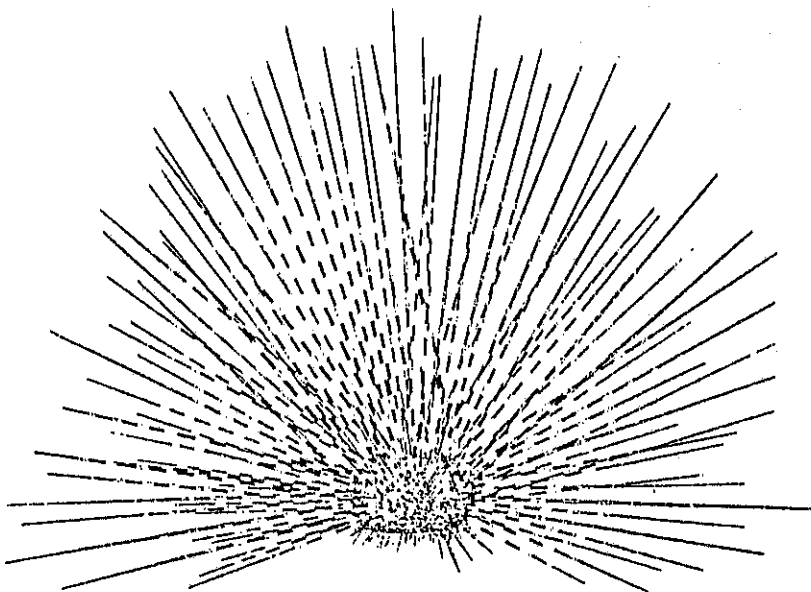
There is the usual assortment of domesticated animals in Okinawa. Additionally, there are Japanese deer, mongooses which have been imported, and the indigenous Ryukyu wild pig and Amami black hare. There are also many types of rats, mice and bats.

### B. REPTILES AND AMPHIBIANS

There are, at least, five species of venomous snakes on Okinawa. All are locally called "habu". There is also a marine snake with



MORAY EEL



SEA URCHIN

poisonous fangs, as well as several species of non-poisonous snakes. There are also frogs, toads, geckos and several species of turtles.

#### C. BIRDS

There are many varieties of land and sea birds on Okinawa, from sparrows and finches to ducks and herons.

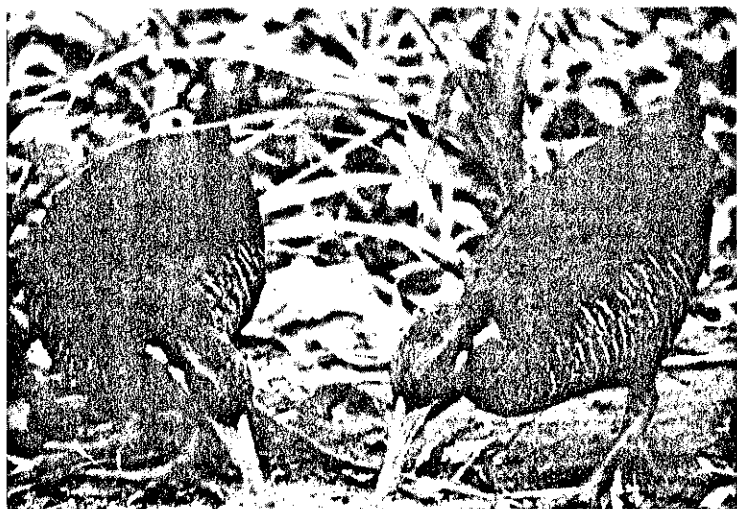
#### D. ENDANGERED SPECIES

The latest published lists of Endangered and Threatened Species pursuant to the Endangered Species Act of 1973, as amended, appear in the Federal Register of July 20, 1983. Three species from the Ryukyu Island appear in the list of endangered and threatened wildlife and are listed as endangered: Iriomote cat (Felis (Mayailurus) iriomotensis); the Ryukyu sika deer (Cervus nippon keramae); and the Ryukyu rabbit (Pentalagus furnessi). No plant species from the Ryukyu Islands appear in the list of endangered and threatened plants.

Plants and animals of the Ryukyus regarded by the Japanese Government as cultural assets are discussed in paragraph (11).

#### E. AQUATIC BIOLOGY AND MARINE RESOURCES

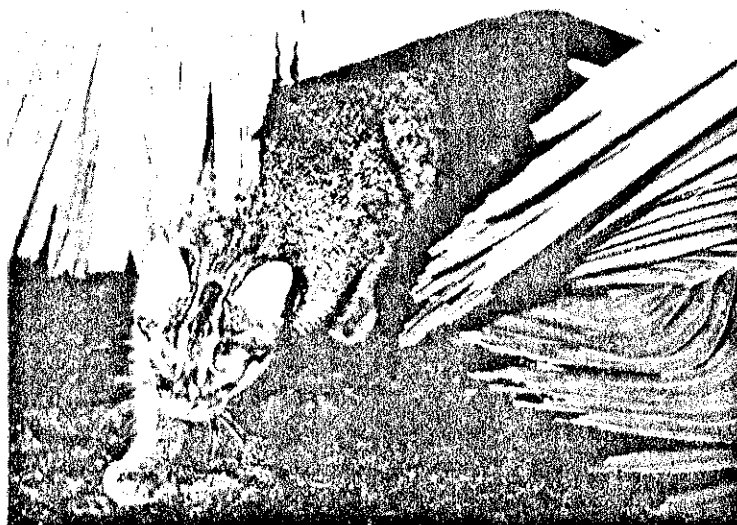
Freshwater fish on Okinawa are very limited, particularly in areas of central and southern Okinawa where urban and agricultural activities have resulted in numerous stream modifications.



**YANBARU KUINA (North Okinawa)**



**RYUKYU YAMAGAME TORTOISE (North Okinawa )**



**IRIOMOMOTE WILDCAT (Iriomote Island)**



**NOGUCHI GERA WOODPECKER (North Okinawa)**

The Ryukyu Islands are known for the diversity and richness of their marine resources. The mixing of plankton-rich warm waters of the Kuroshio with relatively cool waters from the north results in excellent fishing grounds around the Ryukyu Islands. Tunas, marlins, swordfishes, seaweeds, squids, cuttlefishes, octopuses, echinoderms and various shellfish are commonly harvested from waters off Okinawa.

Fringing coral reefs surround the island of Okinawa. Many reef areas in the southern and central portions of the island, however, have been damaged by silt associated with upland development and runoff. The Crown of Thorns Starfish (Acanthaster planci) has also contributed to periodic damage and destruction of coral reefs.

## F. POPULATION AND EMPLOYMENT

The population of the Ryukyu Islands was relatively stable at about 575,000 people from 1920 until 1940. During the Battle of Okinawa in 1945, some 100,000 civilians lost their lives and by the end of hostilities, another 50,000 Okinawan citizens serving in the Japanese Armed Forces had also been killed. Beginning in late 1945, however, an estimated 150,000 people who had migrated to Japan or Japanese-occupied areas were repatriated, offsetting the decimation of war. The total population then began increasing, topping one million people in the latest (1975) census.

## G. ECONOMICS

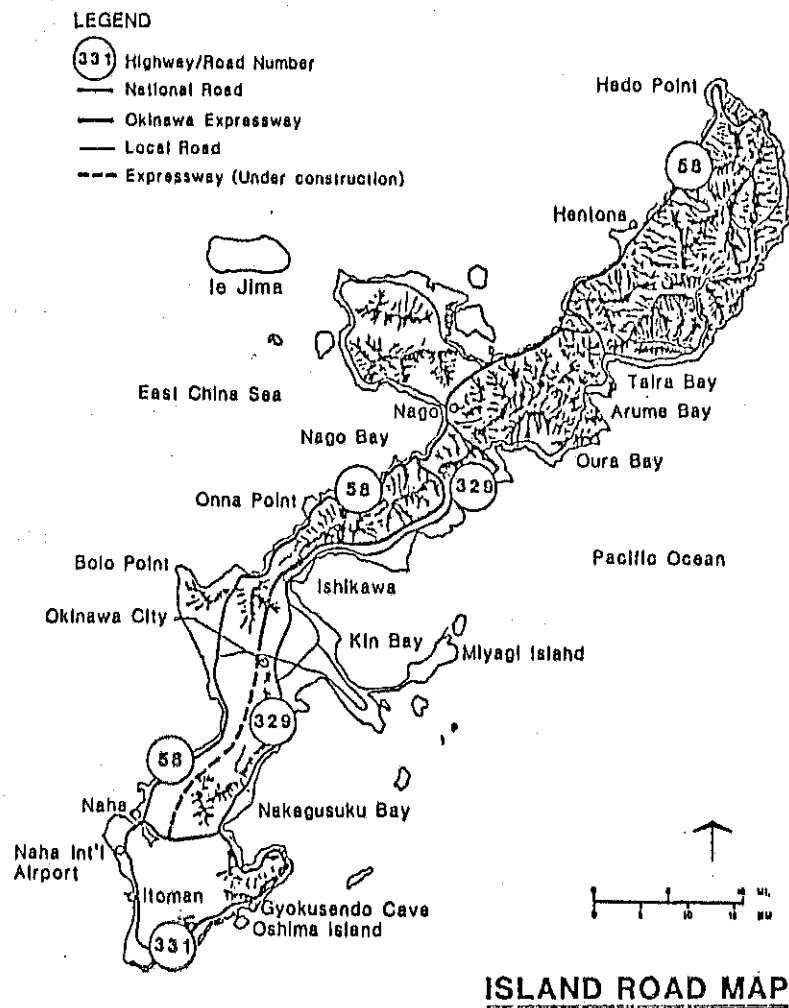
Traditionally, the Ryukyu Islands people have been farmers and fishermen. However, since World War II, other industries have expanded faster than agriculture and its relative economic importance has decreased. The major cause for this trend between 1950 and 1972 was the U.S. military presence on Okinawa in support of the Korean and Vietnam conflicts, although urbanization has continued at an accelerated pace since Okinawa reverted to Japan in 1972.

Currently, about 20 percent of the total Okinawa area is cultivated.

Traditional Okinawa fishing practices have been displaced by modern commercial operations. Tuna fleets fish as far away as the coast of West Africa; however, this accounts for only about one percent of the Gross National Product and employs only a few thousand people.

Commercial mineral production is limited to cement and aggregate manufacturing. Initial cement plant development began in the early 1960's and has expanded to satisfy total island requirements. Cement manufacture appears to offer significant export potential.

Two major oil companies, Gulf and Esso, have established refineries for processing crude oil brought from the Middle East.



**FIGURE D-4**

The service and tertiary industries make up the major sector of the economy. These include wholesale and retail trade, finance and investment, real estate, transportation, communication, services and utilities. Both the U.S. military presence and a growing number of tourist from Japan help support these industries.

## H. TRANSPORTATION

### 1. LAND TRANSPORTATION

All land transportation on Okinawa is by highway vehicle except occasionally in the rural areas, where horses, water buffalos and tractors are sometimes used to draw a variety of vehicles. By the time of reversion in 1972, there were over 2,000 miles (3,200 km) of roads, both hard surfaced and coral surfaced. Some additional roads (such as the 15-mile long (25 km) Okinawa Expressway) and a 3-mile (5 km) causeway to Henze and Miyagi Islands have been built since, but the major efforts have been in upgrading existing roads. All major coast and cross-island roads are now hard surfaced.

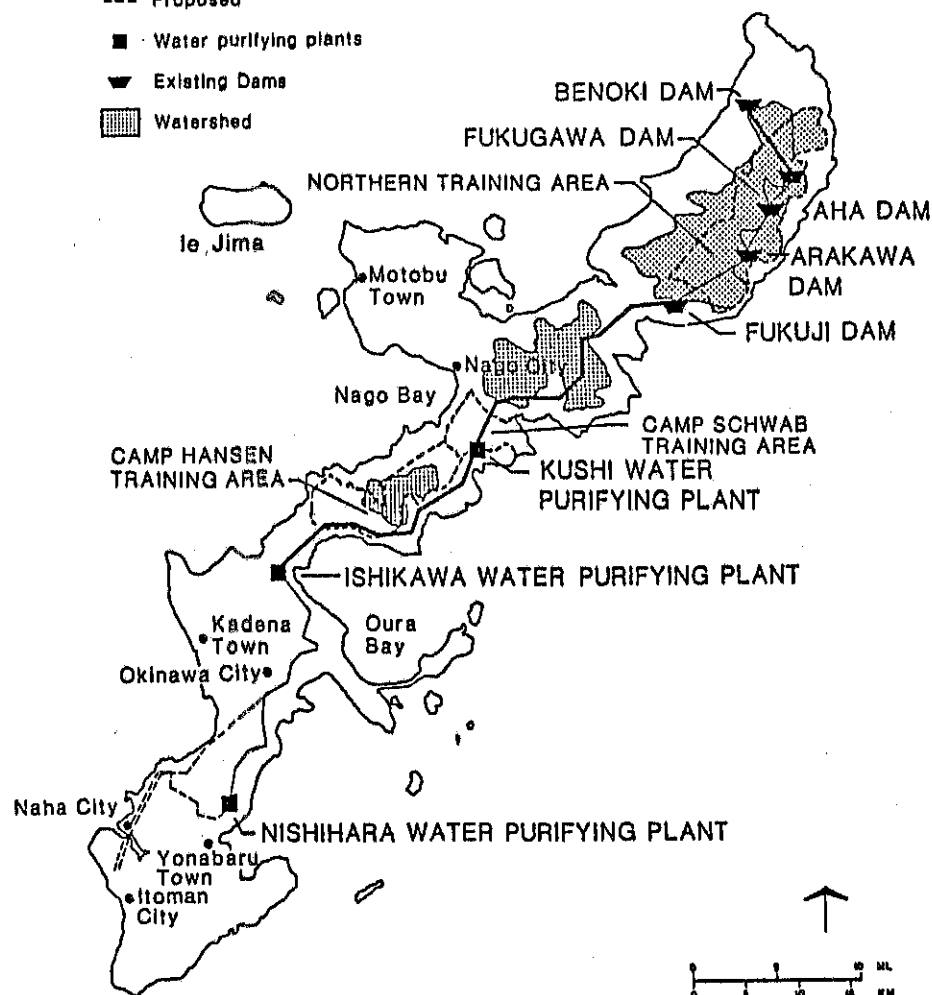
Figure D-4 shows the major roads and highways on Okinawa.

### 2. AIR TRANSPORTATION

Five scheduled airlines service Okinawa through the Naha International Airport (formerly NAF Naha).

# LEGEND

- Existing
- Proposed
- Water purifying plants
- ▼ Existing Dams
- ▨ Watershed



## WATER DAMS & RELATED WATERSHEDS

FIGURE D-5

The U.S. Military Airlift Command (MAC) schedules flights between Kadena Air Base and such diverse destinations as Norton AFB, California; Yokota, Japan; Korea; and Clark Air Base, Philippines, with an average of three flights per day.

## 3. OCEAN TRANSPORTATION

Daily ocean passenger services is available between Naha and the outlying Ryukyu Islands as well as mainland Japan. Automobile ferry service is also available.

Ocean freight is delivered and picked up at Naha, both at the old Army controlled port and the "New" Naha Harbor, 1 or 2 miles north. Most shipping is either break-bulk or roll-on/roll-off containers as there are no shoreside container cranes.

## I. UTILITIES

### 1. WATER

Water resources on Okinawa have traditionally been considered adequate overall. The island-wide water resources are controlled by two political entities. The Government of Japan (GOJ) controls most of the supply, but until recently, was providing only 30 to 40 percent of the total supply except during periods of drought, when sources controlled by the Okinawa Prefecture Enterprise Bureau (OPEB) could not provide the balance of 60 to 70 percent of demand. In these cases, GOJ would increase the allocation to 50 or 60 million gallons per day, depending on the severity of the drought.

The Fukuji Reservoir, designed and constructed by the U.S. Army Corps of Engineers in the late 1960's to hold a maximum storage capacity of 13.6 trillion gallons, is the largest source of water in Okinawa and is fully controlled by GOJ. In recent years, GOJ started construction work to upgrade the storage capacity at Fukuji to cope with projected increased demand.

The development and modernization of Okinawa has resulted in a constant increase in demand for water by the local and military population as well as the industrial sector. The average daily demand for water in 1982 was 89 million gallons against a minimum average daily supply of water of 87 million gallons. The average daily demand for water was projected to increase to 123 million gallons by 1985 and to 140 million by 1990.

As of mid-June 1985, the actual average daily demand, however, was below 100 million gallons per day. Also, as of mid-June 1985, GOJ was providing for 60 percent of the average daily demand from the Fukuji Reservoir, with the remaining 40% of supply originating at OPEB controlled sources.

The percentage of total demand provided by GOJ controlled sources is not a fixed permanent amount. This contribution is established based on agreement between GOJ and OPEB, with periodic adjustments depending on the season and available volumes stored in the reservoirs at that particular time.

GOJ increased the storage capacity of the Fukuji Reservoir using two different techniques. First, the dam and spillway height were raised to increase storage capacity. Second, the outlets of three new reservoirs already completed and one currently under construction were designed to empty directly into Fukuji reservoir. The already completed reservoirs are Arakawa, Aha, and Fukugawa. With the completion of Benoki Reservoir in late 1985, the available raw water supply will have increased to an average of 127 million gallons per day.

By 1990, the GOJ plans to increase the average daily water supply to 165 million gallons per day by improving the Hijagawa water supply and constructing additional dams at Heinan, Okukubi, Haneji and Kanna.

The OPEB controlled water resources consist of the Tengan, Kin, and Sukeyama Reservoirs, the run off from a few drainage ditches or streams which is collected during and after rainstorms (if the reservoirs are not overflowing), and deep wells (they have some inside Kadena Air Base).

The possibility of obtaining ground water in other areas south of Kadena has been explored but the treatment of quantities and quality of water available has been determined not to be cost effective. Presently, only a few gasoline service stations are using water from wells to wash automobiles.

The OPEB will not consider treating water from drainage ditches and streams within the heavily populated southern portion of Okinawa. The storm drainage systems in the southern portions of Okinawa is highly contaminated by industrial and household wastes. The quality of potable water generated from these sources would be poor when compared with existing OPEB and GOJ sources. Except for Camps Hansen, Schwab, the Northern Training Area (NTA), and portions of Camp Foster/Lester, potable water provided to U.S. Bases on Okinawa by municipalities is from OPEB's distribution lines.

The water supply at NTA consists of a small stream intercepted and treated in a new water treatment plant constructed in 1984 and pumped into a pressure-fed tank inside the plant.

Figure D-5 shows the water dams and related watersheds on Okinawa.

Typical water treatment includes coagulation, flocculation, clarification, filtration, pH adjustment and chlorination. The normal water supply to Camp Foster and the Air Station originates at the Koza Water Treatment Plant (Tybase) in the northeastern side of Kadena Air Base. However, to preclude complaints from the local population on the differences in hardness level of potable water produced by different treatment plants, water from different plants is mixed in an attempt to provide a uniform quality to all municipalities.

## 2. SEWAGE

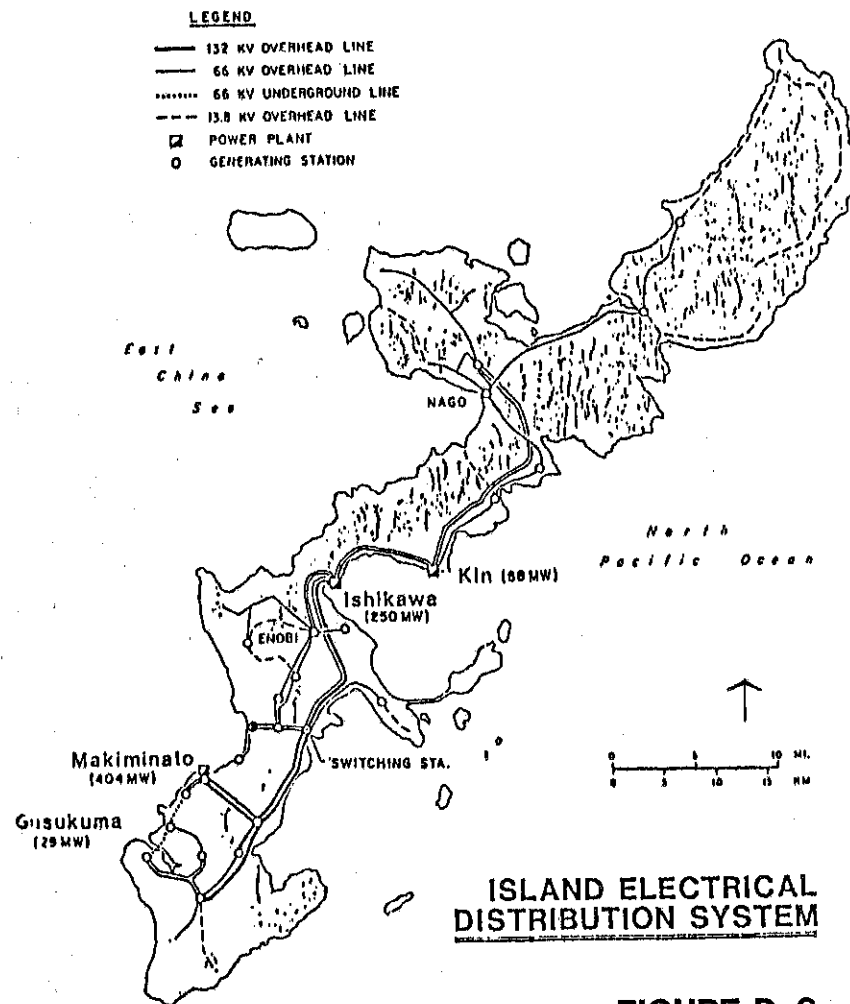
The Okinawa Prefectural Government and Municipalities south of Kadena operate and maintain local sewage treatment plants and collection systems. Camps Hansen, Courtney and Schwab operate and maintain Marine Corps owned sewage treatment plants, constructed by the Government of Japan during the early 1980's. Except for the plant at Camp Courtney (to be upgraded due to the construction of military family housing at South Camp Courtney) the plants are adequate for present and future requirements.

## 3. COMMERCIAL POWER SYSTEM

All of the island power is provided by the Okinawa Electric Power Corporation (OEPC), as shown by Figure D-6. OEPC has four power plants with the following capacities:

| <u>GENERATORS</u> |            |                      |                   |
|-------------------|------------|----------------------|-------------------|
|                   | <u>NO.</u> | <u>CAPACITY (MW)</u> | <u>Total (MW)</u> |
| Gushukuma         | 1          | 29.0                 | 29                |
| Makiminato        | 4          | 130.0                | 520               |
| Ishikawa          | 2          | 125.0                | 250*              |
| Kin               | 4          | 22.0                 | 88                |
| TOTAL             |            |                      | 887               |

\* Note: To be increased to 406 MW in 1986, and to 562 MW in 1987.



**FIGURE D-6**

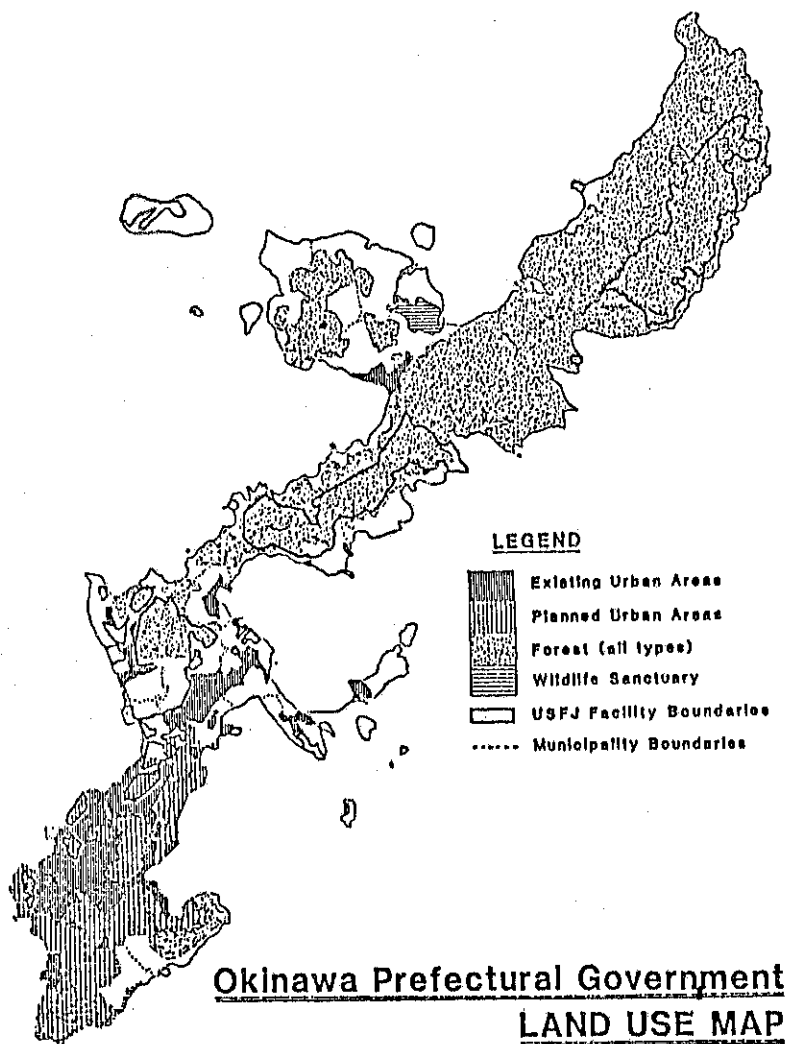
Solid waste disposal throughout Okinawa is by sanitary landfill. A maintenance service contract for solid waste disposal is issued through OICC Okinawa and managed by the Camp Butler Facilities Maintenance Officer. It requires proper disposal of solid wastes.

## **J. LAND OWNERSHIP AND CONTROL**

The singularity of Okinawa real estate lies in the subdivision of privately owned land into often minute fragments of varying shapes. For example, at one time, the U.S. held, under private lease arrangement, approximately 51,000 acres which consisted of about 139,000 separate parcels belonging to some 38,000 different landowners. Land utilization studies conducted by the Japanese Government in the 1970's indicate that most of northern Okinawa is covered by forest and scattered cultivated areas while most of southern Okinawa is characterized by cultivated and built-up (urbanized) areas, with paddies, scrublands and grassland scattered throughout the island. Land use on Okinawa is illustrated by Figure D-7.

## **K. CULTURAL AND HISTORIC PROPERTIES**

The Cultural Properties Protection Law of April 1974 designates Historic Sites, Places of Scenic Beauty and Natural Monuments throughout Japan which are worthy of protection. Standards for the Historic Sites designation include shell mounds, ancient burial mounds, palace remains,



**FIGURE D-7**

Shinto shrine and Buddhist temple remains, checking station remains, etc., which are of scientific value in appreciating the history of Japan.

The "Places of Scenic Beauty" designation includes bridges, gardens, mountain torrents, beaches, mountains, etc., which are of scientific value or excel in scenic beauty.

The "Natural Monuments" designation includes animals (and their habitats) which are well known or unique to Japan. Flora designated as natural monuments include rare trees, giant trees, primeval forests, alpine flora zones, boundary areas for the distribution of flora, etc. Geological features and minerals which are designated natural monuments include rocks, minerals, dykes, river and marine erosional features, limestone topography, lava caves, thermal springs, etc.

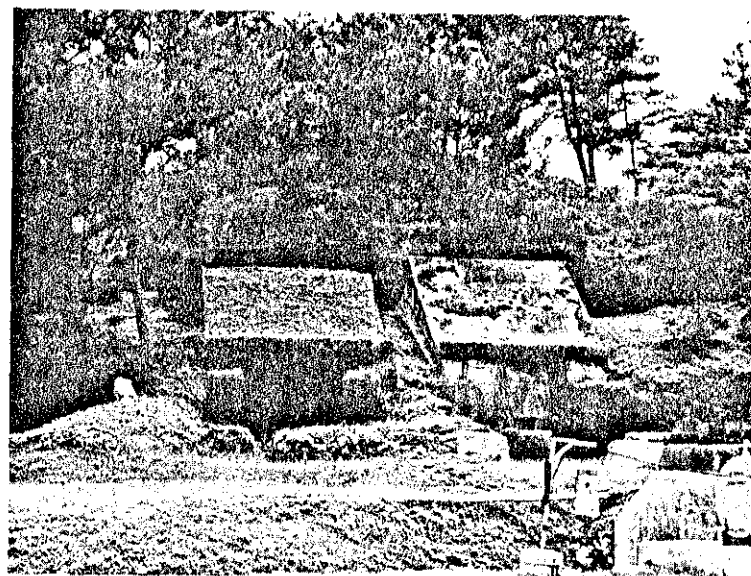
Eight animal species designated as National or Prefectural natural monuments for central and northern Okinawa islands are listed in Table D-1. Natural monuments which are known from other islands of the Ryukyus are not listed here, but are described in various publications of the Okinawa Prefecture Education Commission.

Natural parks are those parks which have been designated under the provisions of the Japan National Park Law. Three classes are designated, depending upon the degree and scale of scenic beauty: National Parks (NP); Quasi-National Parks (QNP) and Prefectural Parks.

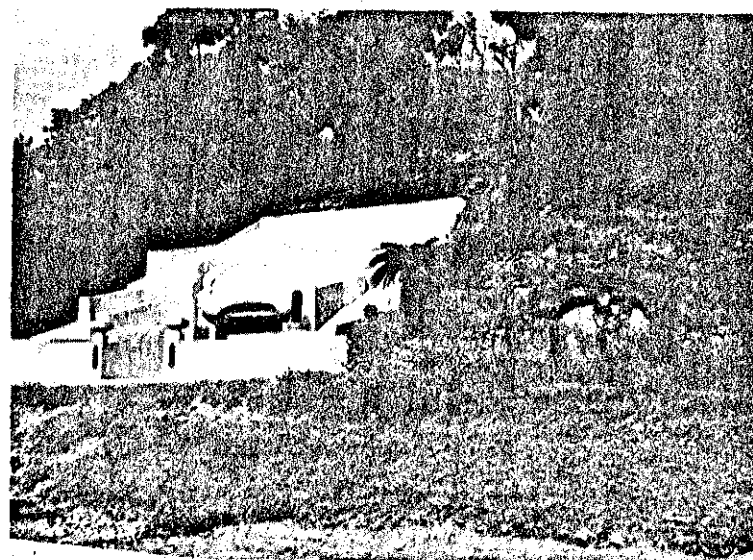
Okinawa island has two Quasi-National Parks. The larger QNP includes most of the western shoreline of central and northern Okinawa (Okinawa Kaigan QNP) while the smaller includes the southernmost tip of the island (Okinawa Senseki QNP). A national park has been designated south of the main island of Okinawa (Iriomote NP). Numerous public (City) parks are also found on Okinawa.

There are many intangible elements which contribute to Okinawa's unique and interesting culture. Some of these could be considered relevant to projects involving wooded areas, streams or other natural areas. Ancient customs often involved veneration of hearth deities and of sacred groves, trees, streams and mountains which were associated with good spirits. Potable water was particularly important to the early Okinawans, and the attribution of divinity of springs and fresh streams is still common. Many of Okinawa's religious beliefs still emphasize love of nature and harmony with the sun, moon tides, storms, trees and hills. These are also expressed in song, dance and oral history.

Tombs are conspicuous and culturally significant elements of the Okinawan landscape.



**TOMBS AT CAMP McTUREOUS-HILLSIDES**



**"TURTLE-BACK" TOMBS**

# TABLE D-1

## NATIONAL AND PREFECTURAL CULTURAL ASSETS ON OKINAWA

| <u>Level</u> | <u>Category</u>  | <u>Name</u>                | <u>Location</u>                |
|--------------|------------------|----------------------------|--------------------------------|
| Natl.        | Historical Site  | Ruins of Akena Castle      | Gushikawa City                 |
| Natl.        | Historical Site  | Iha Shellmound             | Ishikawa City                  |
| Natl.        | Natural Monument | Kenaganezumi (Rat)         | Northern Okinawa               |
| Natl.        | Natural Monument | Noguchi gera (Woodpecker)  | Northern Okinawa               |
| Natl.        | Natural Monument | Dugong                     | Waters off Ryukyus             |
| Natl.        | Natural Monument | Akahige (Bird)             | Okinawa & Yaeyama              |
| Pref.        | Historical Site  | Ruins of Iha Castle        | Ishikawa City                  |
| Pref.        | Natural Monument | Futao-chu (Butterfly)      | Okinawa Is.                    |
| Pref.        | Natural Monument | Konoha-cho (Butterfly)     | Okinawa, Ishigaki,<br>Iriomote |
| Pref.        | Natural Monument | Togenezumi (Rabbit)        | Northern Okinawa               |
| Pref.        | Natural Monument | Ryukyu Yamagame (Tortoise) | Northern Okinawa               |

From "Cultural Assets of Okinawa" by the Education Commission of the Okinawa Prefecture, 1975.

## 2. NATURAL FACTORS

### A. LOCATION

Camp McTureous (Facility 6021) is located about 2 kilometers southwest of the Camp Courtney REX Area. The access to Camp McTureous is provided by local Highway 8, from either Highway 7 or National Highway 329.

### B. TOPOGRAPHY

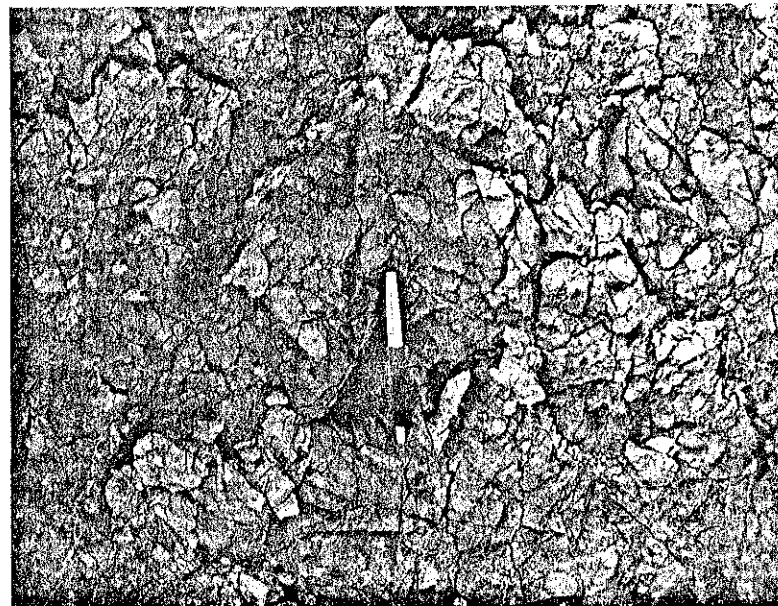
Camp McTureous contains 93.55 acres of land, with one steep hill with a slope of more than 10 percent. The balance of the land is sloping less than 10 percent where facilities are mainly developed, as indicated by Plate D-1.

### C. SOILS

As shown by the soil map (Plate D-2), two great groups of soils are identified on Camp McTureous. A reddish sandy clay over phyllite or other bedrocks and rough stony land, and 2 kinds of soil that is unsuited for crops.

The calcarenite member of this formation (Tn) is an indistinctly bedded, poorly consolidated, partially cemented, buff to yellowish-tan limestone composed of sand-sized particles with fine powdery calcium carbonate. The sand-sized particles are mostly shell fragments of foraminifers and mollusks. Poorly cemented when first exposed, a hardened surface of well-cemented but porous limestone develops whenever exposed to air for appreciable periods of time.

The Quartz Sand Member of the formation (Tns) is contaminated with terrigenous detritus. Non-Calcareous particles increase both in quantity and size.



OKINAWA CLAY LOAM AT 2'-3' DEPTH

### D. GEOLOGY

Camp McTureous is part of the Naha geologic formation. Most of Camp McTureous consists of a quartz-sand member of well-cemented limestone, with a dominant calcarenite outcrop rising 185

feet above sea level. The Okinawa clay loam and Chinen stony clay soils found at Camp McTureous are related, fertile, well-drained clayey soils which occur on limestone plains. As shown by the geology map (Plate D-3), a normal fault runs northwest to southeast along the northeast side of Route 8.

The calcarenite outcrop centrally located is covered by rough stony land, with several inches of crumbly clay and clay loam over bedrock, interspersed with bare outcrops.

## E. HYDROLOGY

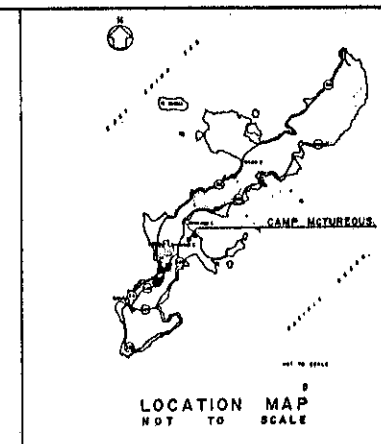
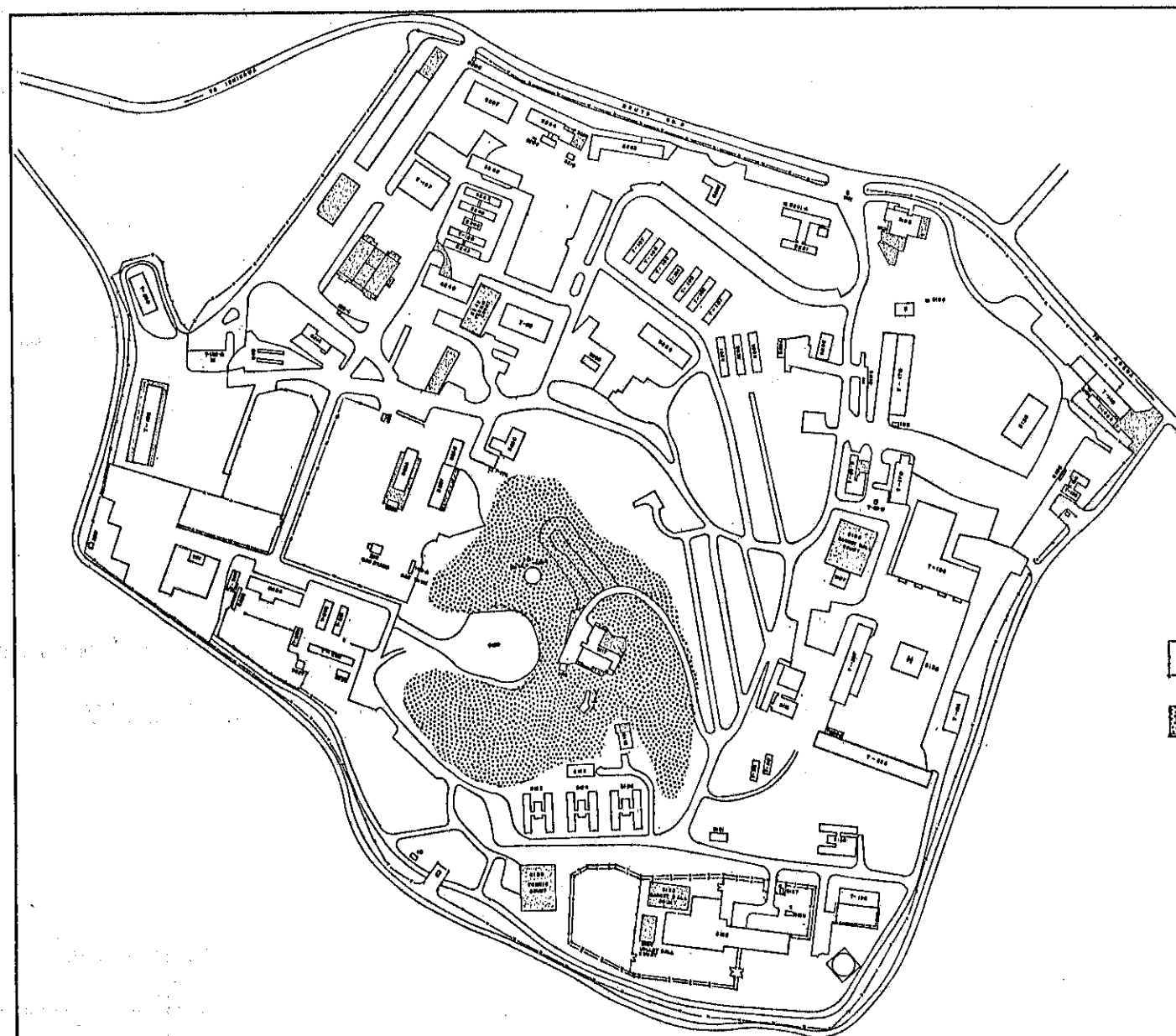
The predominant water feature on the site is Tengan-gawa (Tengan River), passing just north of Camp McTureous with a discharge of more than 5,000,000 gpd capacity. Surface drainage takes most of the water from the Tengan-gawa basin of 12.7 square miles. Subsurface drainage carries some of the water laterally through limestone.

All surface and ground water must be treated for bacterial pollution. Flash high turbidities in surface streams follow heavy rains; therefore, coagulation with alum before filtration is necessary.

Ground Water information is displayed on Plate D-5.



**TENGAN RIVER AT TREATMENT PLANT INTAKE**



# **LEGEND (SLOPE)**



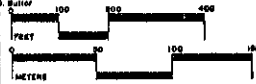
**0 TO 10%**



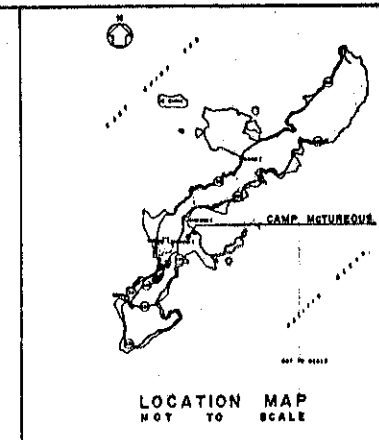
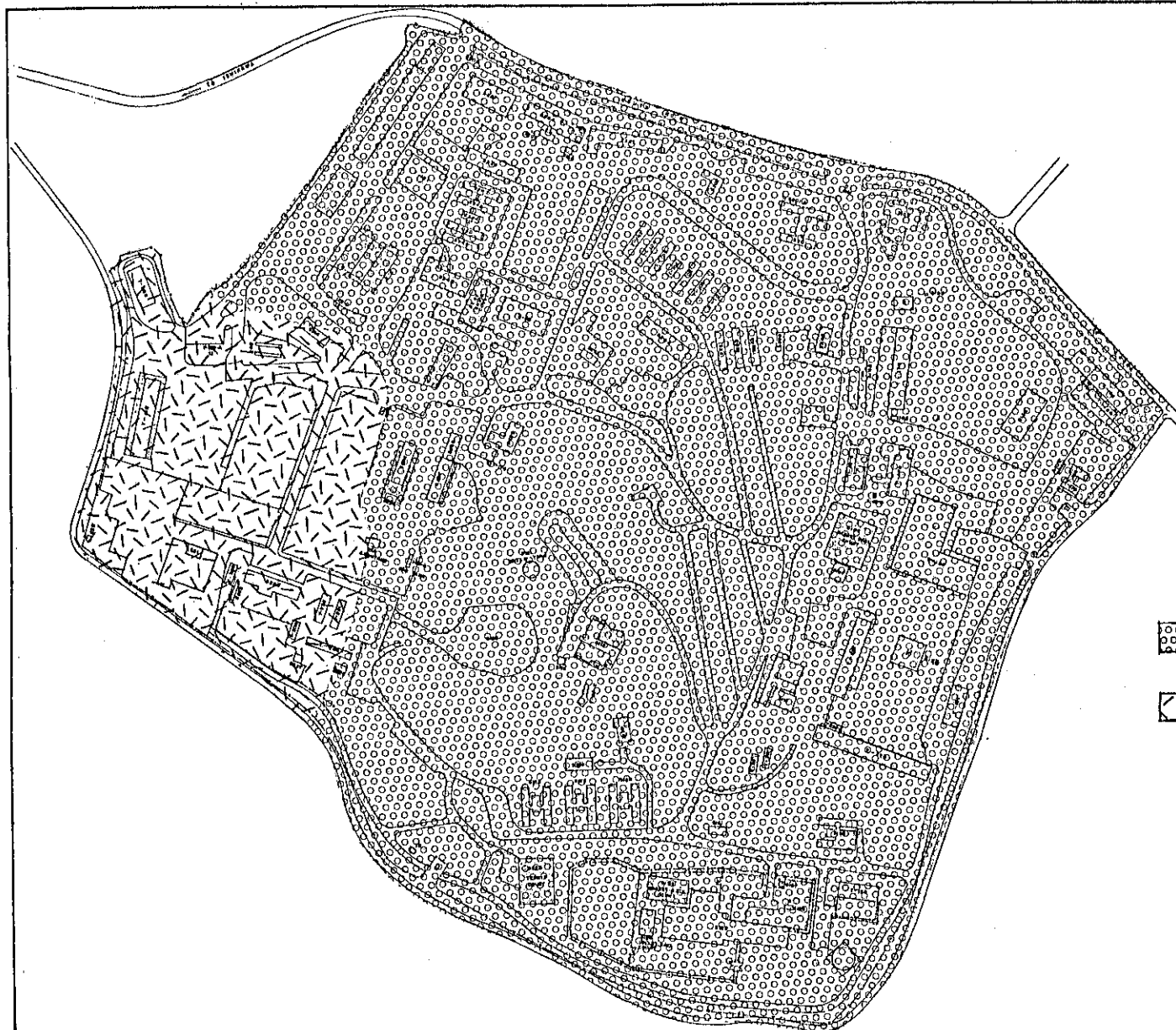
**GREATER THAN 10%**

## **CAMP MCTUREOUS**

Prepared by:  
Public Works Group  
Planning Engineer  
MCM Camp S.D. Butler



## **TOPOGRAPHY**



### LEGEND



ROUGH STONY LAND

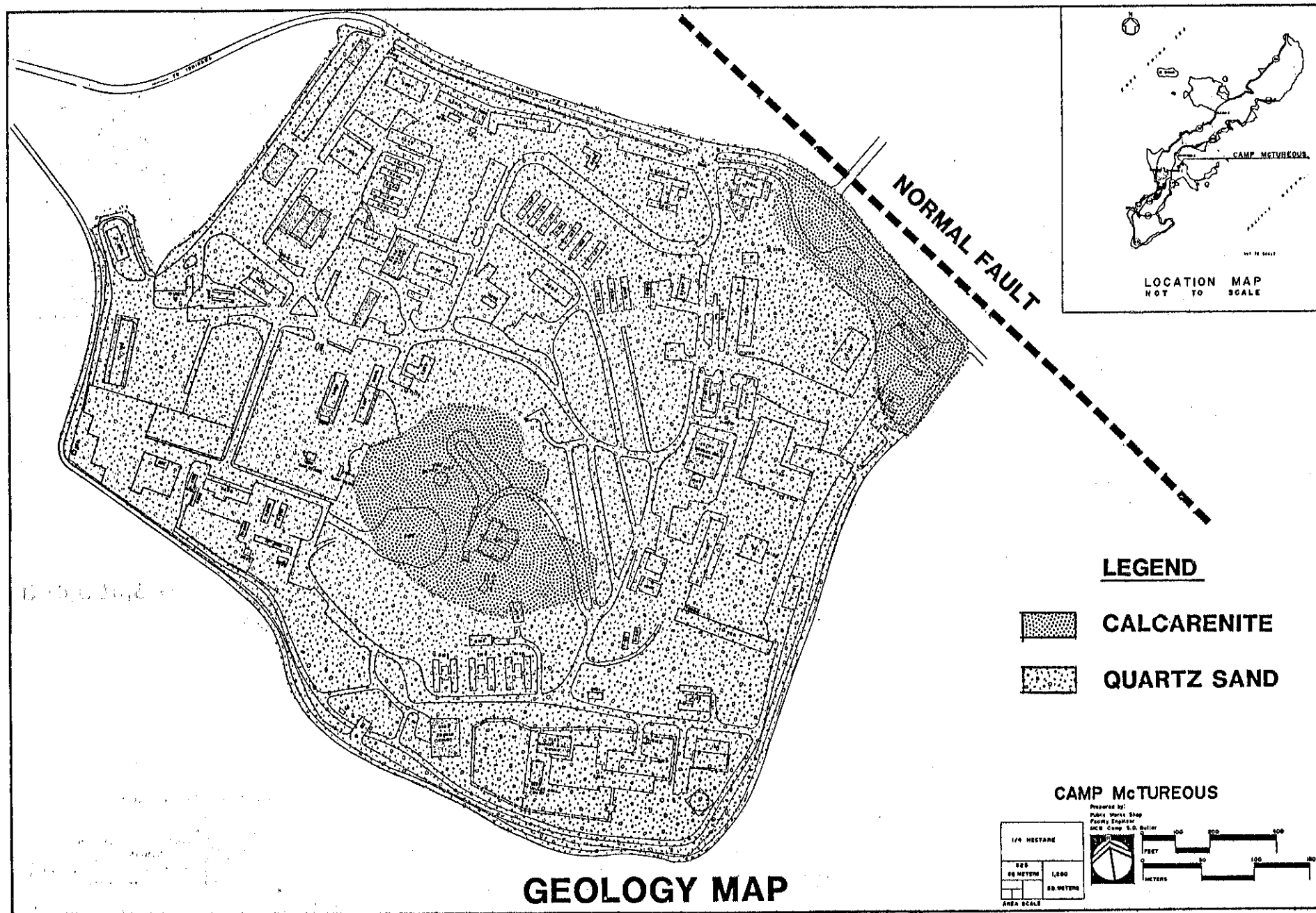


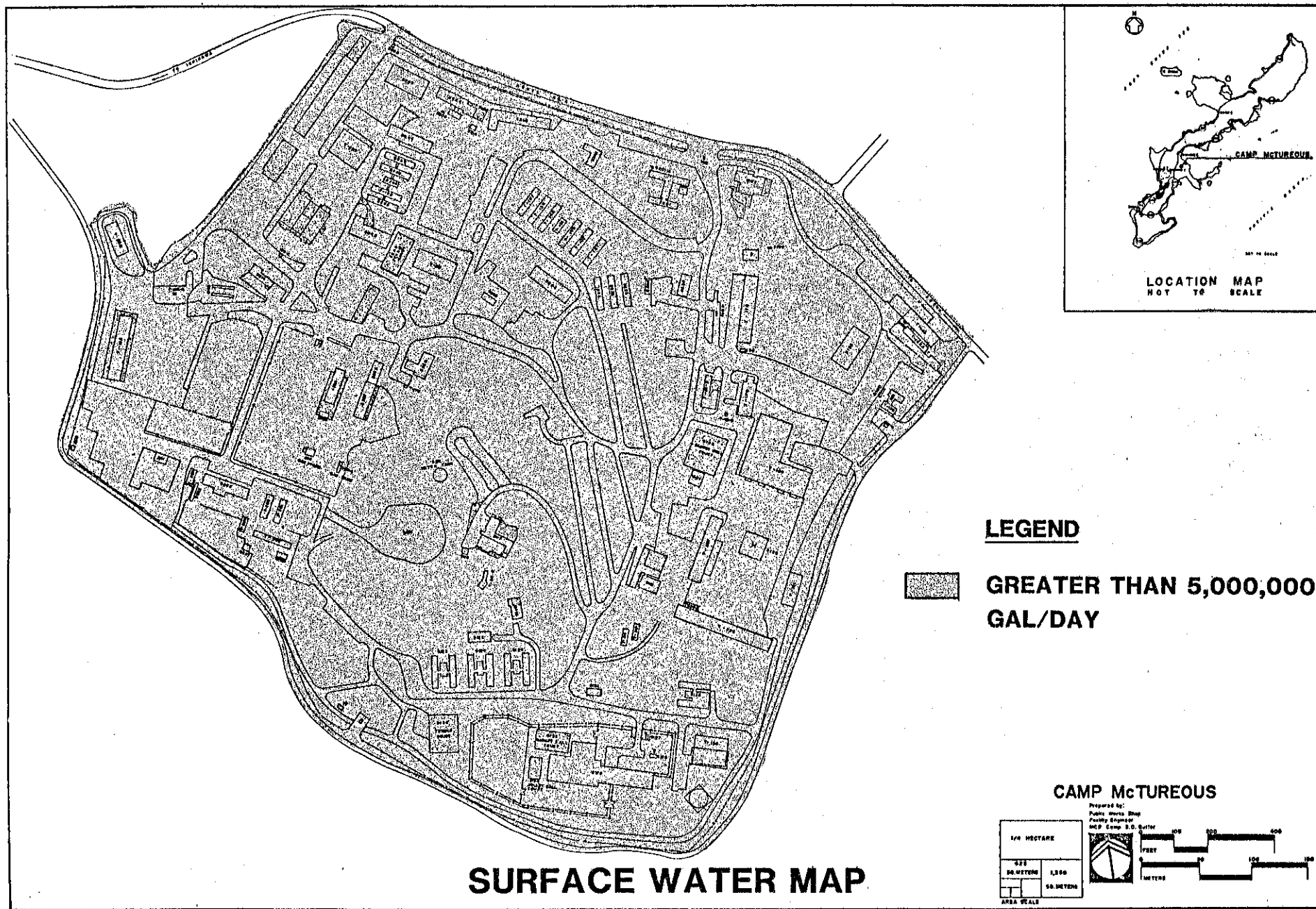
SANDY CLAY

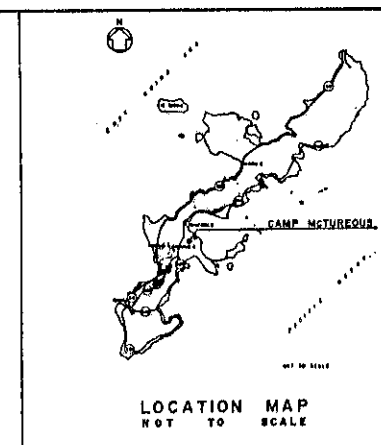
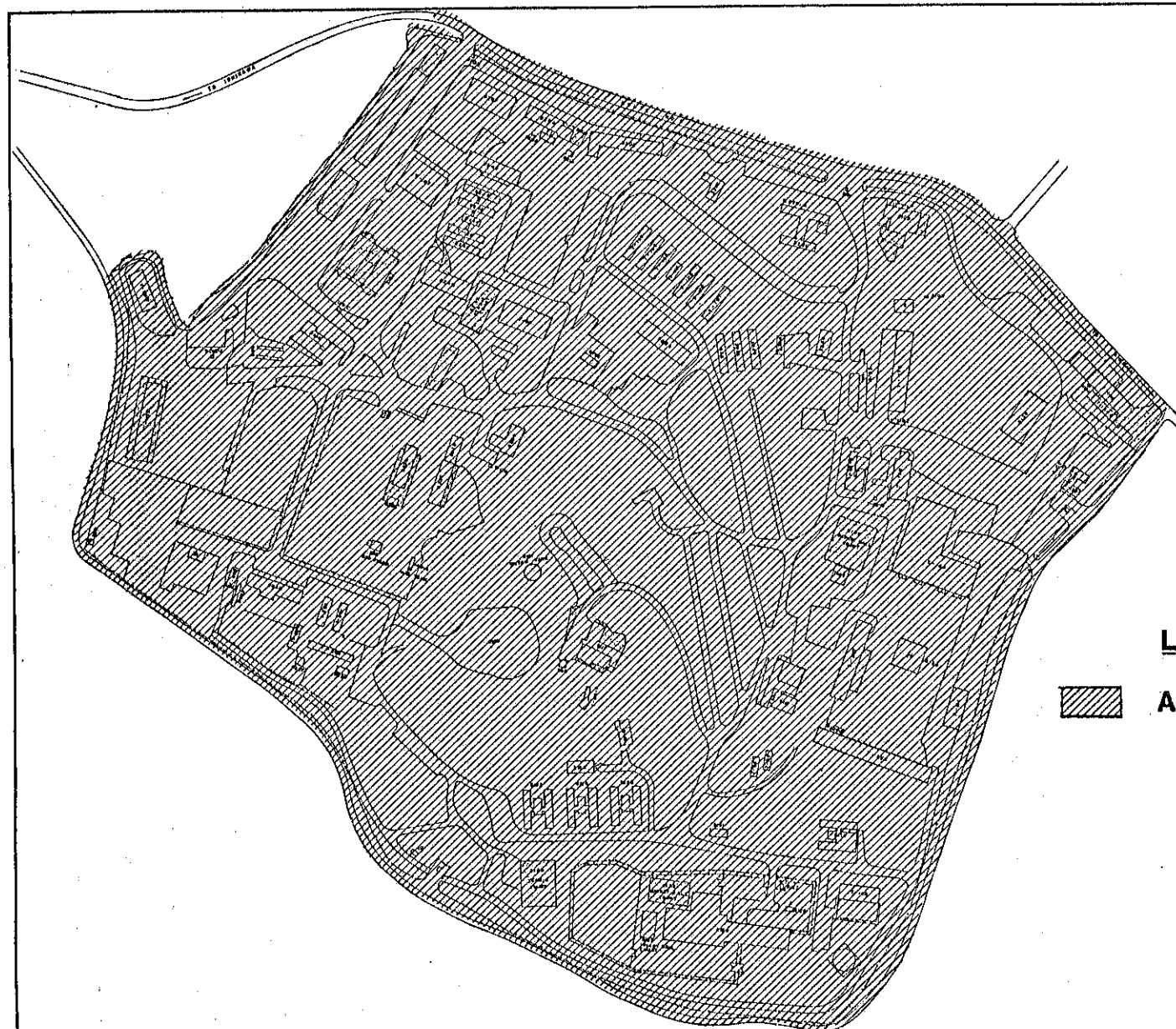
### CAMP MCTUREOUS



## SOILS MAP







# **LEGEND**

 **AT LEAST 200,000 GAL/DAY**

## **GROUND WATER MAP**

### **CAMP McTUREOUS**

|             |
|-------------|
| 1/4 HECTARE |
| 0.25        |
| 50 METERS   |
| 1,000       |
| 50 METERS   |
| AREA SCALE  |



**PLATE D-5**

### **3. INFRASTRUCTURE**

#### **A. ELECTRICAL POWER**

##### **1. SYSTEM COMPONENT**

All island power is provided by the Okinawa Electric Power Corporation (OEPC). The OEPC has four main power plants with a total of 11 steam turbine generators. Ishikawa plant, which serves Camp McTureous, has four 85 mw generators.

The OEPC island transmission voltage is 132 kv, or 55 kv, 3 phase, 60 Hz. The 66 kv is transformed at the Tengan substation to 13.8 kv distribution voltage. The local communities are fed from 66 to 6.6 kv substations. Camp McTureous is supplied 13.8 kv power from the Aghena switching station. At Camp McTureous power is transformed to 4 kv. The primary electrical system is illustrated by Plate D-6.

##### **2. CAMP DISTRIBUTION SYSTEM**

The existing feeder at Camp McTureous is inadequate to support the proposed housing development. A new four wire 66 kv, 3 phase feed providing 13.8 kv at Camp McTureous will be required.

#### **B. WATER SUPPLY AND DISTRIBUTION**

##### **1. POTABLE WATER SYSTEM**

The Okinawa Prefecture Enterprise Bureau (OPEB) provides Camp McTureous with potable water through the Gushikawa Municipal System. All the

water systems on Camp McTureous are for potable water. They consist of four-inch steel and eight-inch asbestos cement transmission lines. A .25 mg reservoir located at the top of the large hill in the central portion of the camp provides about 50 psi water pressure.

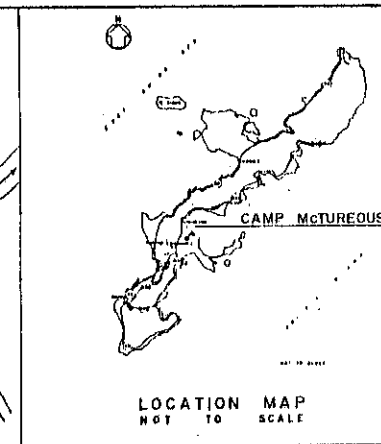
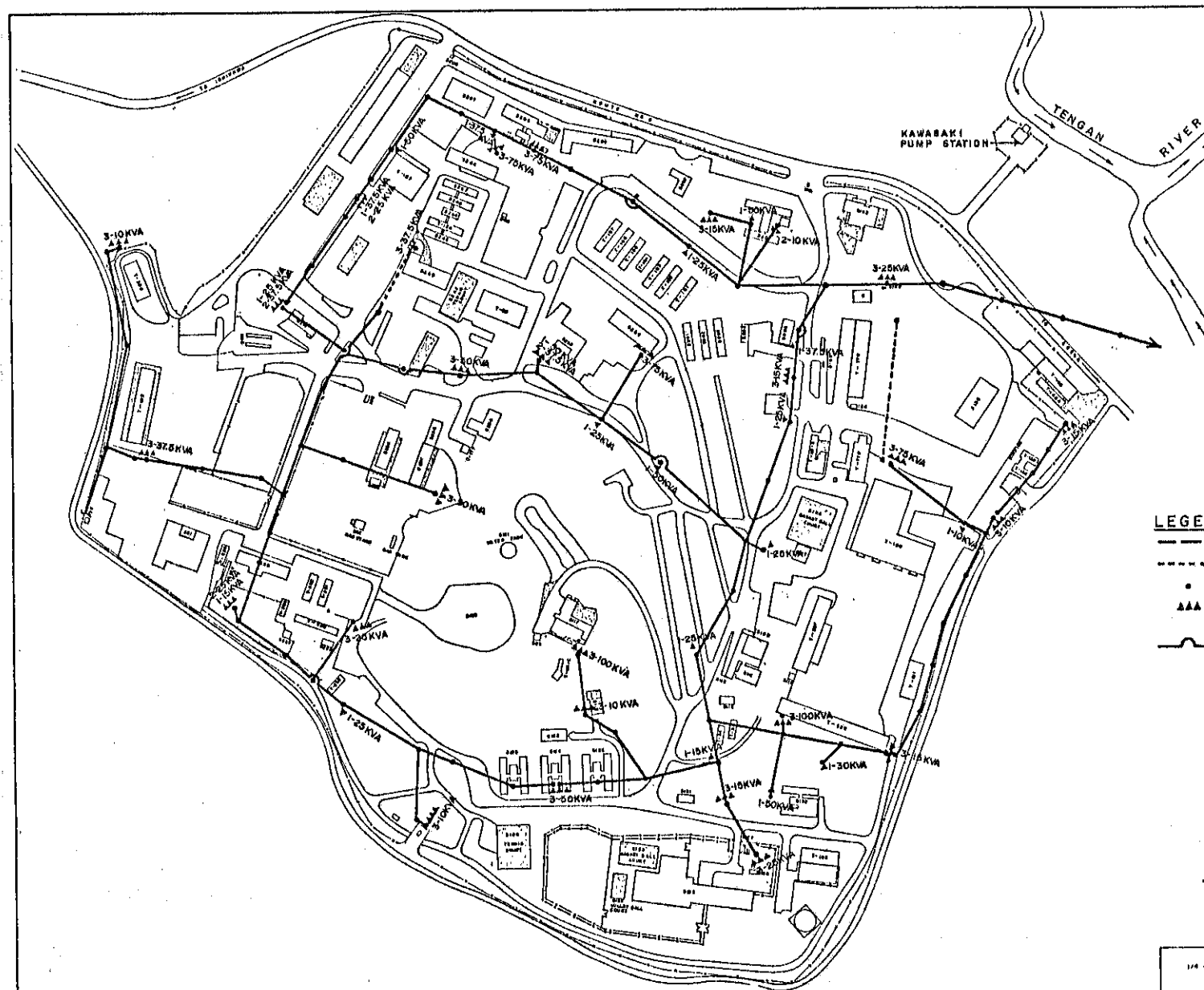
The water service to Camp McTureous is adequate for the existing conditions and is illustrated by Plate D-7. However, the system will require major modification to support the new housing development.

#### **C. SEWER AND STORM DRAIN SYSTEM**

The existing sewer and storm drain systems at Camp McTureous are adequate at the present time but will require upgrading to support proposed housing construction in 1986. Plates D-8 and D-9 illustrate the existing systems. A new sewage treatment plant will be built by the Government of Japan to support military family housing at Camp McTureous.

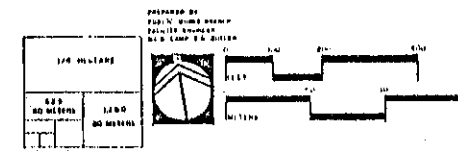
#### **D. SOLID WASTE**

The solid waste disposal system is provided by a private collection maintenance service company. Originally, this service was provided by the Gushikawa-Shi village. In June 1983, the Marine Corps negotiated with a private collection company to service Camp McTureous. Private collection companies would still be used to provide service to the military families expected to reside at Camp McTureous.

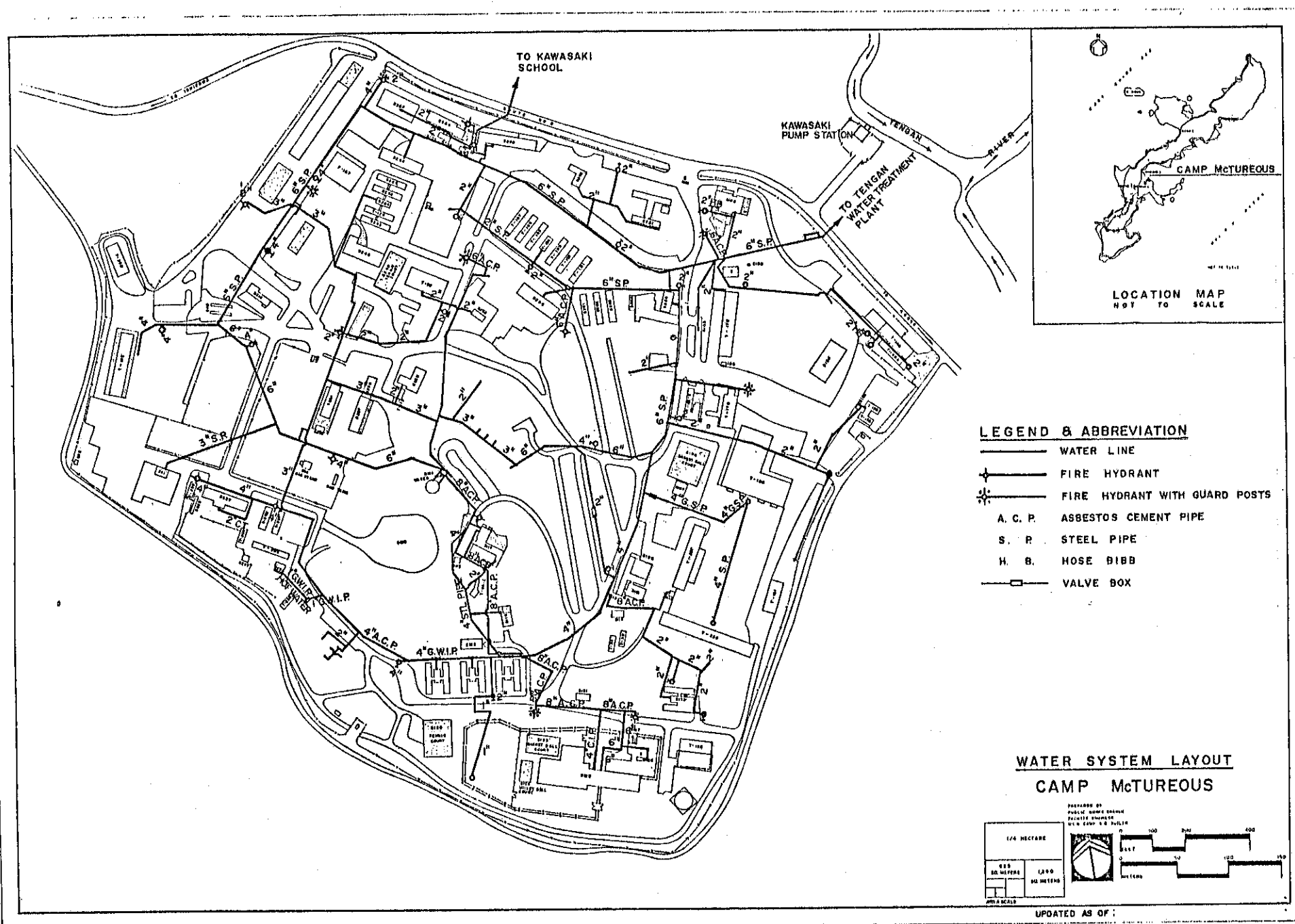


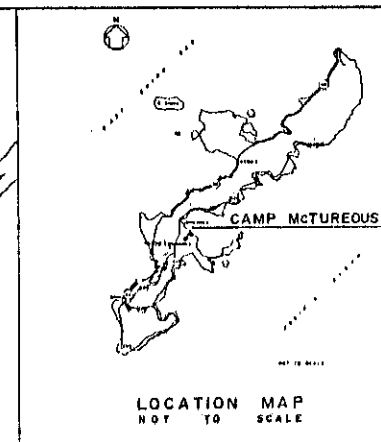
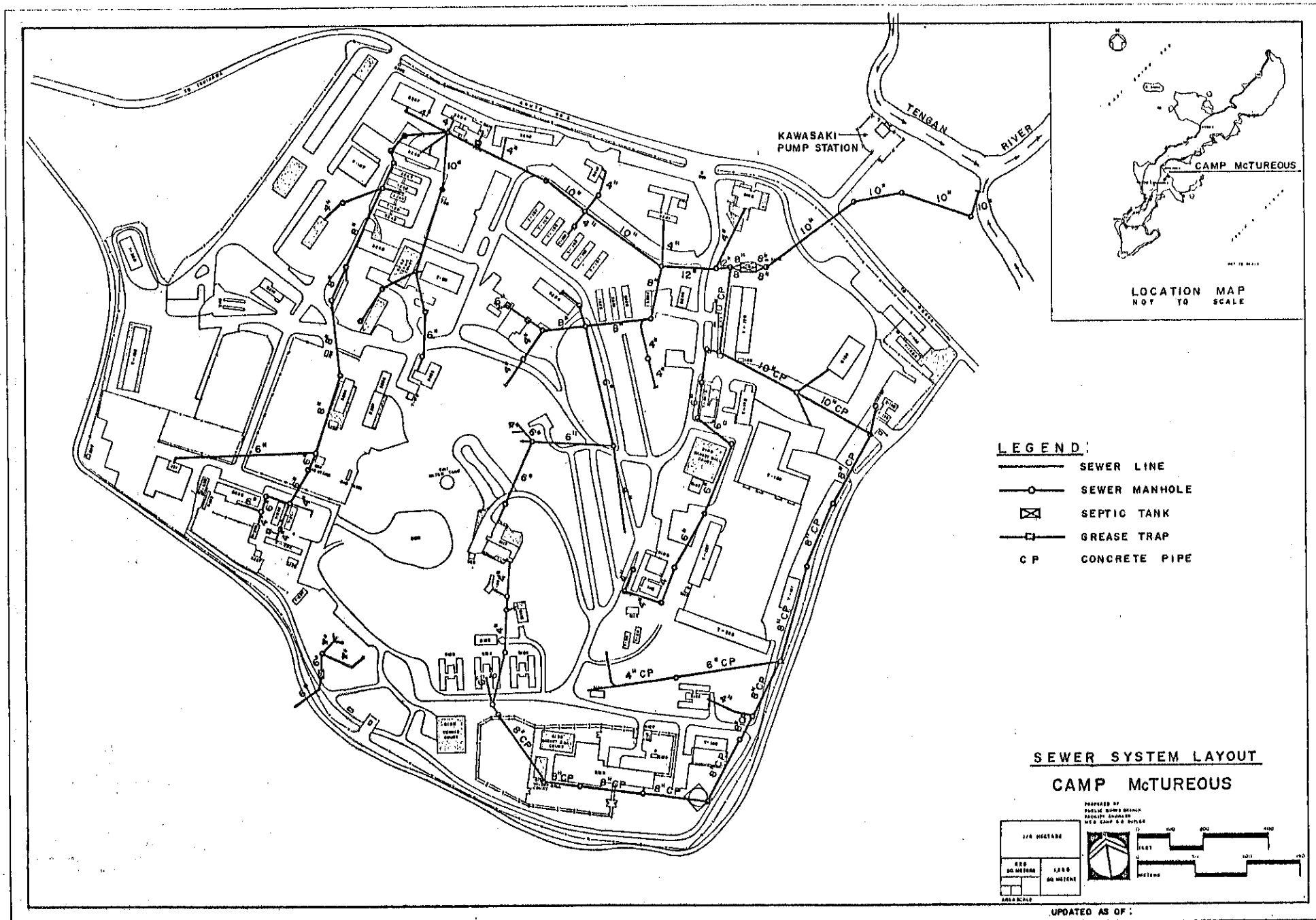
- LEGEND :**
- OVERHEAD PRIMARY LINE, 4160 V
  - - - - UNDERGROUND PRIMARY LINE, 4160 V
  - POLE
  - ▲▲▲ TRANSFORMER STATION, NO. OF TRANSFORMER & KVA AS INDICATED
  - SECTIONALIZING SWITCH

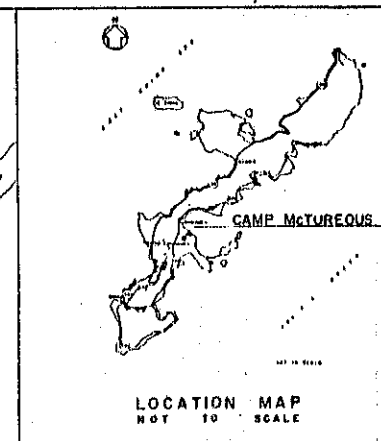
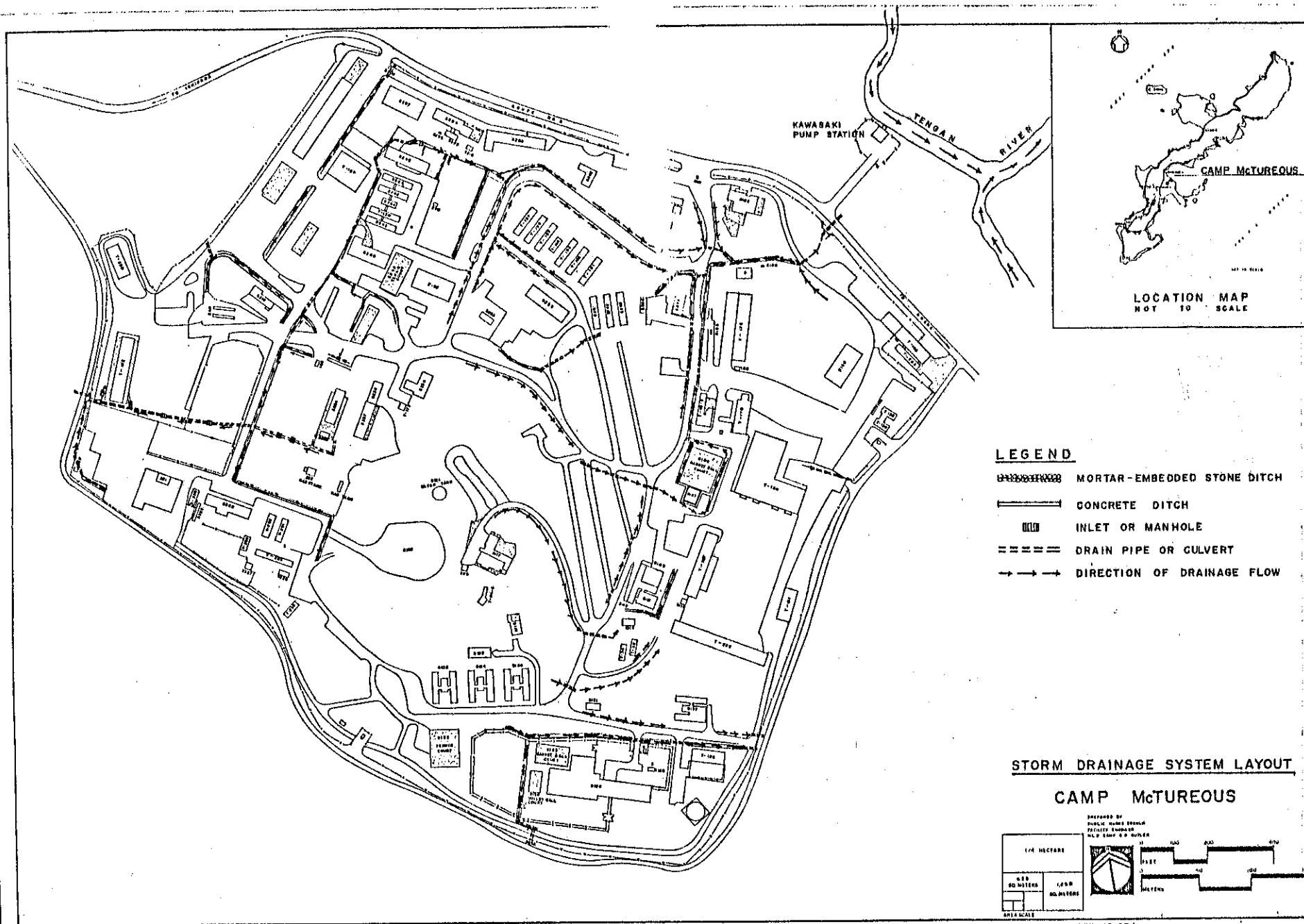
**PRIMARY ELEC. LAYOUT  
CAMP MCTUREOUS**



UPDATED AS OF:



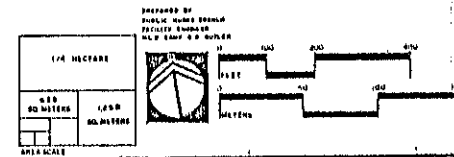




**LEGEND**

- MORTAR-EMBEDDED STONE DITCH
- CONCRETE DITCH
- INLET OR MANHOLE
- DRAIN PIPE OR CULVERT
- DIRECTION OF DRAINAGE FLOW

**STORM DRAINAGE SYSTEM LAYOUT  
CAMP MCTUREOUS**



## E. TELEPHONE SERVICE

The telephone system at Camp Courtney is being expanded to provide service to Camp McTureous. Plate D-10 presents the existing system to be upgraded.

## 4. CLIMATE

The climate of Okinawa is considered temperate to tropical. The winters are mild, while the summers are hot and humid. The warm northward bound Kuroshio current and polar air currents influence the existing climatic conditions.

a. The winter months, which extend from mid-December to mid-March, are largely dominated by the effects of cold polar air moving eastward from Asia and the East China Sea. The daily temperature usually ranges between 57°F and 67°F. The winter months are considered a relatively dry season, with an average monthly rainfall of 4.5 inches.

b. The spring months, mid-March to mid-June, see the effect of diminishing polar air currents and the emergence of warm tropical air currents from the south. At this time, the temperature ranges between 75°F to 85°F. The intermingling of the cold polar air and warm southern air often develop large storms producing rainfall averaging 9.7 inches per month.

c. The summer months extend from mid-June to mid-October and are largely dominated by southerly winds which bring about hot and humid conditions. Average temperature is in the high 80°F range and occasionally exceeds 90°F. The summer months provide Okinawa with high humidity levels ranging between 79 and 90 percent.

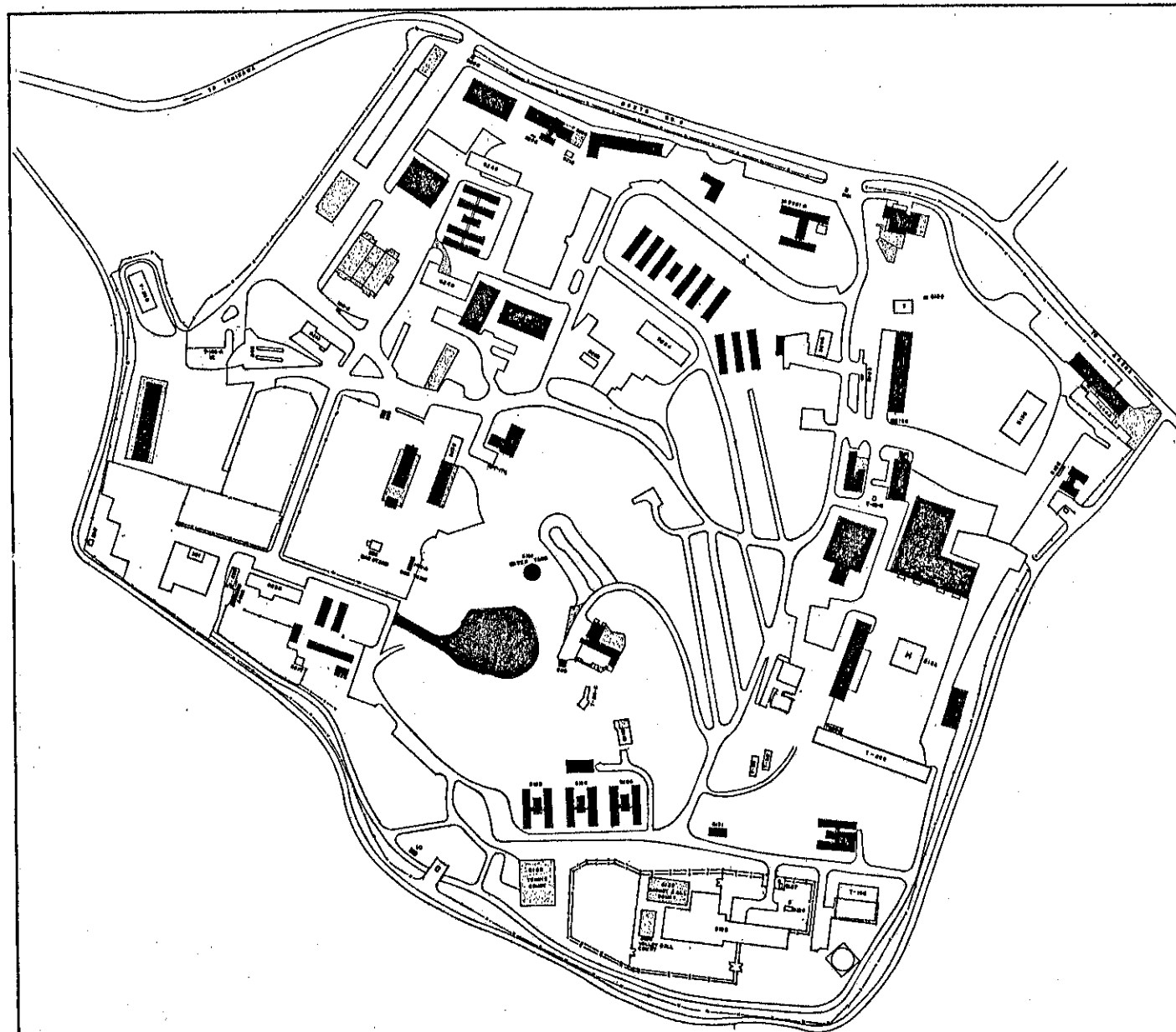
d. During the autumn months, the polar air returns. Temperatures range from 65°F to 75°F. There is limited rainfall during this period, with the exception of typhoon occurrences.

e. Okinawa experiences typhoon season from late May that continues through November. The peak occurrence of these storms is during the months of August and September. These typhoons consist of winds over 75 mph and normally increase rainfall by 50 inches each month. A directional wind rose based on data obtained from Kadena Air Base, is illustrated by Figure D-8.

## 5. BUILDING STRUCTURE

Most structures constructed before 1960 remain at Camp McTureous. The growth of Camp McTureous is portrayed by Plates D-11 to D-14.



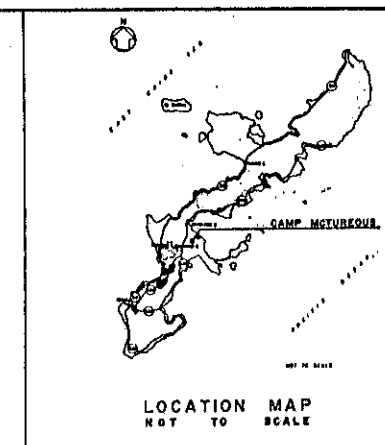
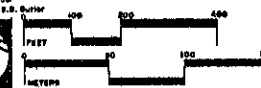


**CONSTRUCTION BEFORE 1960**

# **CAMP MCTUREOUS**

Prepared by:  
Public Works Shop  
Facility Engineer  
MCS Camp P.S. Bunker

|             |           |
|-------------|-----------|
| 1/4 HECTARE |           |
| 666         | 1,000     |
| 66 METERS   | 66 METERS |
| AREA SCALE  |           |



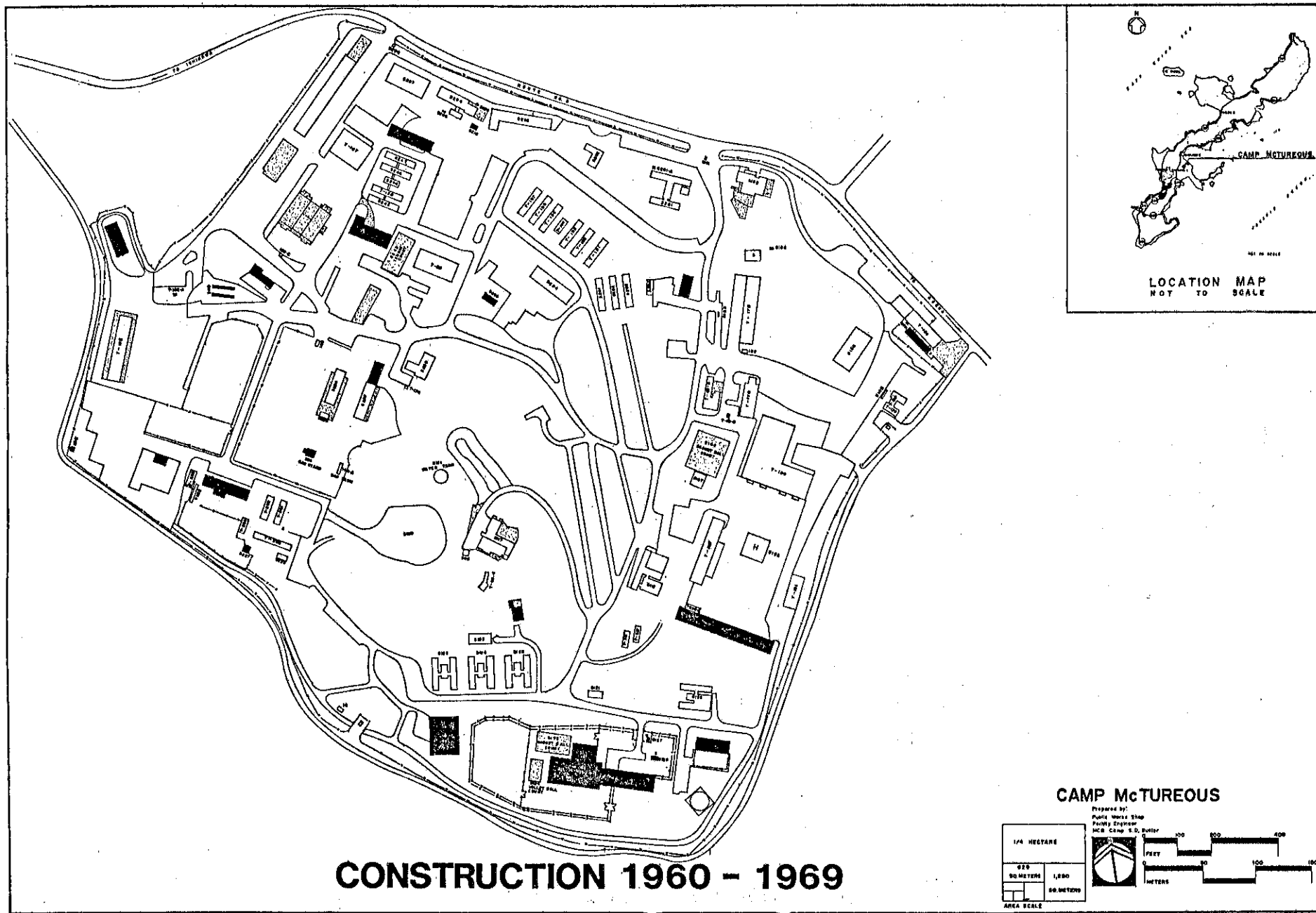
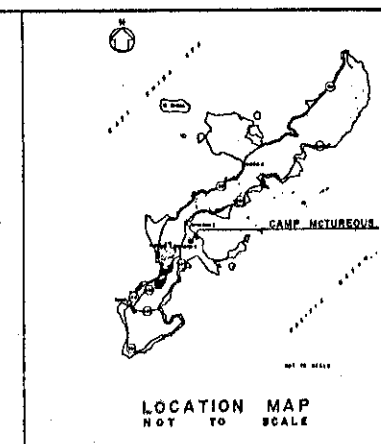
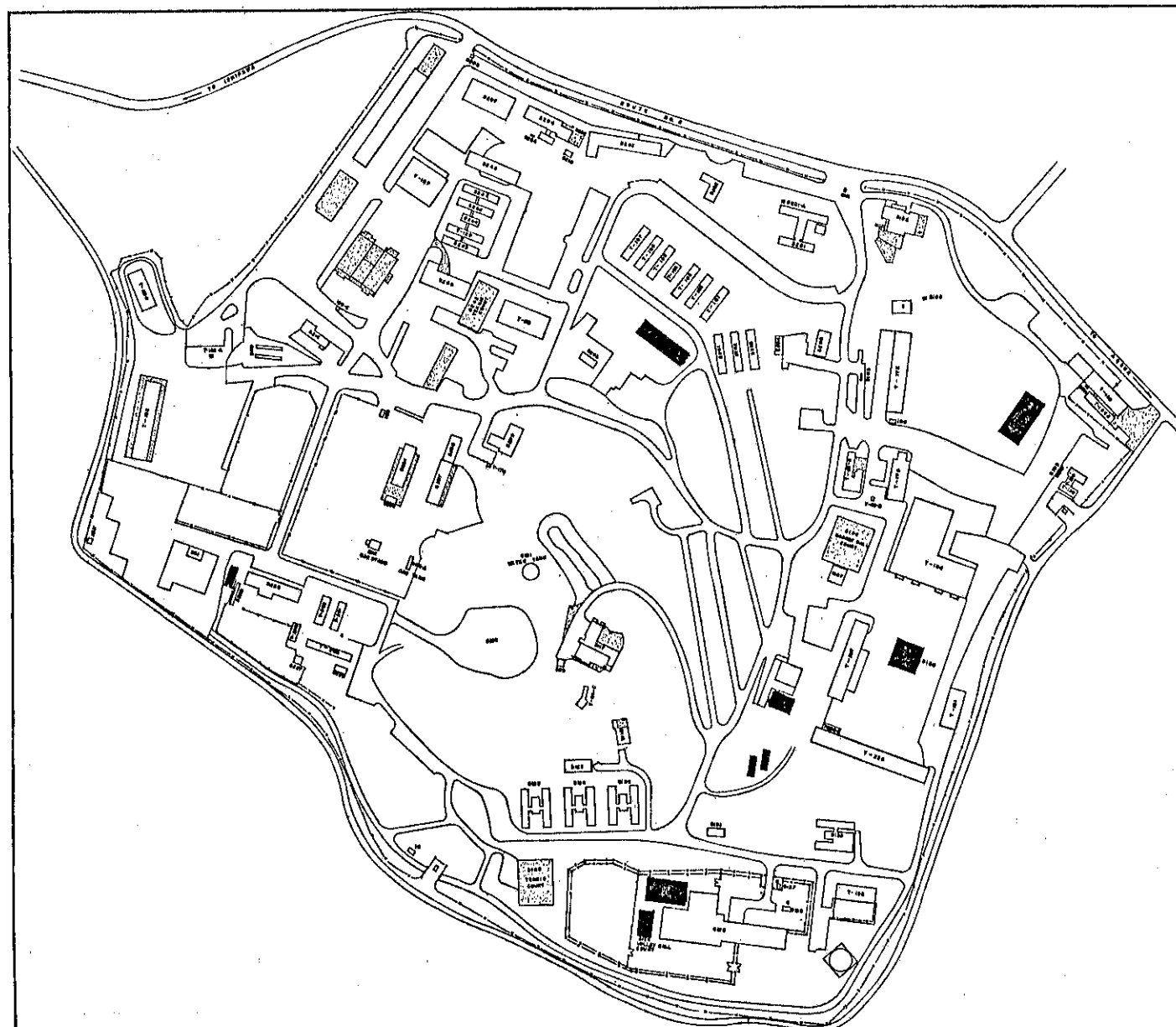
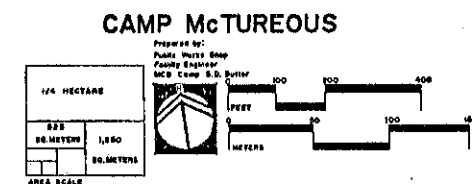


PLATE D-12

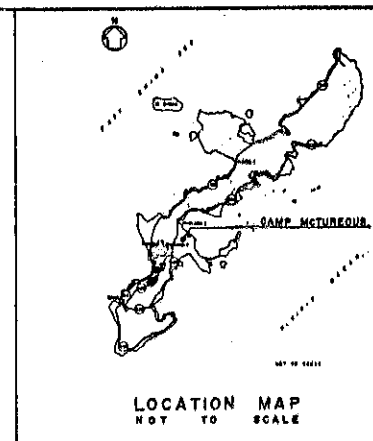


**CONSTRUCTION 1970 - 1979**



**PLATE D-13**

WTHR SHELTER



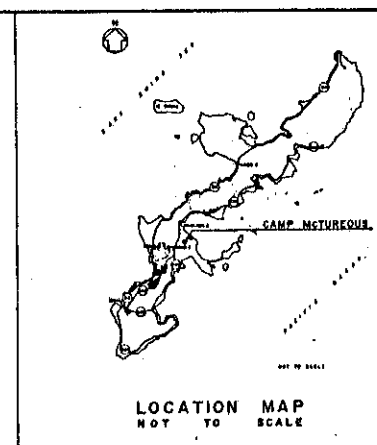
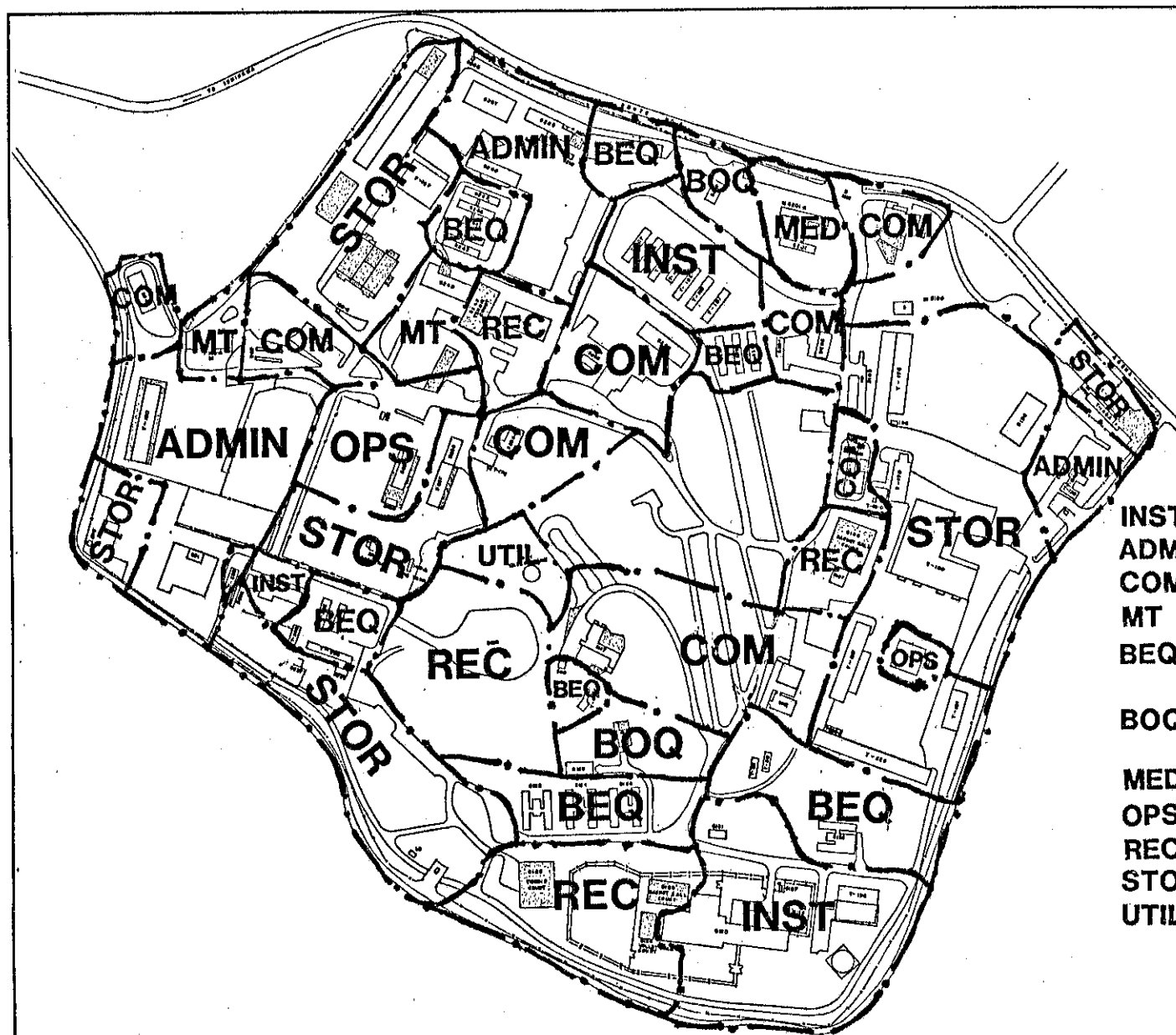
CONSTRUCTION 1980 - PRESENT

CAMP MCTUREOUS

Prepared by:  
Public Works Shop  
Planning Engineer  
MCB Camp P.O. Butler



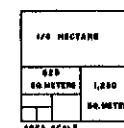
PLATE D-14



### LEGEND

- INST - INSTITUTIONAL
- ADMIN - ADMINISTRATIVE
- COM - COMMUNITY SUPPORT
- MT - MAINTENANCE
- BEQ - BACHELOR ENLISTED QUARTERS
- BOQ - BACHELOR OFFICERS' QUARTERS
- MED - MEDICAL
- OPS - OPERATIONAL
- REC - RECREATIONAL
- STOR - STORAGE
- UTIL - UTILITIES

### CAMP MCTUREOUS



EXISTING LAND USE

PLATE D-15



# REQUIREMENTS ANALYSIS

An analysis of the basic programmatic needs of Camp McTureous, its organizational elements and tenants, and the interaction between those elements, is pre-requisite to a synthesis of planning solutions. This section provides information through a description of the Camp, its mission and organization, base loading, inter-relationships, and problem areas.

## 1. ORGANIZATIONAL ANALYSIS

### A. MCB CAMP SMEDLEY D. BUTLER

MCB Camp Smedley D. Butler consists of eight major camps spread over an area of 50 kilometers in length, encompassing more than 81,456 acres and 3,527 buildings and structures with a replacement value in excess of 1.3 billion dollars. It includes Camps Kinser, Foster, Lester, Courtney, McTureous, Hansen, and Schwab; Henoko Ammunition Depot; Onna Point, the Northern and Central Training Areas; Yomitan Auxiliary Airfield; and Camp Fuji on the island of Honshu in mainland Japan. The Headquarters for MCB Camp Butler is located at Camp Foster (Building 1). The organization of the Base is shown by Figure E-1.

The mission of the Base is to provide training facilities, limited logistical support, and limited administrative support for Fleet Marine Force units located on Okinawa and at Camp Fuji.

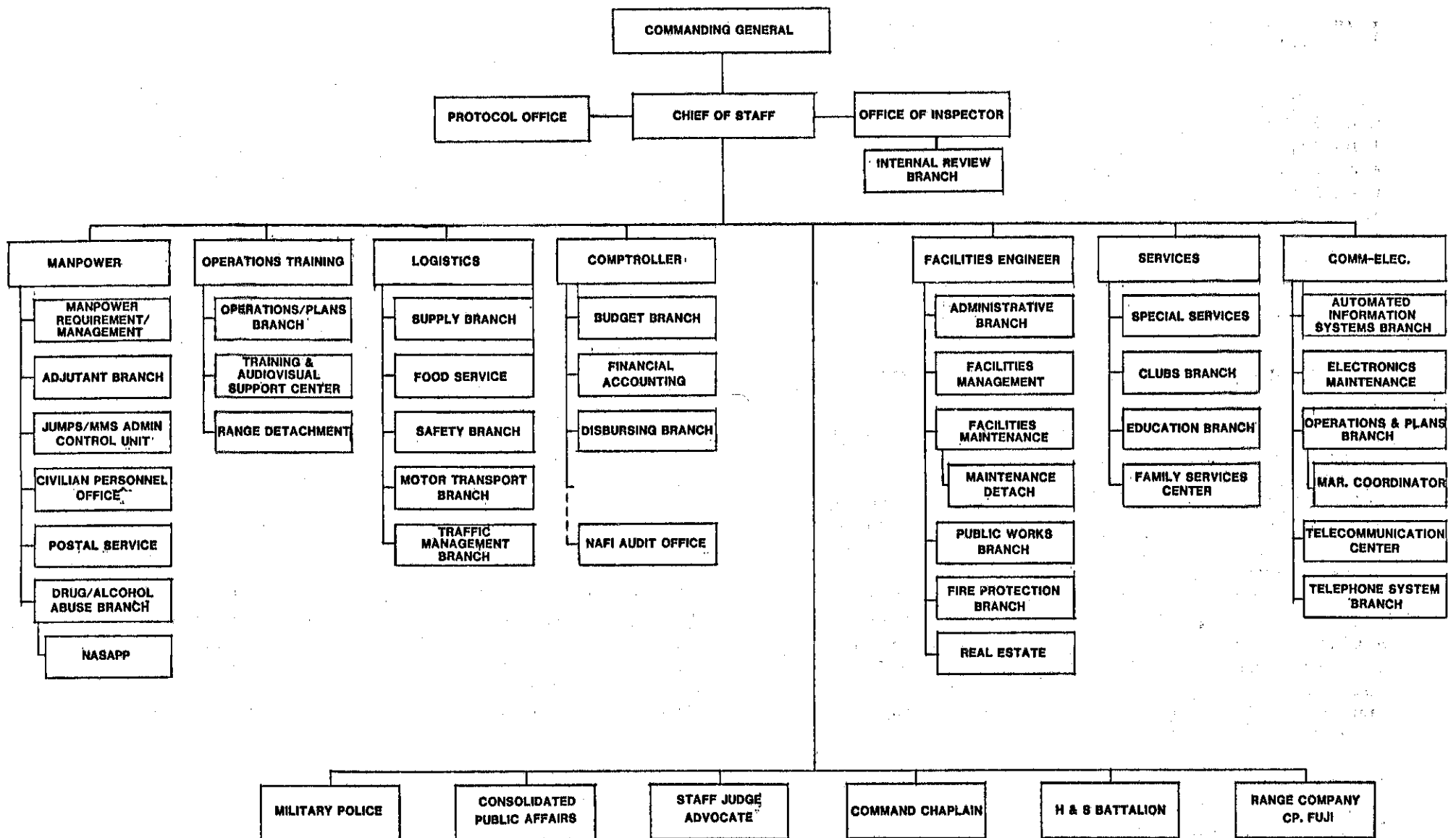
The Commanding General directs and coordinates the functions of Marine Corps Base under the cognizance of the Commander, Marine Corps Bases, Pacific, and represents the Commander in the Western Pacific Area within his assigned additional duty as Deputy Commander, Marine Corps Bases Pacific (Forward). The Commanding General also serves as Local Area Commander for all Naval Service personnel located ashore on Okinawa and is designated as the Okinawa Area Coordinator under the authority of the Commander, U.S. Forces, Japan.

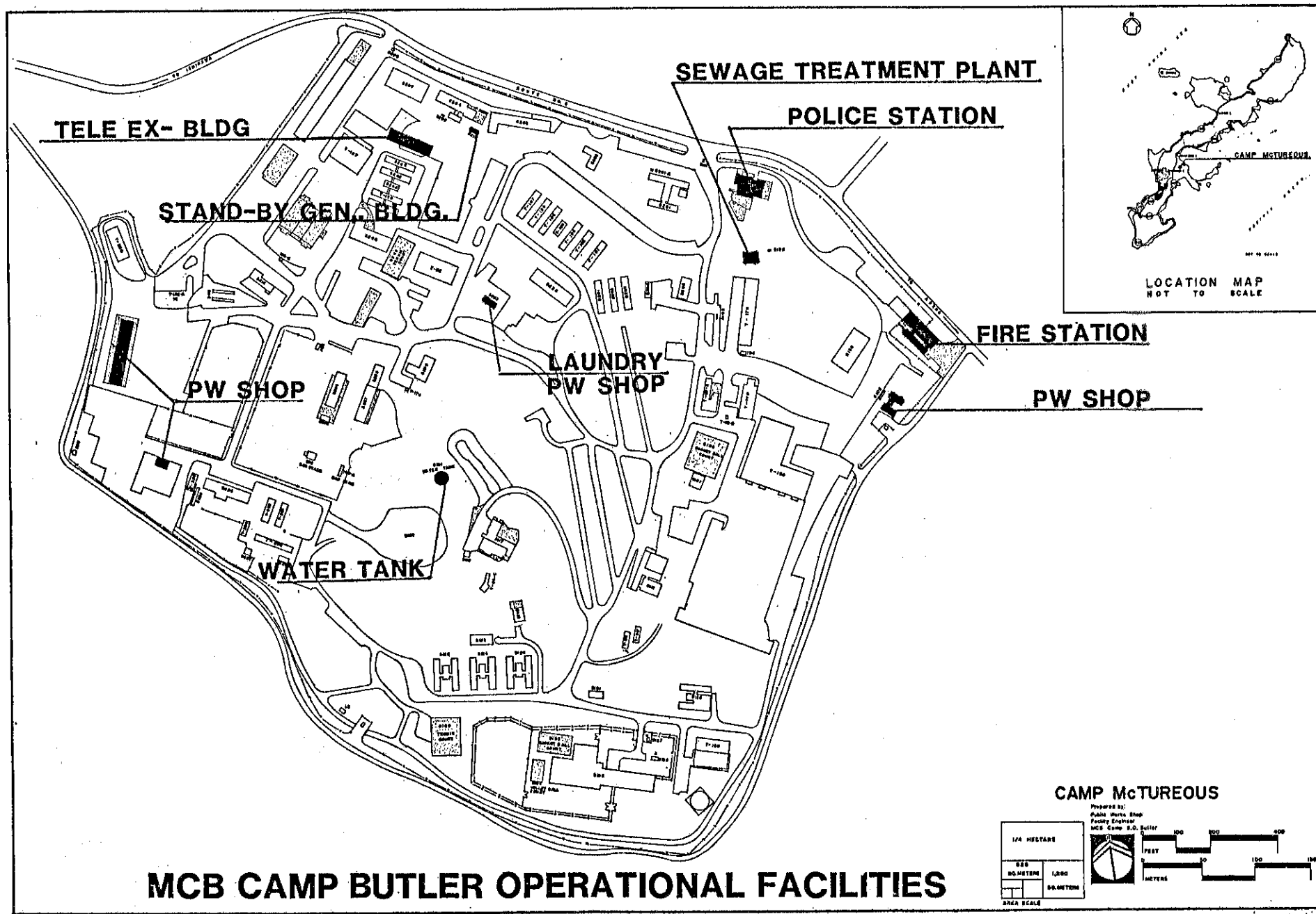
The majority of MCB functions at Camp McTureous are under the control of MCB Logistics and MCB Facilities Engineer. Operational facilities controlled by MCB Camp Smedley D. Butler are shown by Plate E-1. Facilities operated by MCB Clubs and MCB Special Services are shown by Plate E-2.

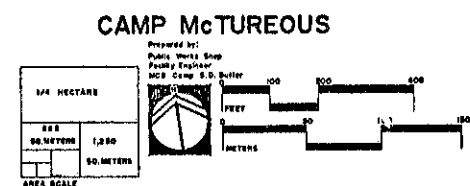
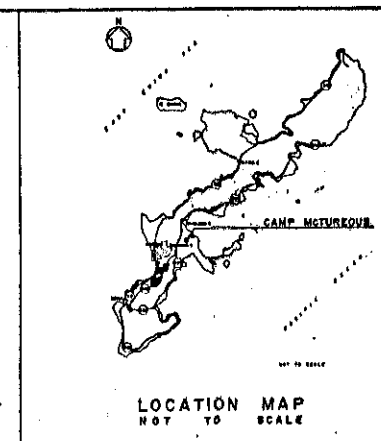
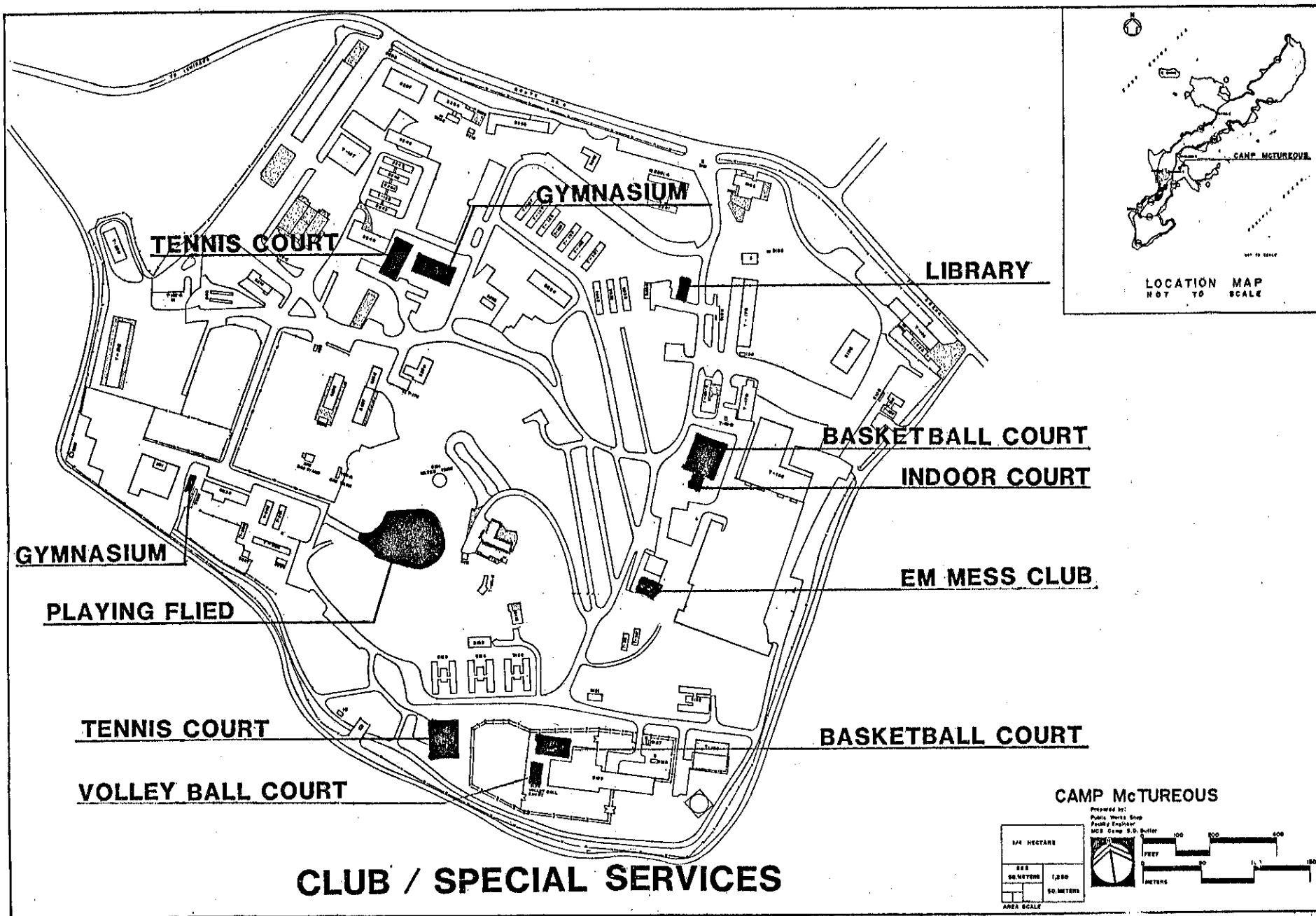
### B. CAMP COMMANDER

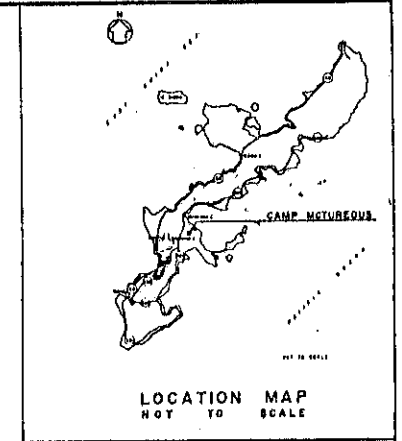
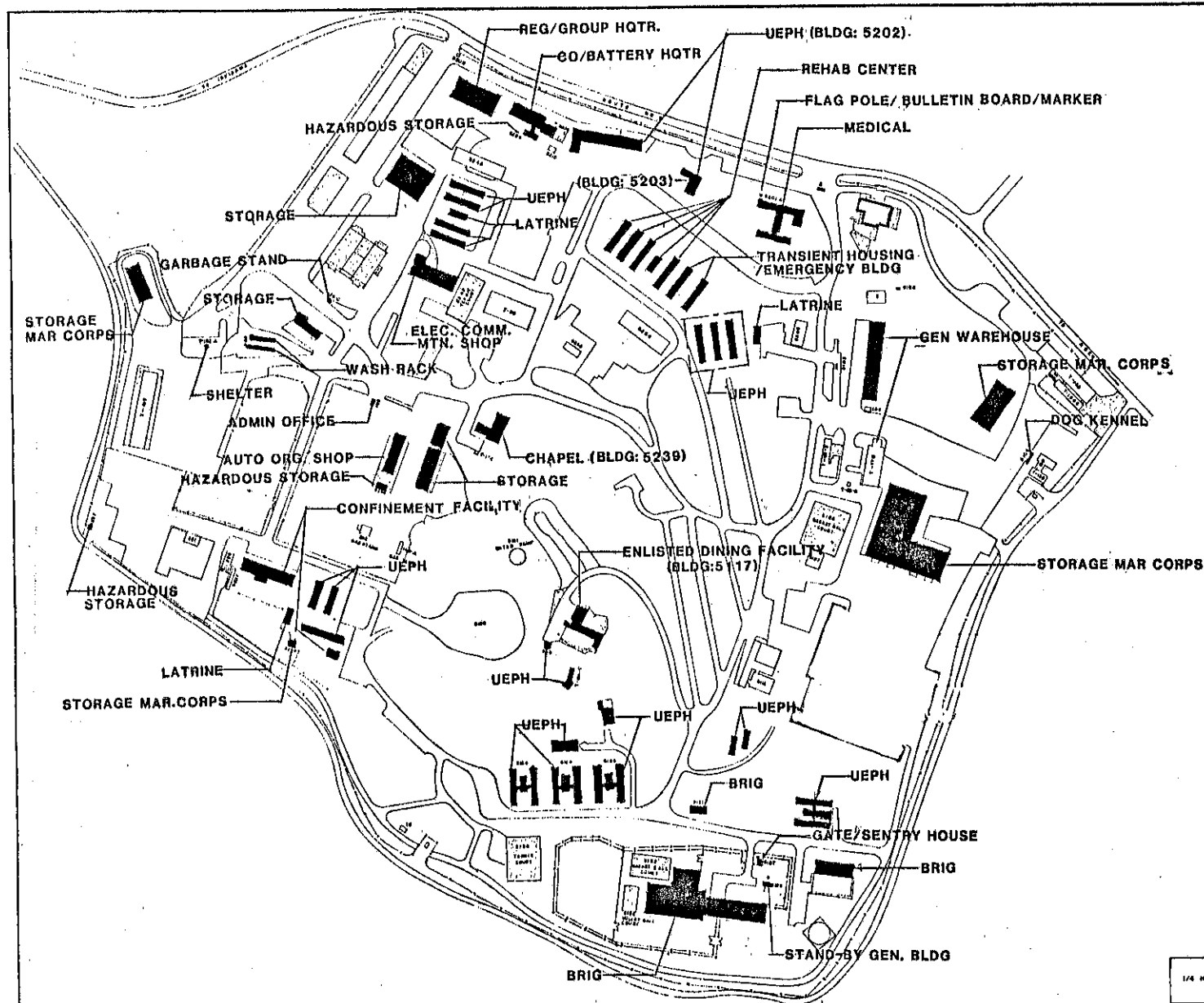
The Commanding Officer, Headquarters and Service Battalion, Marine Corps Bases Camp Butler, is assigned collateral duties as Camp Commander. All facilities used by the Camp Commander, as shown by Plate E-3, are scheduled to be demolished except for facilities 5202, 5203, 5102, 5117 and 5239.

# MCB CAMP BUTLER

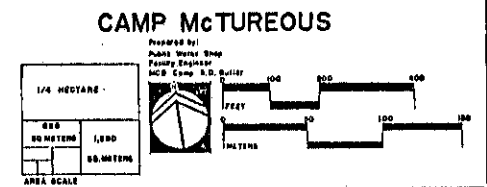








# CAMP COMMANDER FACILITIES



## C. OKINAWA-WIDE EXCHANGE

The Army/Air Force OWAX oversees all Exchange operations on Okinawa. Employment is about 650 American civilians, largely dependents of Armed Forces personnel and about 800 local nationals to provide service to approximately 55,000 authorized customers. Facilities used on Plate E-4.

## 2. MILITARY FAMILY HOUSING (MFH)

Military family housing requirements are fully discussed in the Okinawa Housing Development Plan (OHDP), a service-coordinated, multi-year development plan published jointly by MCB Camp Smedley D. Butler and representatives of the Air Force, Navy, and Army on Okinawa. The plan identifies all requirements for Military Family Housing (MFH) and Community Support Facilities (CSF) and satisfies the directives of the 21 December 1983 Memorandum of Agreement (MOU) between Headquarters USAF and Headquarters USMC, including the requirement to provide housing for the conversion of 3,581 USMC unaccompanied tours to accompanied tour status shown by Table E-1. The total housing requirement, including that generated by the USAF 1981 MFH Survey (showing a deficit of 1,758 units) as well as the Marine Corps accompanied tour initiative, is a projected end position MFH inventory of 11,112 MFH units. To satisfy this requirement, approximately 7,000 new MFH units must be constructed on Okinawa.

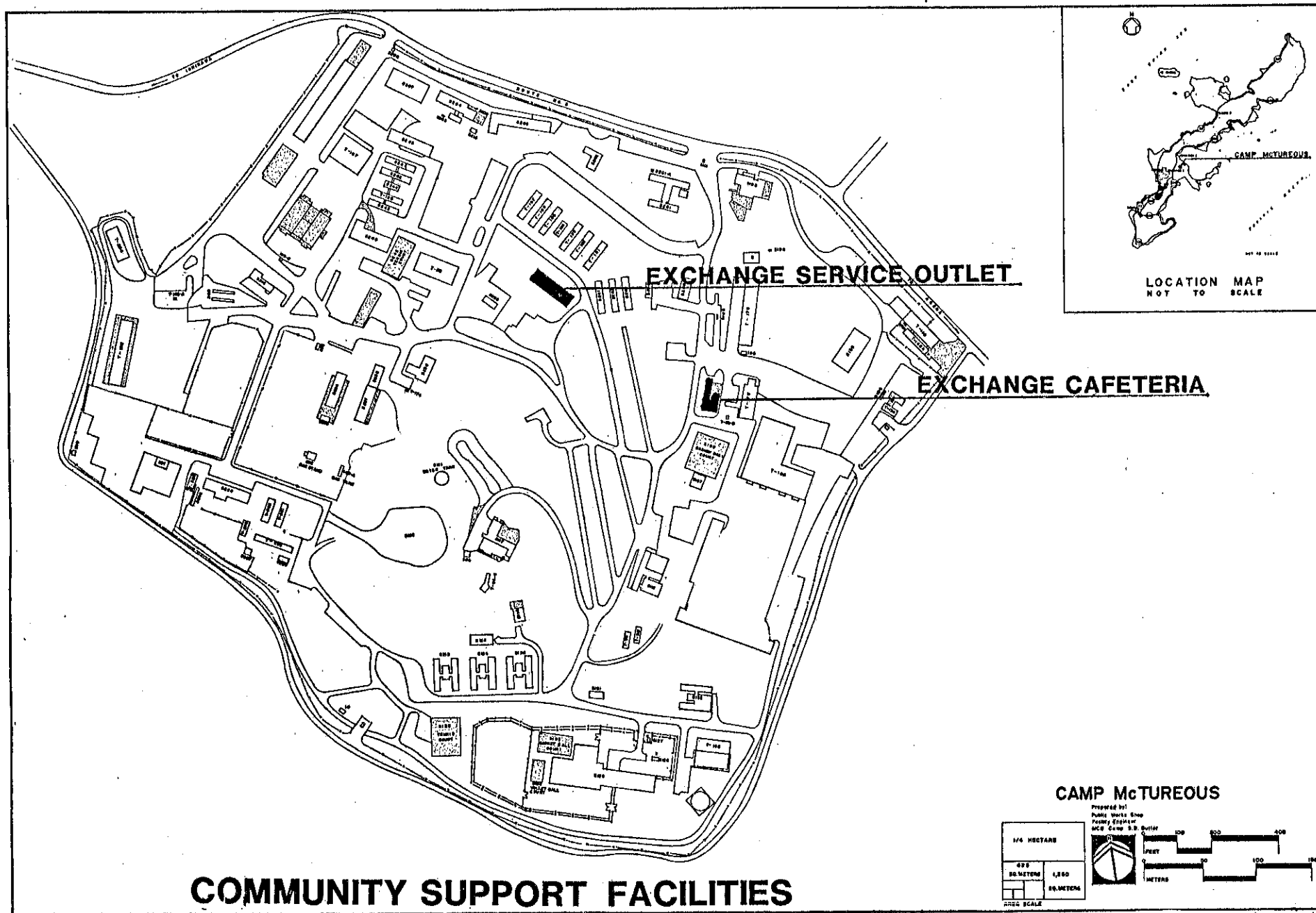
Currently programmed demographics indicate a requirement for 1,304 converted Marine Corps tours in the "northern population centroid", including Camps McTureous, Courtney, Hansen, and Schwab. The on-base housing requirement for this area is 1,167 MFH units of which 625 will be located at Camp Courtney, including 107 units relocated from other housing areas under the Okinawa Expressway Extension Program.

Section G (Capital Improvements Plan) provides details on most the projects programmed for the MFH and Community Support Facility requirements at Camp McTureous.

TABLE E-1

### RECOMMENDED MARINE CORPS ACCOMPANIED TOUR INCREASES

| 1981 - 1996 |                  |                 |                           |                           |
|-------------|------------------|-----------------|---------------------------|---------------------------|
| FY          | TOTAL<br>HOUSING | NET<br>INCREASE | USMC<br>FAMILIES INCREASE | TOTAL<br>USMC<br>FAMILIES |
| 81          | 5,001            | -               | -                         | 600                       |
| 82          | 5,240            | 237             | 95                        | 895                       |
| 83          | 5,588            | 348             | 175                       | 1,070                     |
| 84          | 5,756            | 144             | 200                       | 1,270                     |
| 85          | 6,032            | 300             | 225                       | 1,495                     |
| 86          | 6,956            | 924             | 225                       | 1,720                     |
| 87          | 6,755            | (-201)          | 236                       | 1,956                     |
| 88          | 7,046            | 291             | 207                       | 2,163                     |
| 89          | 7,670            | 624             | 425                       | 2,588                     |
| 90          | 8,232            | 562             | 381                       | 2,969                     |
| 91          | 8,816            | 584             | 398                       | 3,367                     |
| 92          | 9,108            | 292             | 200                       | 3,567                     |
| 93          | 9,706            | 598             | 407                       | 3,974                     |
| 94          | 10,292           | 586             | 399                       | 4,371                     |
| 95          | 10,864           | 572             | 10                        | 4,381                     |
| 96          | 11,112           | 114             | + 0                       |                           |
| TOTAL       |                  |                 | 3,581                     |                           |



# DEVELOPMENT CONCEPTS

Development Considerations are the planning concepts, programming constraints, and issues which are analyzed in order to fully develop the installation masterplan. Considerations germane to Camp McTureous follow:

## A. PLANNING CONCEPTS

### 1. DEMOGRAPHIC BACKGROUND

The existing military population at Camp McTureous is to be transferred to either Camp Courtney or Camp Hansen to make room for military family housing. The number of MFH residents expected to reside at Camp McTureous by 1990 is 2,370. These residents include 625 accompanied sponsors and spouses. There would also be a total of 1,122 dependents, aged 0-19 years.

Based on current construction schedules, occupancy of the housing units at Camp McTureous is expected to begin in 1989 and to be completed the following year.

Table F-1 presents the occupancy sequence by group (sponsors, spouses, and dependents). Sponsors are defined as civilian or military individuals authorized military family housing. Spouses and dependents are authorized individuals living with the sponsor in accordance with current DoD housing policy.

Dependents residing at Camp McTureous are divided into two age groups for planning analysis: 0-5 years old and 6-19 years old. The 153 dependent children aged 0-5 years old are expected to reside at Camp McTureous by 1989 and 164 by 1990. The 434 dependent children aged 6-19 years old are expected to reside at Camp McTureous by 1989 and 397 by 1990.

The dependent age breakdown is indicated by Table F-2.

TABLE F-1  
OCCUPANCY SEQUENCE BY GROUP

| Occupancy Type | Year 1989 | Percent of Total | Year 1990 | Percent of Total | Total | Percent of Total | Cumulative Percent |
|----------------|-----------|------------------|-----------|------------------|-------|------------------|--------------------|
| Sponsors       | 327       | 13.8             | 297       | 12.6             | 624   | 26.3             | 26.3               |
| Spouses        | 327       | 13.8             | 297       | 12.6             | 624   | 26.3             | 52.6               |
| Dependents     | 586       | 24.7             | 536       | 22.6             | 1,122 | 47.4             | 100.0              |
| Total          | 1,240     | 52.3             | 1,130     | 47.7             | 2,370 | 100.0            | --                 |

Source: Okinawa Housing Development Plan dated Sept 85.

### 2. BUILDING TYPES

The building types to be constructed at Camp McTureous consist of high-rise, mid-rise, quadruplex, sixplex, and eightplex and single unit designs. These designs reflect the definitives agreed upon by the Government of Japan (GOJ) and the United States for use at all U.S. installations. At Camp McTureous, there will be one (1) highrise and two (2) mid-rises

49  
6  
294

48  
6  
288

providing 156 (3 bedroom) units. The two floor quadruplex providing 76 ( 3 and 4 bedroom) units, sixplexes providing 312 (2, 3, and 4 bedroom) units, and eightplexes providing 80 (2 bedroom) units, and 1 single unit, for a total of 625 units.

**TABLE F-2**  
**DEPENDENT YOUTH AGES**  
**BY YEAR OF OCCUPANCY**

| Occu-<br>pancy<br>Year | 0-5<br>Years | Percent<br>of<br>Total | 6-19<br>Years | Percent<br>of<br>Total | Years<br>0-19 | Cumula-<br>tive<br>Percent |
|------------------------|--------------|------------------------|---------------|------------------------|---------------|----------------------------|
| 1989                   | 153          | 13.6                   | 434           | 32.7                   | 587           | 52.3                       |
| 1990                   | 138          | 12.4                   | 397           | 35.4                   | 535           | 47.7                       |
| Total                  | 291          | 25.9                   | 831           | 74.1                   | 1,122         | 100.0                      |

Source: Okinawa Housing Development  
Plan dated Sept 85.

### 3. COMMUNITY SUPPORT FACILITIES

All the community support facilities for Camp McTureous have been prioritized into one of three groups to assist planning and programming requirements. Community support facilities classified as "essential" are those which should be constructed concurrent with military family housing, and no later than three years after the

beneficial occupancy date (BOD). "Highly desired" facilities should be programmed for construction no later than five years after the BOD. "Follow-on" facilities are least important and assume lowest priority (out-year construction).

Only a portion of the community support facilities will be located at Camp McTureous (Plate F-1). Additional community support facilities will be located at the Camp Courtney REX Area and other locations throughout Camp Courtney. Only 7 of the 31 facilities to support Camp McTureous will be constructed at Camp McTureous, as shown by Table F-3.

### 4. RELOCATION SCHEME

As previously stated, the existing military activities at Camp McTureous are required to relocate to make room for the proposed military family housing units.

The first facilities to be relocated were the confinement facility and MAF/MAB Headquarters, confinement facility at Camp Hansen, and MAF/MAB Headquarters at Camp Courtney. The Camp McTureous facilities were vacated and available for demolition in early 1986.

Table F-4 presents the relocation schedule for existing facilities at Camp McTureous for the military activities to be relocated.

**TABLE F-3**  
**COMMUNITY SUPPORT FACILITIES**  
**SUPPORTING CAMP McTUREOUS**

| BOD <sup>1</sup> | Activity (Cat Code)                                                             | Fund Source | Program Year | Priority <sup>2</sup> | Location |
|------------------|---------------------------------------------------------------------------------|-------------|--------------|-----------------------|----------|
| 1985             | Bowling Alley (740-40)                                                          | NAF         | FY 1983      | 2                     | Ctny     |
| 1985             | Religious Center (730-83)                                                       | FIP         | JFY 1983     | 1                     | Ctny     |
| 1986             | Family Services Ctr (740-25)                                                    | OERP        | FY 1984      | 1                     | Ctny     |
| 1986             | Youth Center (740-55)                                                           | OERP        | FY 1984      | 2                     | Ctny     |
| 1986             | Child Care Center (740-74)                                                      | OERP        | FY 1984      | 2                     | Ctny     |
| 1986             | Playing Courts (750-10)                                                         | OERP        | FY 1984      | 2                     | Ctny     |
| 1987             | Commissary (740-23)                                                             | FIP         | JFY 1985     | 1                     | R.Ctny   |
| 1987             | Gas/Service Station                                                             | FIP         | JFY 1985     | 1                     | R.Ctny   |
| 1987             | Cafeteria (740-04)                                                              | FIP         | JFY 1985     | 1                     | R.Ctny   |
| 1987             | Exchange (740-01)                                                               | FIP         | JFY 1985     | 1                     | R.Ctny   |
| 1987             | Post Office (730-85)                                                            | FIP         | JFY 1985     | 1                     | R.Ctny   |
| 1987             | Bank                                                                            | FIP         | JFY 1985     | 2                     | R.Ctny   |
| 1987             | Hobby Shop                                                                      | FIP         | JFY 1985     | 1                     | R.Ctny   |
| 1987             | Medical/Dental Fac.                                                             | FIP         | JFY 1985     | 2                     | Ctny     |
| 1987             | Fire Station (730-10)                                                           | FIP         | JFY 1985     | 1                     | Ctny     |
| 1987             | Theater (740-56)                                                                | FIP         | JFY 1985     | 1                     | Ctny     |
| 1987             | Police Station (730-20)                                                         | FIP         | JFY 1985     | 1                     | Ctny     |
| 1987             | Elementary School (730-55)                                                      | MCON        | FY 1985      | 1                     | McT      |
| 1988             | Child Care Center/Pre-School                                                    | R-2         | FY 1988      | 1                     | McT      |
| 1988             | Library (740-76)                                                                | FIP         | JFY 1986     | 2                     | Ctny     |
| 1988             | Shoppette                                                                       | NAF         | FY 1988      | 1                     | McT      |
| 1989             | Gymnasium                                                                       | FIP         | JFY 1987     | 1                     | Ctny     |
| 1989             | Hobby Shop-Mix (740-38)                                                         | FIP         | JFY 1987     | 2                     | Ctny     |
| 1989             | Restaurant                                                                      | NAF         | FY 1989      | 2                     | McT      |
| 1989             | Youth Center                                                                    | R-2         | FY 1988      | 1                     | McT      |
| 1989             | Elementary School Expansion, Softball/Soccer Fields, and Swimming Pool (750-30) | FIP         | JFY 1987     | 2                     | McT      |
| 1989             | Bathhouse (740-89)                                                              | FIP         | JFY 1987     | 2                     | McT      |
| 1990             | "O", "E" NCO Clubs (740-60) (740-63) (740-69)                                   | FIP         | JFY 1988     | 2                     | Ctny     |
| 1990             | Shoppette                                                                       | FIP         | JFY 1988     | 1                     | Ctny     |
| 1991             | Rel. Ctr (Exp) (730-83)                                                         | FIP         | JFY 1989     | 3                     | Ctny     |
| 1991             | Handball Courts Pre-School                                                      | NAF         | FY 1989      | 3                     | Ctny     |

Source: Public Works Office, F. E., Camp Butler

1. Beneficial Occupancy Date

2. 1 = Essential; 2 = Highly Desired; 3 = Follow-on

**TABLE F-4**  
**RELOCATION SCHEDULE**

| Activity                 | Time Period | Location |
|--------------------------|-------------|----------|
| Confinement Facility     | 3/86        | Hansen   |
| MAF/MAB Headquarters     | 10/85       | Courtney |
| BCE Maintenance Shop     | 11/85       | Courtney |
| Challenge & Rehab Center | 10/85       | Courtney |
| "A" Company Admin        | 3/86        | Hansen   |
| Retraining Facility      | 3/86        | Hansen   |
| Fire Station             | 11/86       | Courtney |

## 5. DEMOLITION SCHEDULE

Facilities currently assigned to military activities at Camp McTureous will become available for demolition as the activities relocate. All the existing facilities will be demolished, except six facilities to remain as illustrated by Plate F-1. A summary of all proposed demolitions is discussed in full in Section I and further delineated by Figures I-2 and I-3.

## 6. ENCROACHMENT

Encroachment is the gradual advance upon military controlled property of unauthorized or incompatible land use. Presently encroachment is not a serious problem at Camp McTureous. However, the existing tombs at Camp McTureous require access for worship and festivals.

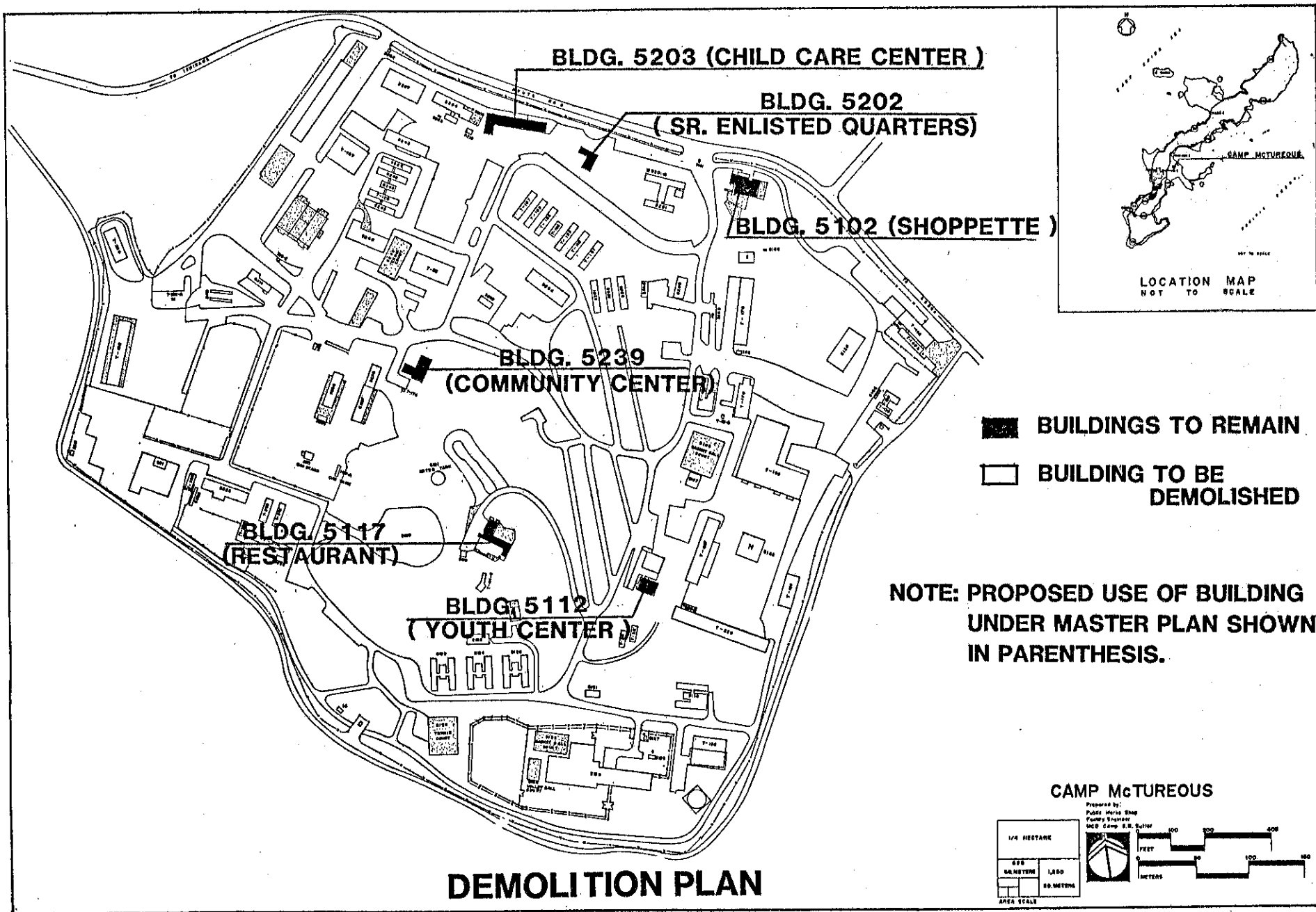


PLATE F-1

## 7. BASE EXTERIOR ARCHITECTURE PLAN

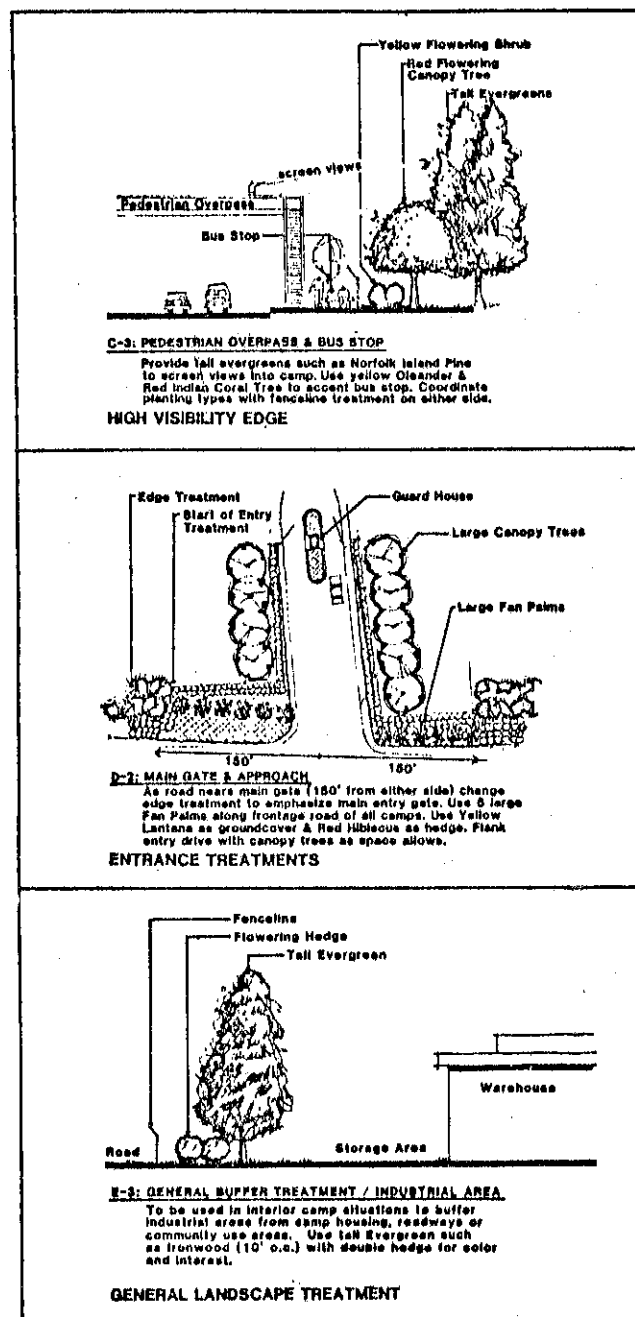
The visual resources of Marine Corps Base Camp Butler present an uncontrolled landscape incongruous with traditional Marine Corps values of pride and professionalism. To correct that image, a Camp Beautification Plan was developed with a design consultant to provide guidelines which would enhance the exterior architecture of the various camps on Okinawa. Following a site inventory and analysis in late 1982, the following was recommended:

**PLANT MATERIALS** should be used as common, unifying elements to improve both the aesthetic and ecologic landscape.

**BUILDING COLOR** should be used to present a neat and pleasing edifice, and to assist in the identification of building type.

**STANDARD SIGNS** should be employed, using standard lettering, to encourage a crisp and orderly military appearance at Camp Butler.

Standard signs, promulgated by Base Order 11000.7, provide for a hierarchy by size to more easily identify type headquarters. Mounted on a torii, unit signs use yellow letters on red background, community support activities use white letters on green background, and information signs use black letters on white background.



The benefits of the Camp Beautification Plan are seen as a reinforcement of the Marine Corps' pride and professionalism, which will increase morale among service personnel and their families, and improve the Marine Corps image in the eyes of the local community.

General landscape "treatments" were proposed. Some of which are illustrated by Figure F-1. These treatments are meant as guides for the programming of repair, maintenance, and alteration of buildings and grounds at Camp Butler.

The edge characteristics along the Camp McTureous borderline varies from a high visible section on the north to a low visibility section to the west. The southwest, south, and eastern boundary is moderately visible. The north boundary is adjacent to the well traveled Highway Route 8 and a populated area across the highway. Some ornamental vegetation along the fence line would allow a pleasing appearance to motorist and residents near the northern boundary.

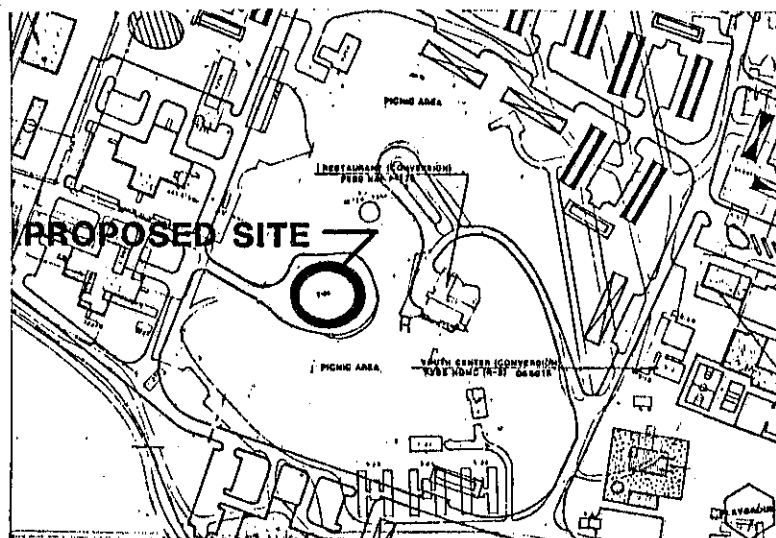
The moderately and low visible areas along the rest of the Camp McTureous boundary do not require special ornamental vegetation to create a pleasing appearance. Routine ground maintenance would be sufficient to keep a pleasing, attractive fence line in accordance with military policy.

The scenic view atop the hill at the center of Camp McTureous provides an esthetic view eastward toward the countryside and shoreline. The hill top is covered partially by scattered natural vegetation - trees, shrubs, and grass. Adding ornamental vegetation would enhance the existing vegetation and make for a visually pleasing natural area within the central portion of the Camp.

## 8. PARKS & PLAYGROUNDS

As a military family housing site, parks and playgrounds are considered to be both as aesthetic and functional requirement. One site under consideration is the flat grassy area on the west side of the camp, surrounded by the steep slopes of the central limestone outcrop. (See Figure F-2).

Playgrounds are located at several locations in the housing areas for the younger children. The elementary school playground is located in the southeast portion of Camp McTureous and provide play space for school age children. The new proposed tennis court will be available for use by all ages. A youth center would provide recreation for youths ages 6-19 years to congregate, play games, and attend social events. Tennis courts, a soccer field,



**PROPOSED PLAYGROUND SITE FIGURE F-2**



and a baseball diamond will be constructed, as well as a proposed 25m swimming pool and bathhouse. These facilities will provide recreation for the adults and older youths.

Additionally, the Camp McTureous recreation facilities would also be supplemented by Camp Courtney and Kadena A.F.B.

## **B. DEVELOPMENT CONSTRAINTS**

### **1. NATURAL CONSTRAINTS**

A large hill in the central portion of Camp McTureous is the major natural constraint to development. The hill is centrally located and rises approximately 55 meters. As shown by Plate F-2, portions of the hill are steeply sloped (greater than 10%) and unuseable as construction sites. The top of the hill is accessible by small and medium sized vehicles using the existing asphalt road located on the east face of the hill. Any large vehicles would have difficulty negotiating the curves in the road and would have limited turnaround space at the top.

The area surrounding the large hill on Camp McTureous is gently sloping and sparsely covered with natural vegetation. Most of the area is already developed and replacing the existing structures with high-rise and quadruplex housing units will not require extensive site preparation.

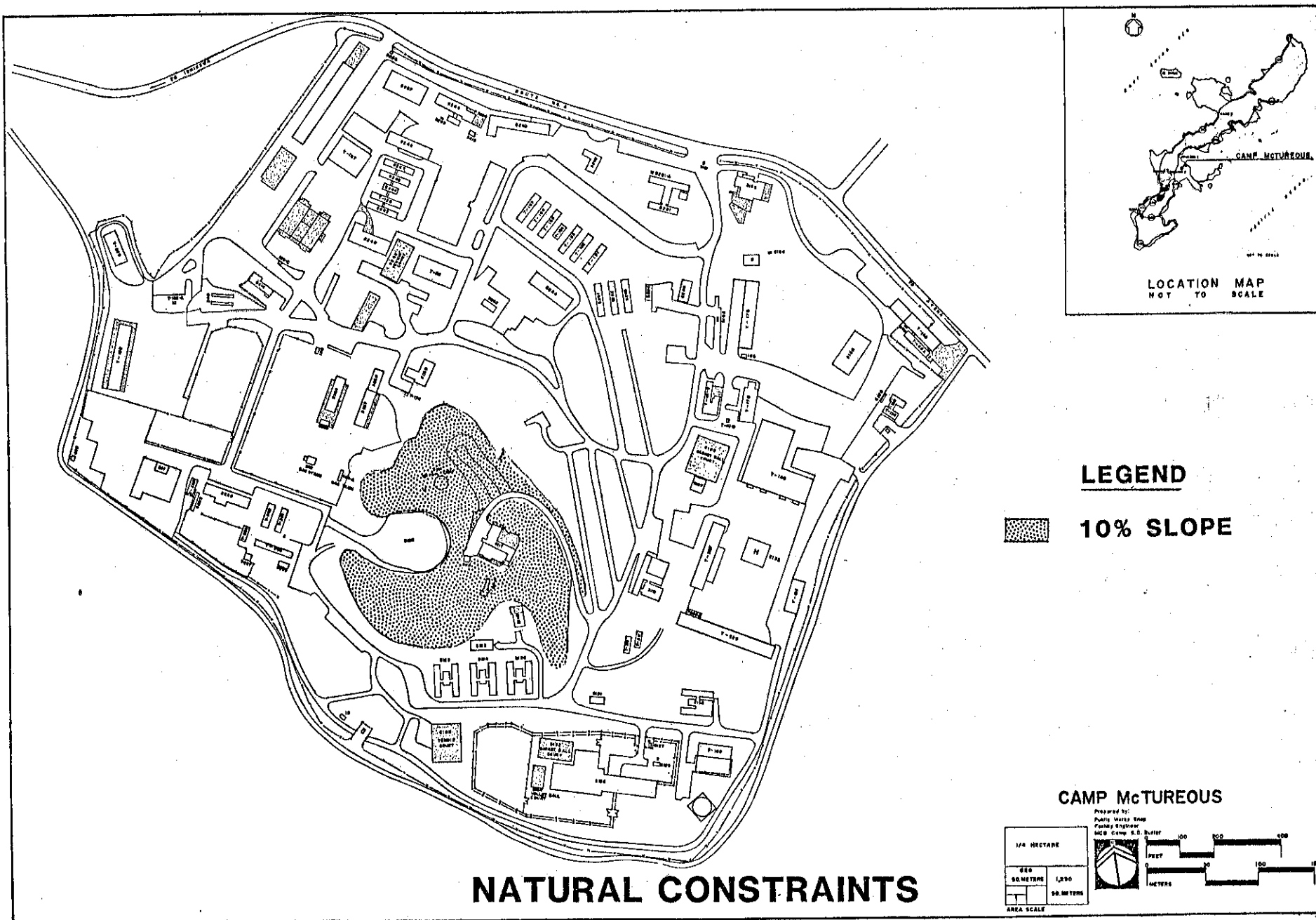


PLATE F-2

## 2. CULTURAL CONSTRAINTS

A number of tombs are located around the large hill, called Shi Shi Yama, (Lions Hill). Most of these tombs are unoccupied but some may have remains. Families of the deceased have claim to visit and pray at these tombs (see Plate F-3). However, the tombs do not interfere with proposed sitings and are considered visual resources, and should not be disturbed.

## C. PLANNING ISSUES

### 1. LOCAL PIGGERIES

The accumulation of large amounts of liquefied piggery manure inside the perimeter fence of Camp McTureous from two off-base piggeries has been an intermittent problem. While prevalent winds indicate that the piggeries themselves might present aesthetic discomfort, improper disposal of piggery manure into open drainage ditches off-base has resulted in unhealthy accumulations adjacent to Building T-182 on the northwest side of the camp, creating not only an odor problem but an active fly population. However, the city of Gushikawa has taken the matter under advisement and a resolution to the problem should take effect prior to the BOD for military family housing at Camp McTureous, as illustrated in Figure F-3.

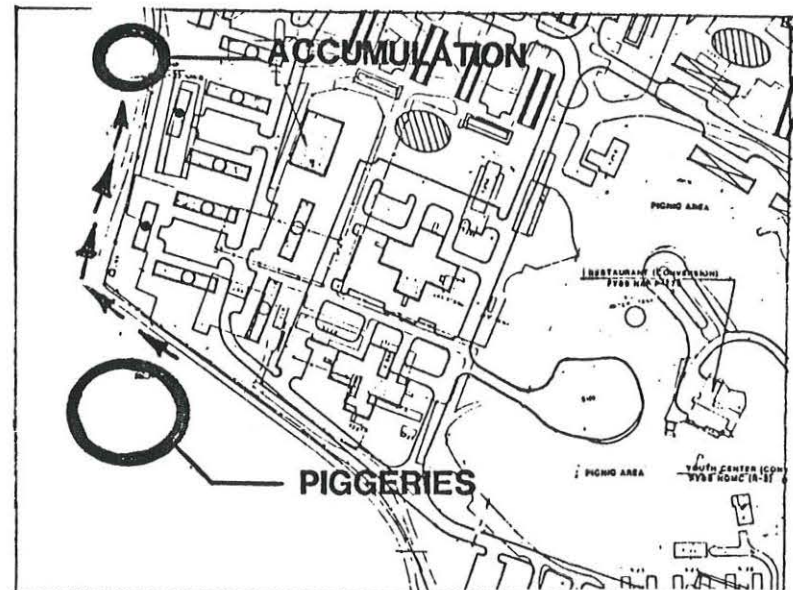
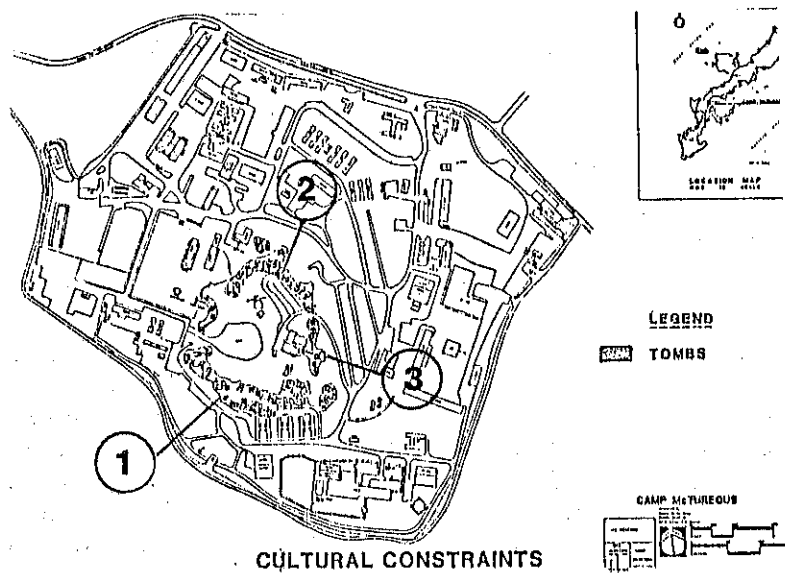
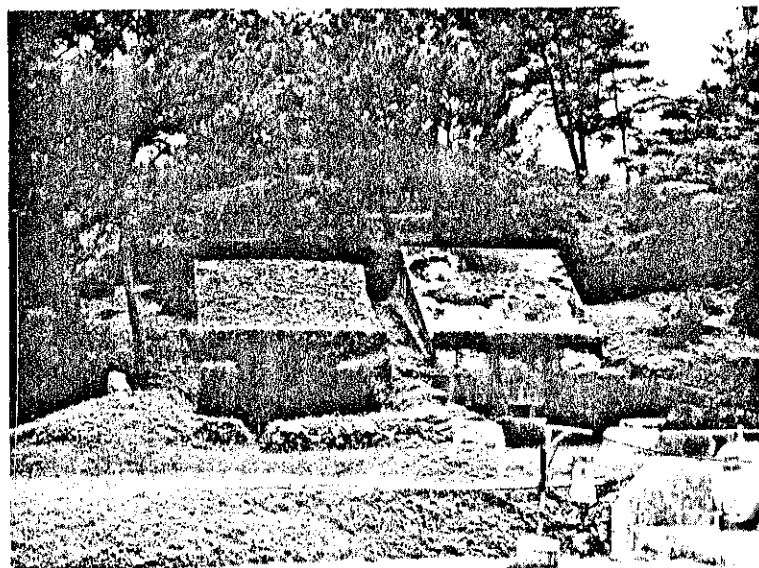


FIGURE F-3

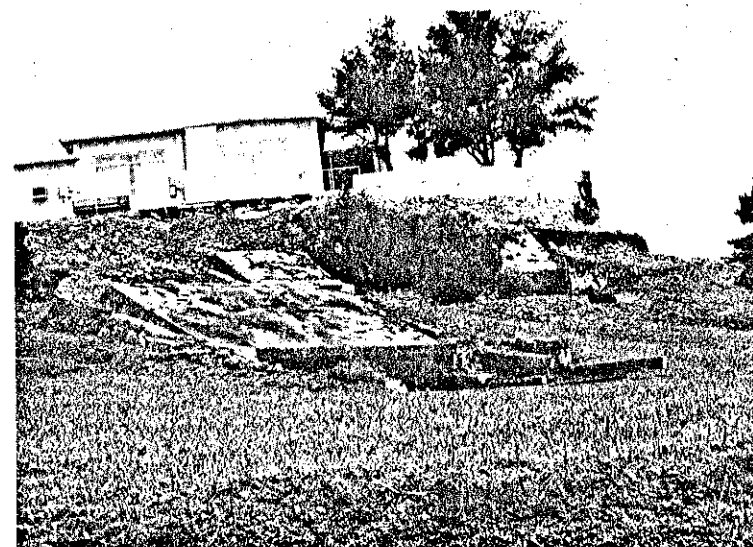




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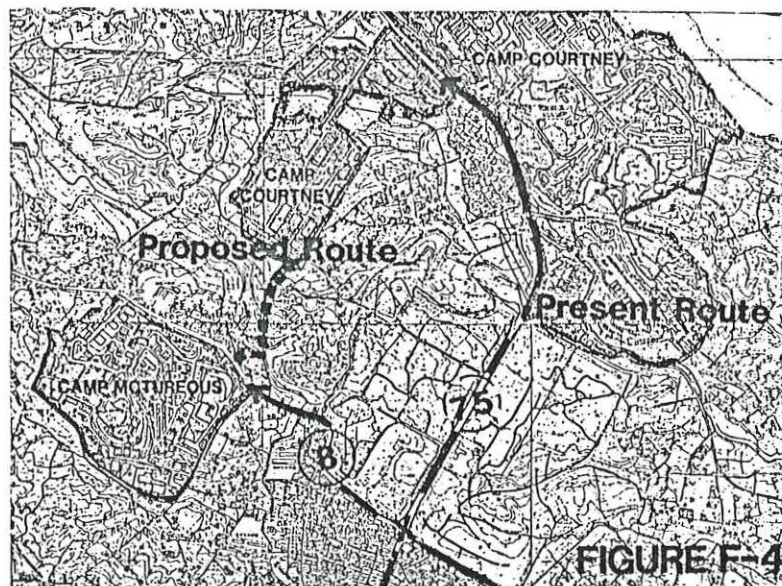
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3

## 2. MCTUREOUS-COURTNEY ROAD

For several reasons, a by-pass road from Camp McTureous to the Camp Courtney REX Area is advantageous. It would provide convenient travel for Camp McTureous MFH occupants to reach the commissary and exchange facilities in the REX Area, as well as an expeditious route for school buses delivering dependent students from Camp Courtney military family housing areas to the under construction Camp McTureous Elementary School. Most importantly, it would re-route tactical military vehicles between Camp Courtney and Camp McTureous away from the heavily-used intersection in Gushikawa City. A proposed route, shown in Figure F-4, is under study by the Facilities Engineer Division, MCB Camp Butler.



COURTNEY-MCTUREOUS BY-PASS ROAD

## D. ENVIRONMENTAL ISSUES

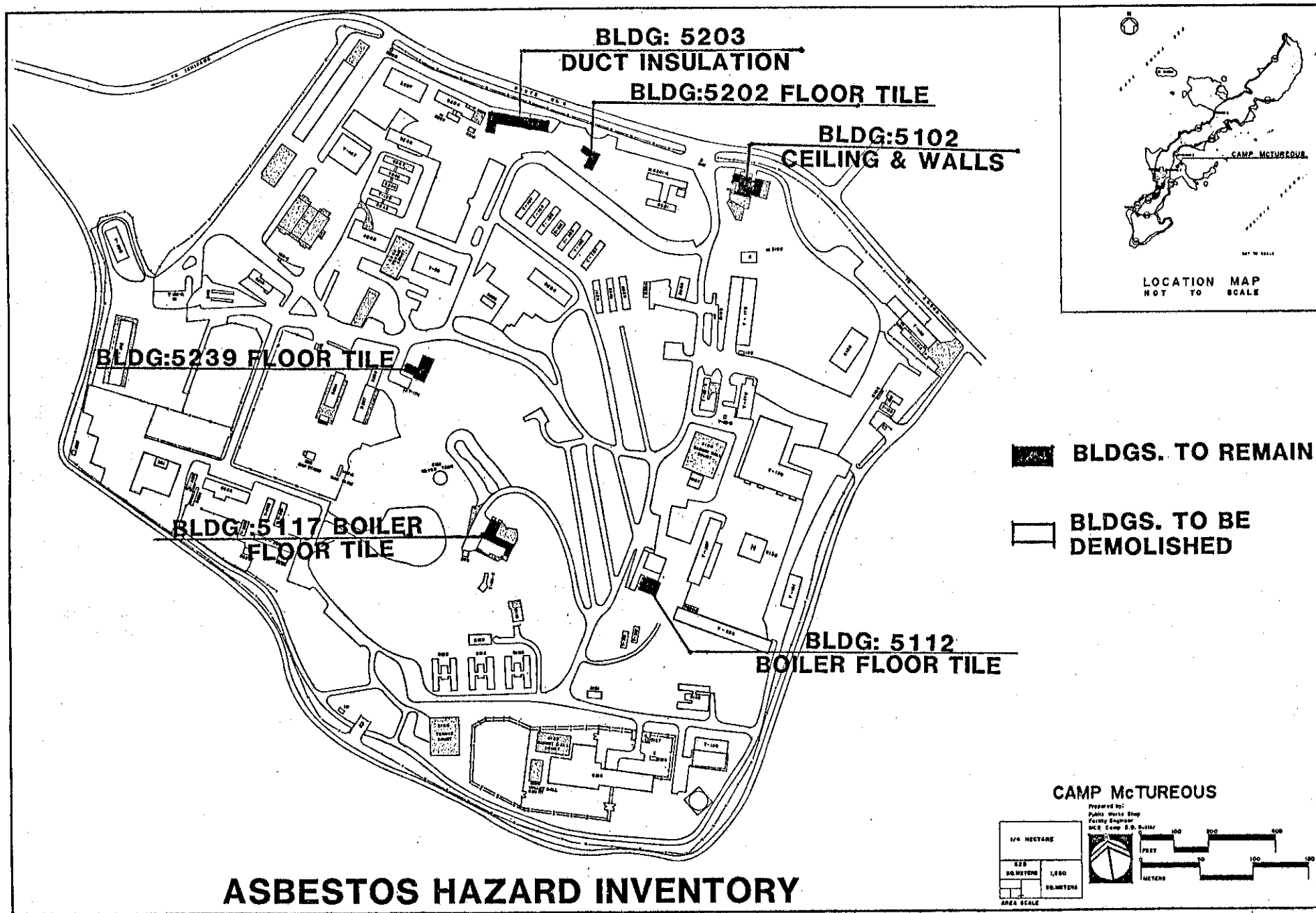
Several issues concerning the environment and environmental health have possible effects on the Master Plan:

### A. ASBESTOS SURVEY

Sampling and analysis efforts at Camp McTureous have found positive asbestos (both friable and non-friable) at six buildings to remain, indicated by Plate F-4. A more detailed study is currently underway to determine the Hazard Index of the Asbestos Material, as developed by the Navy Civil Engineer Laboratory Technical Report R-883. Based on the results of this study, cost estimates will be developed to remove, replace, and dispose of asbestos materials in accordance with current OSHA and EPA criteria.

### B. BEETLE ERADICATION PROGRAM

The pine bark beetle (Monochamus alternatus Hope), carrier of the pine bark nematode (bursaphelenchus lignicolus) was accidentally introduced to Okinawa in a shipment of pine lumber from mainland Japan in 1972. The adult beetle emerges April-May and deposits the nematode upon contact with the pine tree. The nematode then feeds on the tree's tissue, and during the process of reproduction, kills the Ryukyu Pine (Pinus luchensis Majr), turning the evergreen needles a rust color.



CAMP HANSEN TRAINING AREA (Fac 6011)  
(SOUTH CENTRAL TRAINING AREA)

# PINE BARK BEETLE INFESTATION

## LEGEND

 AREAS OF INFESTATION

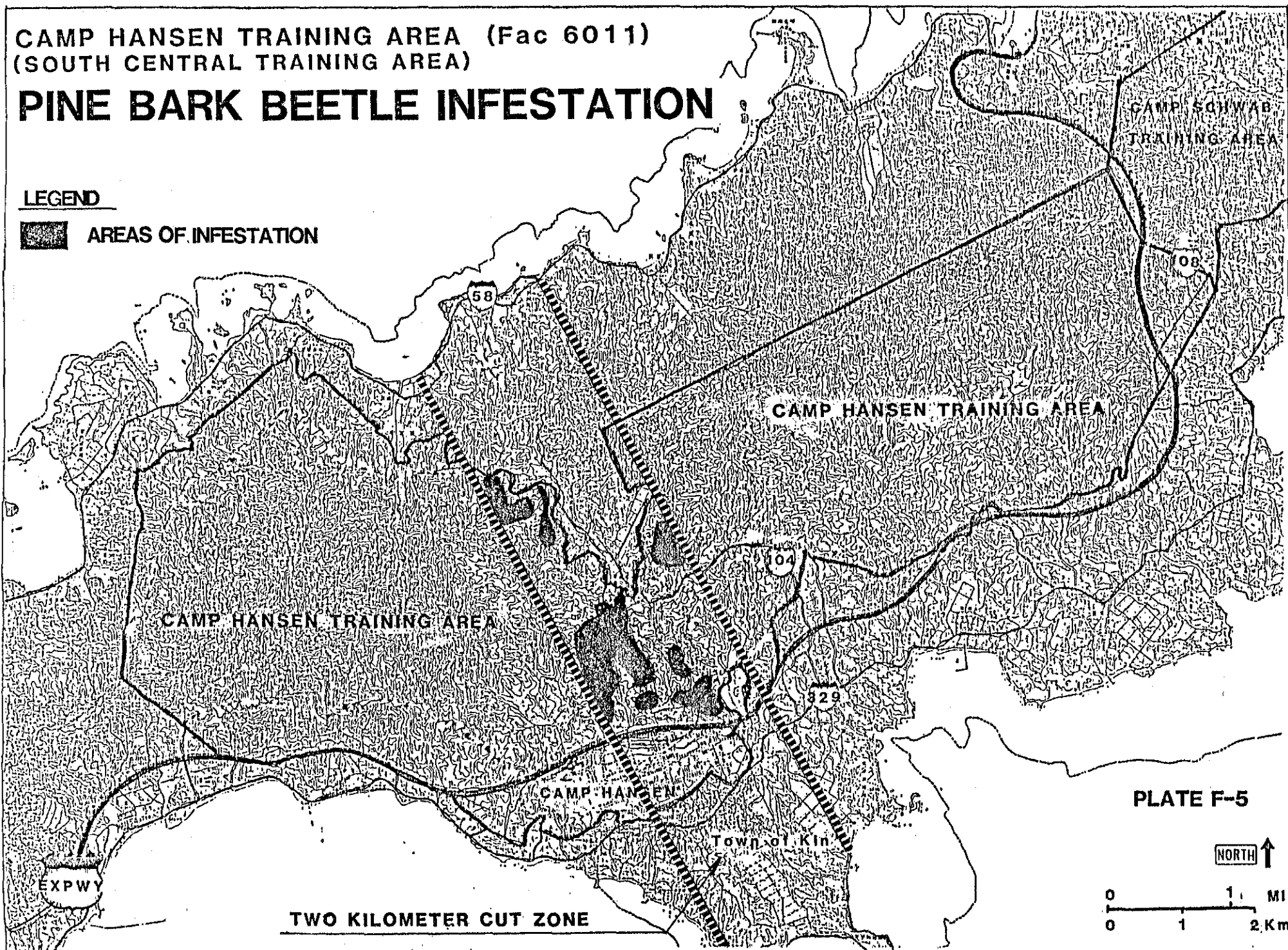
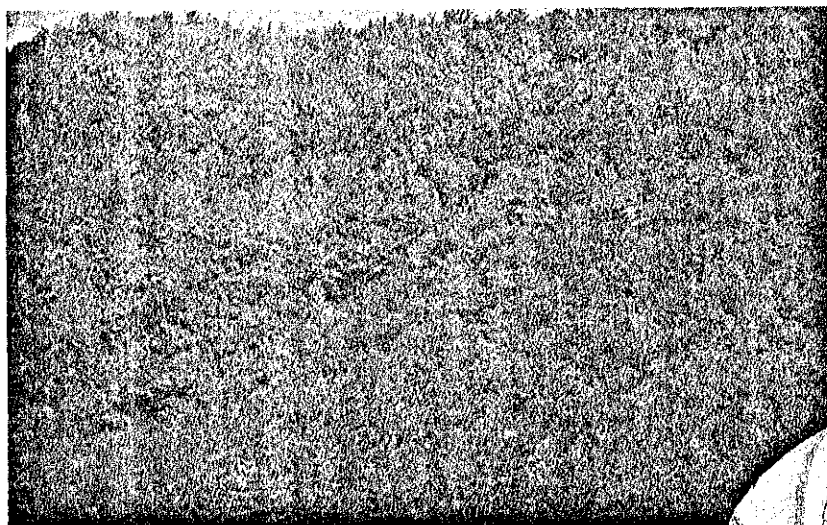


PLATE F-5

NORTH ↑

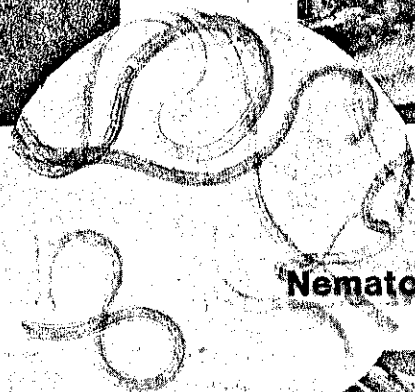
0 1 2 MI  
0 1 2 Km



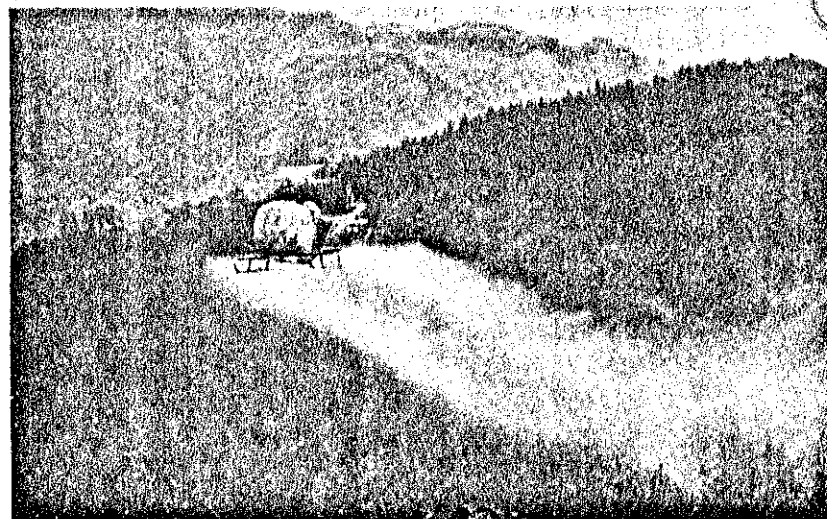
**INFESTED PINE TREES**



**INFESTED PUPAE**



**Nematoda**



**AERIAL SPRAY OPERATIONS**



**ADULT PINE BARK BEETLE**

The Okinawa Prefectural Government (OPG) in 1975, developed a program for cutting and burning infested pine trees and for aerial spraying. At the same time, MCB Camp Butler initiated cutting and burning of 31 trees at Camp Hansen and 30 trees at ASP #2 during the summer of 1980. An OPG survey in October, 1980, still listed 518 trees at Camp Hansen, 95 trees at Camp Schwab, and 73 trees at ASP #2 as infected. By 1981, 35 trees at Camp Courtney were found to be infected, at the same time that the number at Camp Hansen was elevated to 2,500.

A 1982 survey identified further infestation and the OPG initiated a plan to create a barrier two kilometers wide across the island to prevent northward migration of the beetle, as shown on Plate F-5. All infested trees are to be cut and burned, and aerial spray applied to all standing trees. As the Ryukyu Pine is the prefectural tree, it is culturally, as well as ecologically important to Okinawa. The cost of the program to MCB Camp Butler is illustrated by Table F-5. The eventual impact on Camp McTureous would result in the destruction of areas of natural vegetation. Damages resulting from the infestation have been reduced in the civilian areas of Okinawa from a peak of 16,891 cubic meters in 1982 to only 8,854 cubic meters in 1984. The Prefectural goal is to reduce the damage to 3,000 - 4,000 cubic meters by the end of JFY 1986.

**TABLE F-5**  
**PINE BARK BEETLE ERADICATION PROGRAM**

| <u>YEAR</u> | <u>CUT</u>        | <u>SPRAY</u> | <u>TOTAL (\$000)</u> |         |
|-------------|-------------------|--------------|----------------------|---------|
| 1980        | 0                 | 0            | (USMC)               | 0       |
| 1981        | 0                 | 0            | (USMC)               | 0       |
| 1982        | \$93,000          | \$1,12 MIL   | EST COST             | \$1,213 |
| 1983        | \$70,100          | \$1,12 MIL   | EST COST             | \$1,190 |
| 1984        | \$55,970          | \$1,12 MIL   | EST COST             | \$1,176 |
| 1985        | \$70,976          | \$0,194 MIL  | EST COST             | \$0,265 |
| 1986        | (APPROVED BUDGET) |              |                      | \$0,250 |
| 1987        | (APPROVED BUDGET) |              |                      | \$0,250 |

### **C. MELON FLY ERADICATION PROGRAM**

Melon flies are pests causing great damage to agricultural crops such as melons, watermelons, cucumbers, green peppers, tomatoes, and papaya fruit. Due to the occurrence of melon flies, the transportation of crops outside of Okinawa Prefecture is limited or restricted by Agricultural Pests Control Laws, becoming a major obstacle to the promotion of Okinawan produce. As a countermeasure, a program for eradication of the melon fly has been developed by the Prefecture: starting with the Miyako Islands (1984-1987). then the Okinawa Islands

(1986-1990), and finally the Yaeyama Islands (after 1989).

The flies will be eradicated by a sterile insect technique (SIT), first by reducing the population density by the use of attractant insecticides and then by the release of mass numbers of sterilized insects.

Camp McTureous is scheduled for air operations June-November 1986, during which attractant insecticide rope will be dropped from helicopters approximately twelve times at intervals of 2-3 weeks. From November 1986 to March 1987, sterile fly pupae (marked with fluorescent paint) will be air-dropped over Camp McTureous. Finally, traps will be set at various locations to monitor the results.

## C.I.P PROJECT SUMMARY

| PROJECT<br>NUMBER | PROJECT                                     | COST (\$000) | FUNDING YEAR |
|-------------------|---------------------------------------------|--------------|--------------|
| <b>A. JFIP</b>    |                                             |              |              |
| MC-6031-00        | MILITARY FAMILY HOUSING, PH I               | 53,530       | JFY85        |
|                   | MILITARY FAMILY HOUSING, PH II              | 47,050       | JFY86        |
|                   | MILITARY FAMILY HOUSING, PH III             | 12,490       | JFY87        |
|                   | NEW SEWAGE TREATMENT FACILITY               |              | JFY87        |
| MC-6031-07        | ELEMENTARY SCHOOL EXPANSION                 |              | JFY87        |
| MC-6031-07        | SOFTBALL AND SOCCER FIELDS                  |              | JFY87        |
| MC-6031-07        | SWIMMING POOL AND BATHHOUSE                 | 670          | JFY87        |
| <b>B. MCON</b>    |                                             |              |              |
| DODD              | ELEMENTARY SCHOOL                           | 5,220        | JFY85        |
| <b>C. NAF</b>     |                                             |              |              |
| P-770             | RESTAURANT CONVERSION                       | 526.1        | JFY89        |
|                   | SHOPPETTE CONVERSION                        | 200          | JFY89        |
| <b>D. HQMC</b>    |                                             |              |              |
| OK 801R           | YOUTH CENTER CONVERSION                     | 300          | JFY88        |
| OK 802R           | NEW TENNIS COURT                            | 179          | JFY88        |
| OK 803R           | CHILD CARE CENTER/<br>PRE-SCHOOL CONVERSION | 100          | JFY88        |

TABLE G-1

# CAPITAL IMPROVEMENTS PLAN

The Capital Improvement Plan represents a description of projects with anticipated funding source, that are programmed to resolve the deficiencies made evident by the Requirements Section of this Master Plan. Construction sequencing and related problems is discussed in Section I, Site Development Plan.

## 1. FACILITIES IMPROVEMENT PROGRAM

The Facilities Improvement Program (FIP) is a Government of Japan funded program ongoing since Japanese Fiscal Year 1979. This program was developed by the Government of Japan in response to U.S. initiated discussions in 1978. Since October 1981, over \$200 million in Marine Corps facilities have been constructed through the FIP. Another \$135 million is under construction or in the design phase. Projects programmed for Camp McTureous are shown on Plate G-1.

### A. FAMILY HOUSING (MC-6031-00)

Category Code: 711-17  
Scope: 624 Units  
Cost:  
Funding Year: JFY 85, 86, 87

#### 1. PROBLEM:

Availability of off-base housing is becoming scarcer each year and U.S. personnel must compete with the local population. Off-base

housing, in most cases, does not meet U.S. Government Standards, is expensive, and utility costs rank among the world's highest.

#### 2. RECOMMENDATION:

Construct 624 Military Family Housing Units (Quadruplex, Sixplex, Eightplex, and High Rises, with 2, 3, and 4 bedrooms) at Camp McTureous.

#### 3. SITING CONSIDERATIONS:

The housing units are sited throughout the camp; relationship of facilities, traffic circulation and control and topographic land condition are highly considered.

#### 4. PHASING:

The GOJ will determine the sites for 3 phases of construction. Phase I - 296 units, Phase II - 260 units, Phase III - 68 units - Total 624 units. (New Sewage Treatment Plant at Camp McTureous will be constructed simultaneously with Family Housing.

#### 5. DEMOLITION:

The entire facilities aboard Camp McTureous will be demolished, except for buildings 5102, 5112, 5117, 5202, 5203, and 5239

## **B. ELEMENTARY SCHOOL EXPANSION (MC-6031-07)**

Category Code: 730-55  
Scope: 3,661 square feet  
Cost:  
Funding Year: JFY 87/88 (both years)

### **1. PROBLEM:**

The Elementary School to be constructed by the MILCON will not be able to adequately support the educational needs of all the children that will live in the Courtney/McTureous/ASP-2 area. Many of the students will have to be bused to Kadena Air Base and Camp Foster Elementary Schools. This would result in a great expense, inconvenience to the children, and overcrowding at these schools.

### **2. RECOMMENDATION:**

Construct 3,661 SM school addition with reinforced concrete foundation, frame members, walls, and roof deck.

### **3. SITING CONSIDERATIONS:**

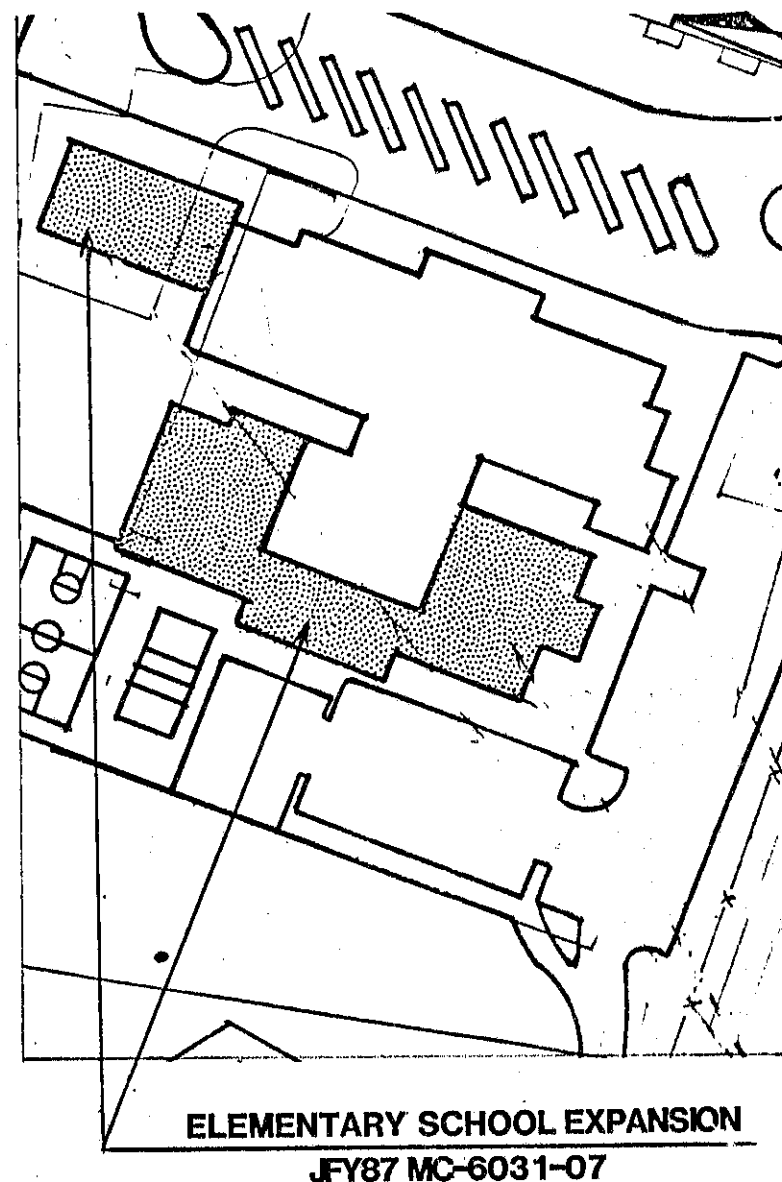
School addition will be sited on the south and west side of the proposed FY85 MILCON elementary school.

### **4. PHASING:**

None

### **5. DEMOLITION:**

None



## C. SWIMMING POOL AND BATHHOUSE (MC-6031-07)

Category Code: 750-30, 750-34, 740-89  
Scope: 1,000 SF/25 meter  
Cost: \$670,000  
Funding Year: JFY87

### 1. PROBLEM:

There is no swimming pool at Camp McTureous. The nearest pool is located at Camp Courtney. With the new family housing at Camp Courtney, that pool would be at maximum use without additional load from Camp McTureous. Overcrowding will discourage spontaneous and repetitive use of the available pool.

### 2. RECOMMENDATION:

Construct an outdoor 25 meter swimming pool with adjoining wading pool. Also, construct a 1,000 SF bath house of concrete masonry unit walls and partitions; concrete floors and built-up roof. The bath house will have spaces for showers, dressing rooms, and an equipment room. Construction to include a sunbathing area around the pool, perimeter fencing, landscaping, walkways, water heating system, separate filtration systems and necessary utilities. Provide parking for 20 cars and all required support facilities.

### 3. SITING CONSIDERATIONS:

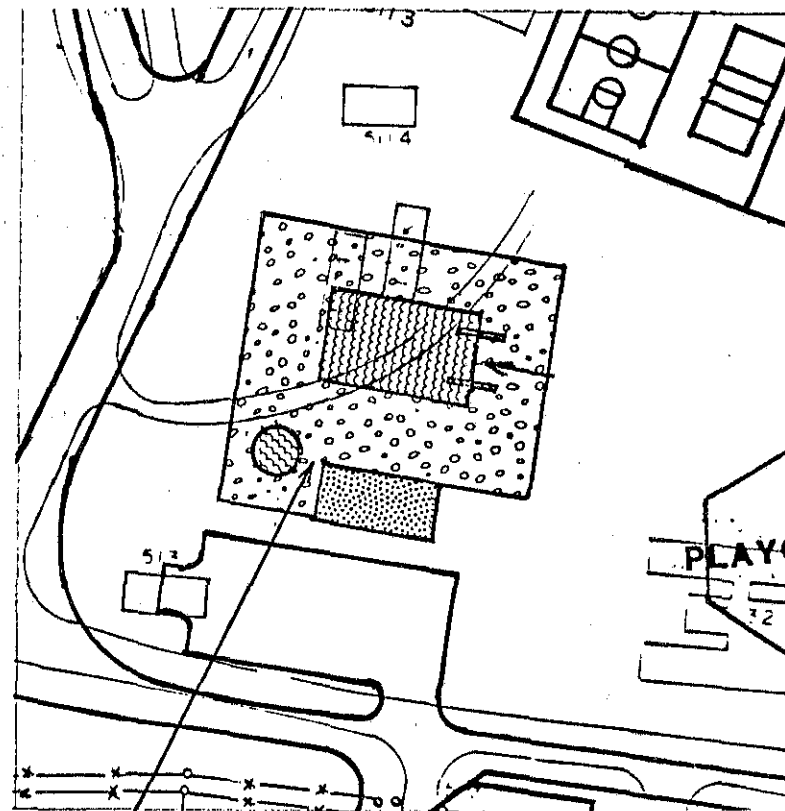
The proposed facilities are sited in the south area of the proposed elementary school.

### 4. PHASING:

None

### 5. DEMOLITION:

Buildings T-34, T-35, and 5131.



**SWIMMING POOL AND BATHHOUSE**

**JFY87 FP MC-6031-07**

## D. SOFTBALL AND SOCCER FIELDS (MC-6031-07)

Category Code: 750-20

Scope: 1 Each

Cost:

Funding Year: JFY87

### 1. PROBLEM:

The FY85 Military Construction (MCON) projects have been funded for the construction of the elementary school at Camp McTureous. This project was originally designed to serve the students from Camp Courtney and McTureous areas; however, because of the funding constraints, playing fields were deleted.

### 2. RECOMMENDATION:

Construct softball and soccer fields in accordance with the Department of Defense Dependent School criteria.

### 3. SITING CONSIDERATIONS:

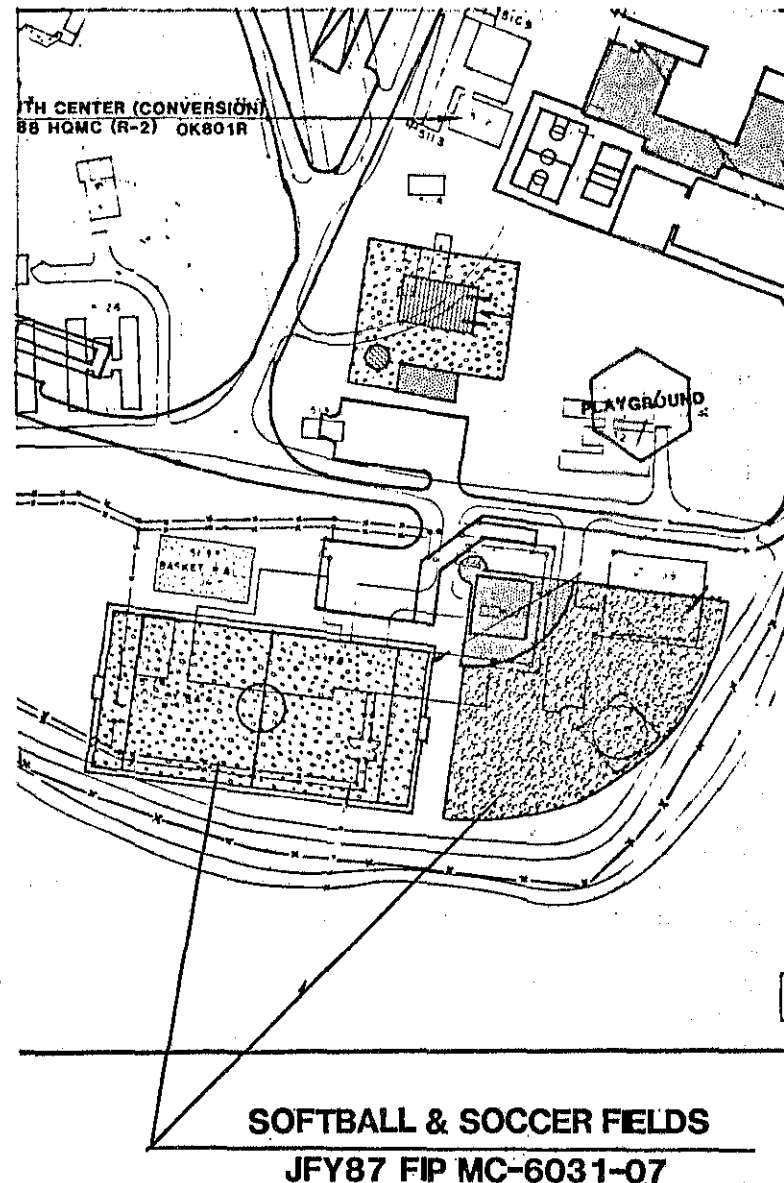
The proposed play fields are sited on the south side of Camp McTureous.

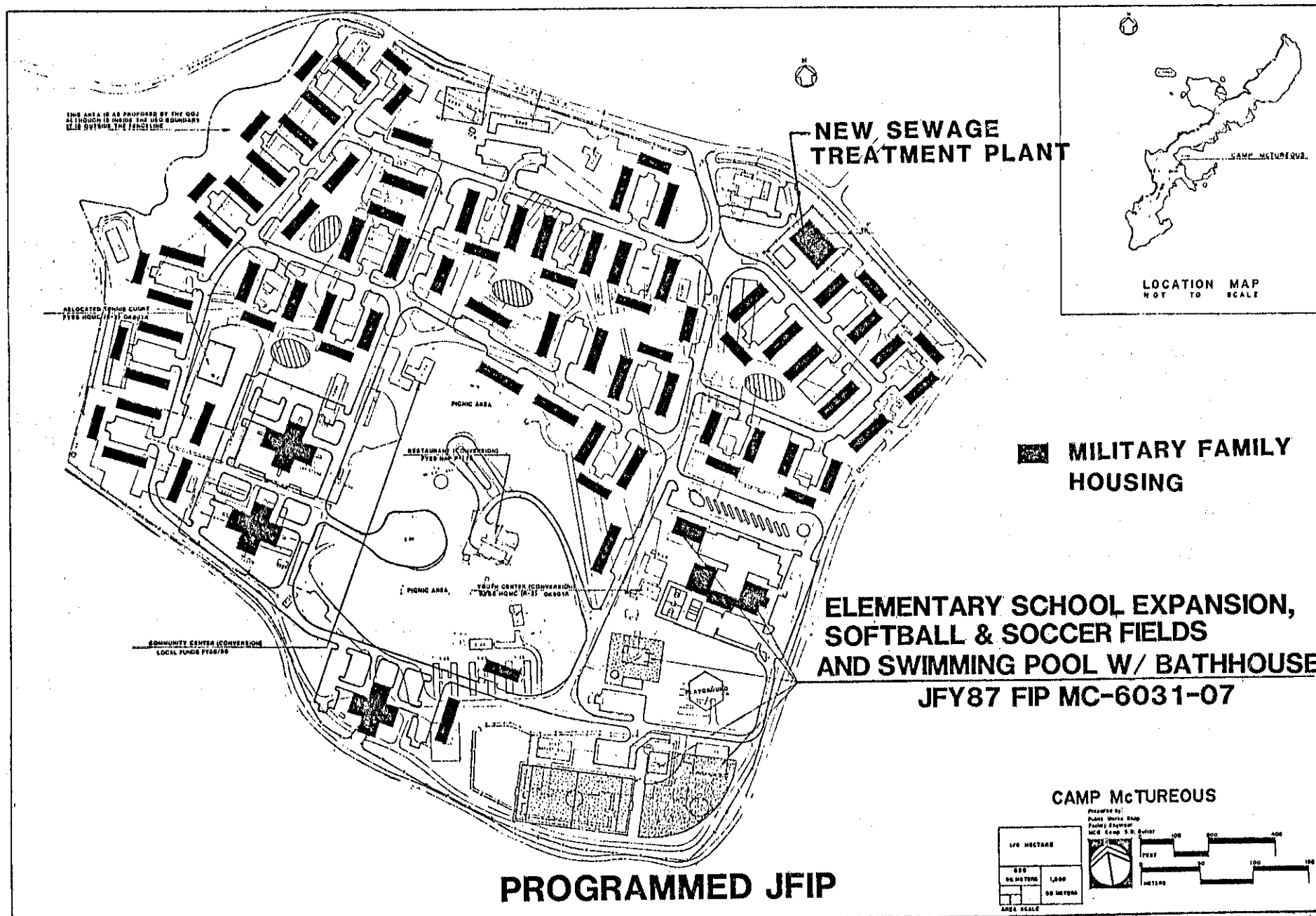
### 4. PHASING:

None

### 5. DEMOLITION:

Building T-198, 5127, 5128, 5129, and 5134.





## 2. MILCON CONSTRUCTION

The authority for Navy procurement, vested by statute in the Secretary of the Navy, is delegated for facility construction to the Commander, NAVFACENGCOM. Military construction projects for the Marine Corps also include three centrally managed MILCON programs which are programmed by the NAVFACENGCOM: Navy Occupational Safety and Health Deficiency Abatement, Pollution Abatement and Energy Conservation Investment Programs.

The Government of Japan will not fund construction involving addition, renovation, nor modernization of existing buildings that were originally constructed by the U.S. Government. Therefore, the only means of accomplishing such projects is by MILCON programming.

The following projects in the Capital Improvement Plan have been programmed for MILCON funding and are planned for Camp McTureous shown on Plate G-2.

### A. ELEMENTARY SCHOOL (DODDS)

Category Code: 730-55  
Scope: 64,000 square feet  
Cost: \$6,220,000  
Funding Year: MCON FY85

#### 1. PROBLEM:

There is no elementary school currently existing at Camp Courtney and Camp McTureous. The military and civilian personnel dependent

children living on newly constructed family housing units at Camp Courtney, plus the proposed housing units at Camp McTureous will have to be bused to Kadena Air Base Elementary Schools, and will cause overcrowded conditions and great expense.

#### 2. RECOMMENDATION:

Construct 67,500 SF pre-engineered pre-cast and reinforced concrete school facilities with built-up roofing, force heating/ventilation and air conditioning system, and adequate playground with equipment.

#### 3. SITING CONSIDERATIONS:

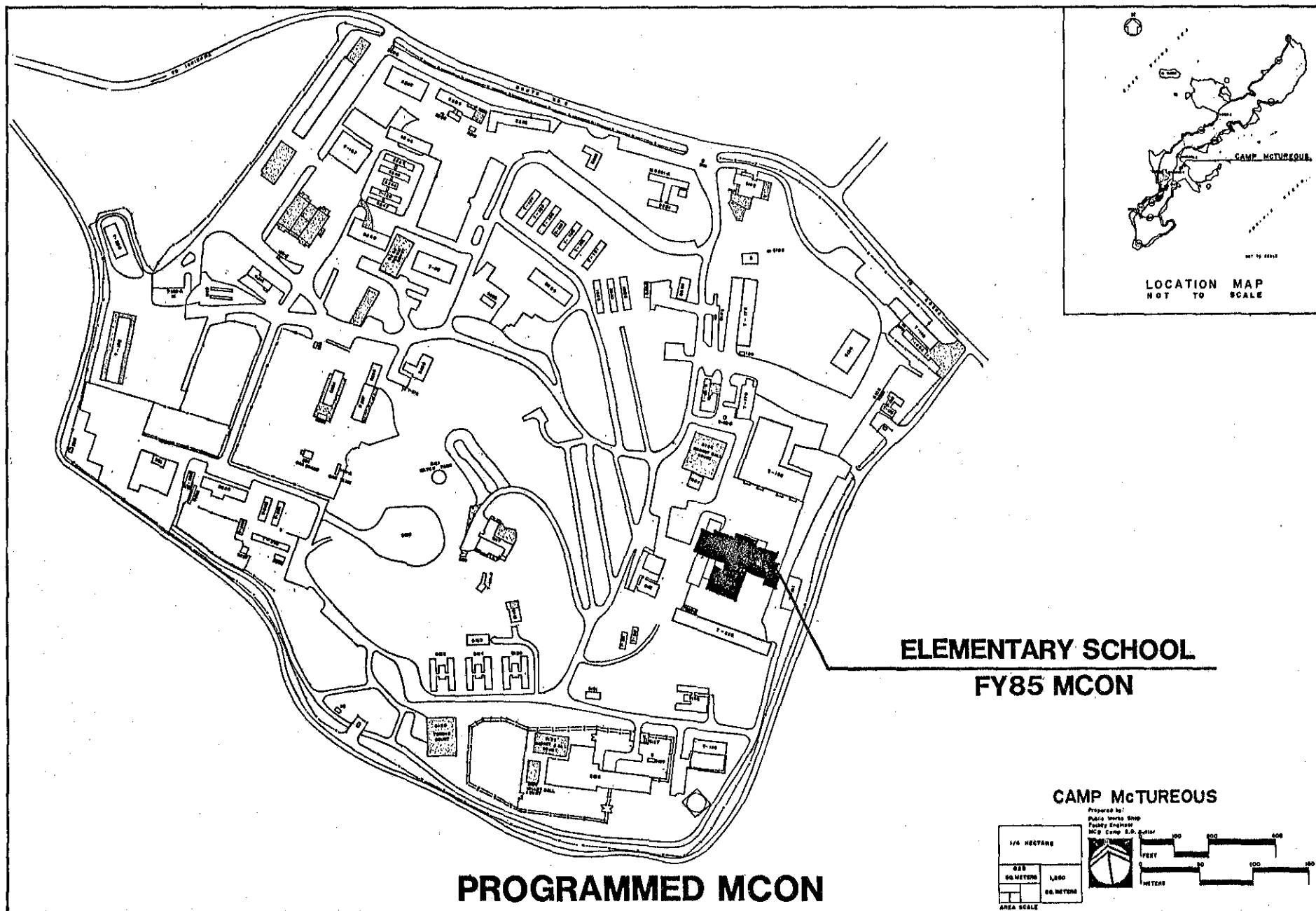
The proposed facilities are sited on southeast area of Camp McTureous, accessible to Camp Courtney

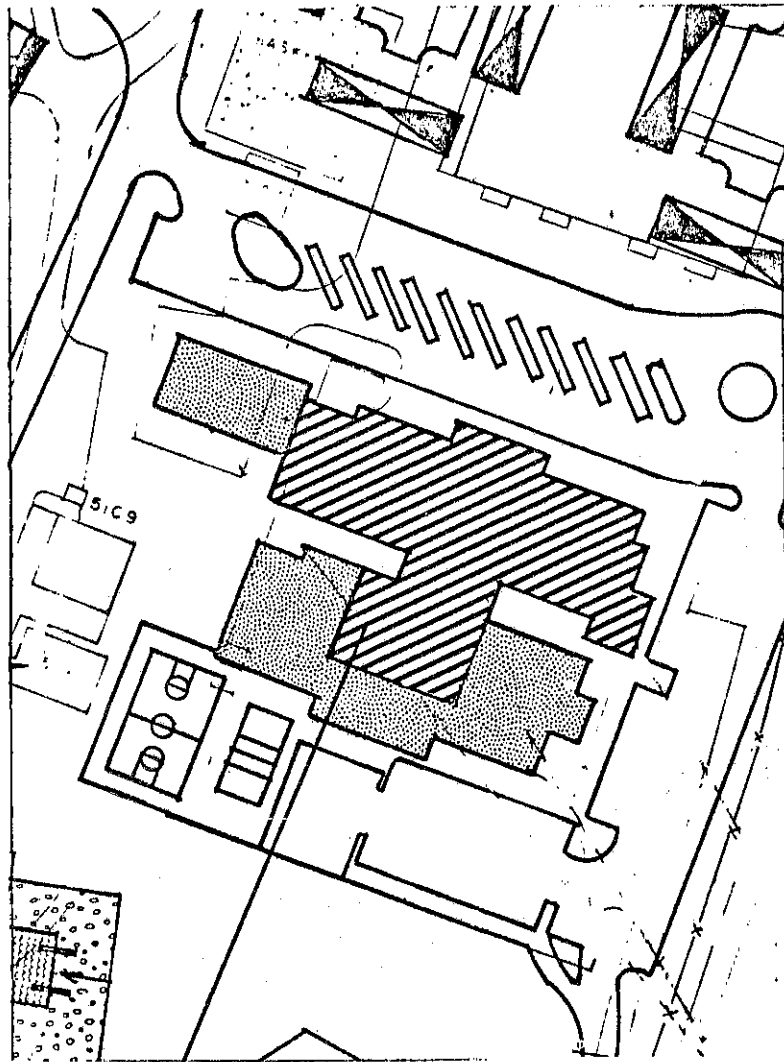
#### 4. PHASING:

None

#### 5. DEMOLITION:

Buildings T-198, 5114, 5127, 5128, 5129, 5132, and 5134.





**ELEMENTARY SCHOOL  
FY85 MCON**



**ELEMENTARY SCHOOL SITE**



**UNDER CONSTRUCTION**

### 3. NAF CONSTRUCTION

Community and Morale, Welfare, and Recreation (MWR) facilities are all those included in military real property category codes 740 and 750. These facilities are classified in the NAVCOMPT Manual for the purposes of determining the extent of Government financial responsibility in their support, and to provide specific policies and guidance for funding.

It is the policy of the CMC to provide, maintain, and operate adequate facilities to accommodate a well-rounded MWR program to ensure the mental and physical well being of Marine Corps military and civilian personnel. The funds to convert this policy into adequate facilities come from either appropriated or non-appropriated sources. The type of facility or work to be performed determines the funding source. Appropriated funds are used solely for construction of the larger facilities that do not generate revenues. Non-appropriated funds (NAF) are used for:

- a. The refurbishment and internal upkeep of facilities and equipment.
- b. The general support of Command and centralized club welfare and recreational facilities.

Projects under \$200,000 are approved by the Commanding General, MCB Camp Butler, and projects over \$200,000 are approved by the Commandant, Marine Corps.

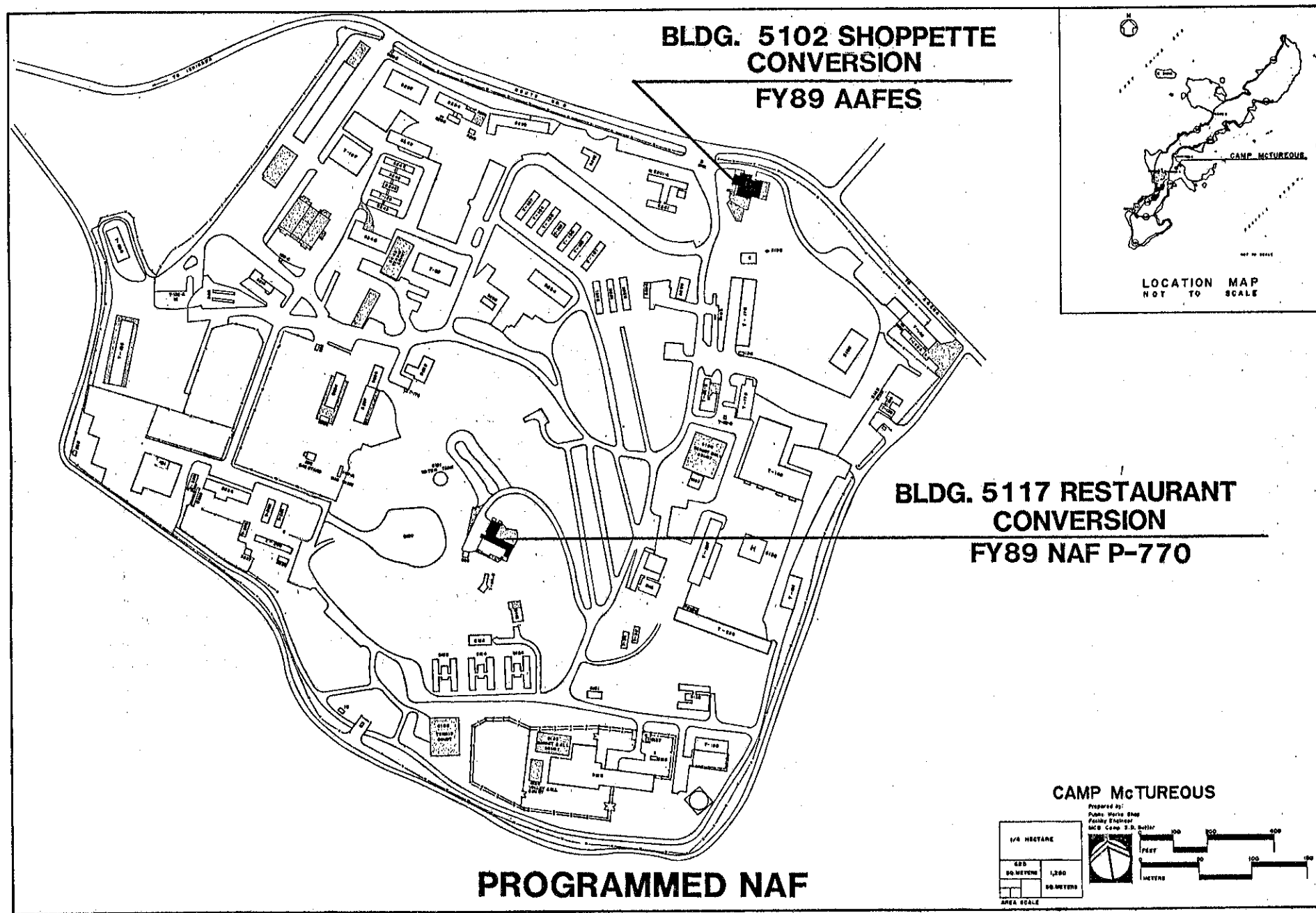
The following projects in the Capital Improvement Plan programmed for NAF funding and planned for Camp McTureous are shown on Plate G-3.

#### A. RESTAURANT CONVERSION (P-770)

Category Code: 740-63  
Scope: Convert Bldg. 5117  
Cost: \$526.1K  
Funding Year: NAF 89.

##### 1. PROBLEM:

The newly constructed family housing units at Camps Courtney and another 625 family housing units at Camp McTureous will be completed by 1990. The existing off-base clubs at Camp Courtney are all undersized to meet the added demands of the housing residents. There are very few near-by restaurants. The quality of these restaurants ranges from good to poor. This area is also separated by more than 30 minutes drive to other military bases. Without the conversion of this facility into a family oriented restaurant the residents of Camp Courtney and Camp McTureous housing areas will not be afforded the same opportunities as residents of other military installations. This lower quality of life will be noticeable and affect the morale of residents in this housing area.



## 2. RECOMMENDATION:

Convert Building 5117 to a tepanyaki restaurant through the enlargement of the dining room by demolition of interior walls, replacement of existing electrical system, and installation of subfloor gas system with quick couple connectors. Construct booth type seating around gas grills. Replacement of wall covering, carpeting, and ceiling tile. New lighting layout and rehab of head facilities. Construct a 50 car parking lot. Upgrade electrical and mechanical systems to handle the new interior arrangement. Landscape to improve existing patio garden.

## 3. SITING CONSIDERATIONS:

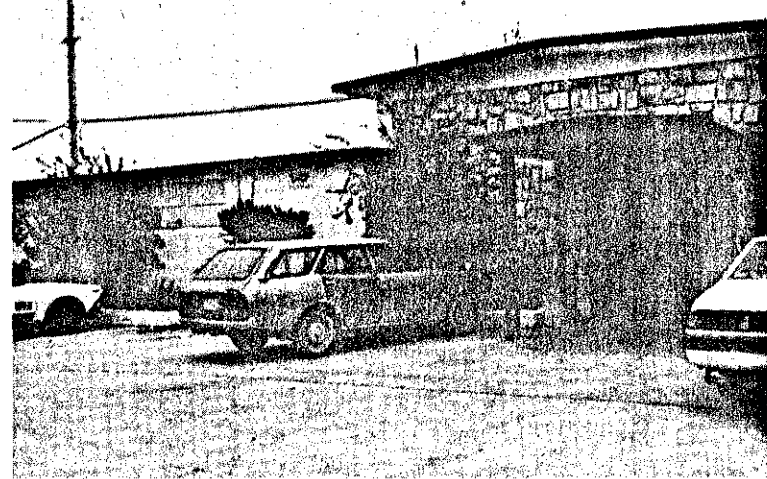
Building 5117 is the proposed restaurant conversion.

## 4. PHASING:

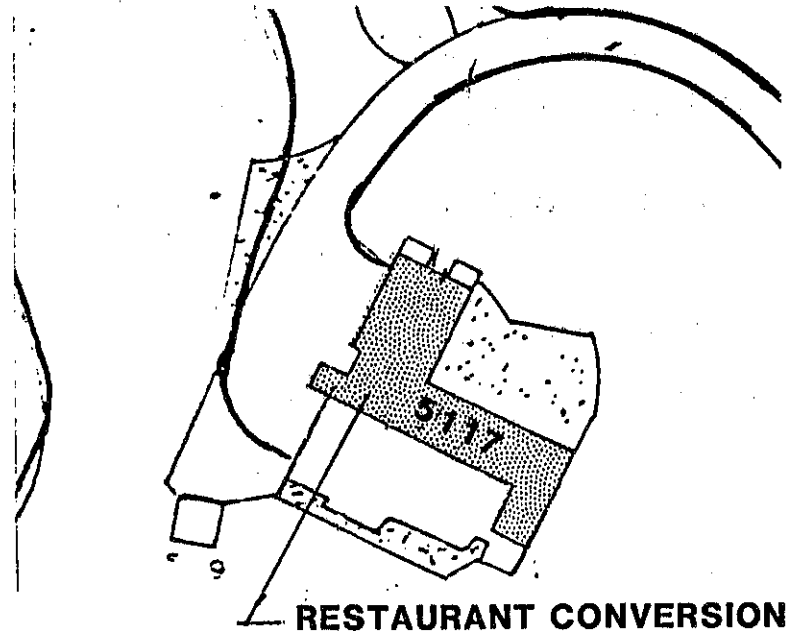
None

## 5. DEMOLITION:

Interior walls, as required.



**BLDG. 5117 SOUTH ELEVATION**



## B. SHOPPETTE CONVERSION

Category Code: 740-71  
Scope: 4,500 SF  
Cost: \$200K  
Funding Year: NAF FY88

### 1. PROBLEM:

There is no Shoppette on Camp McTureous to support the military and civilian families that will be housed in the planned family housing units in the camp.

### 2. RECOMMENDATION:

Convert building 5102 from its present use to a Shoppette with adequate customer parking.

### 3. SITING CONSIDERATIONS:

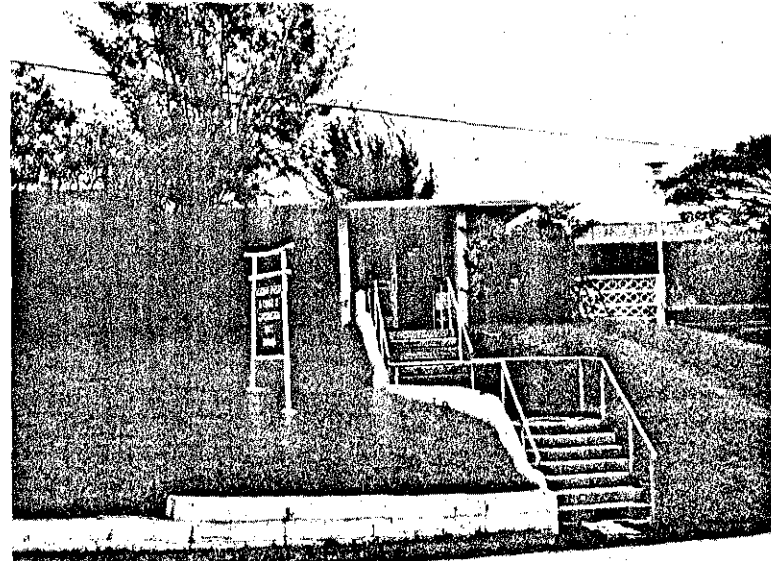
Building 5102 is the proposed Shoppette conversion.

### 4. PHASING:

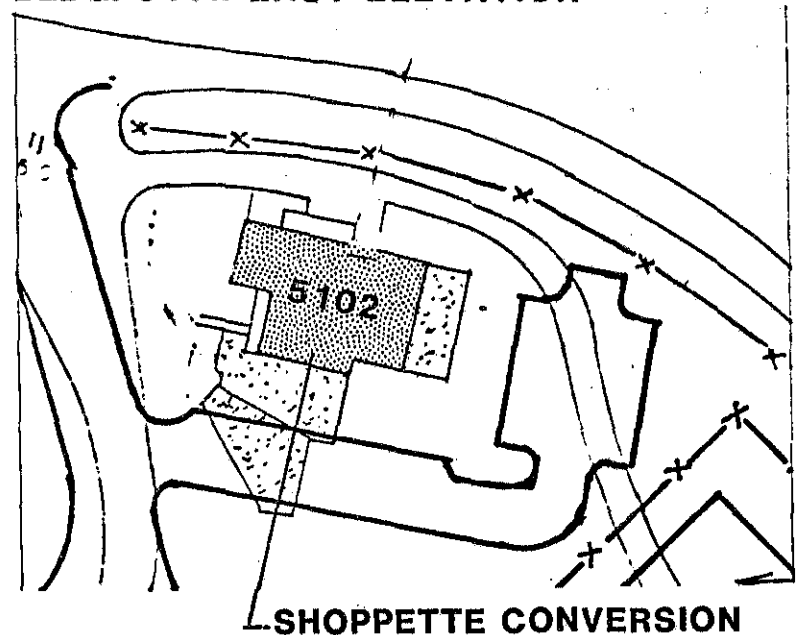
None

### 5. DEMOLITION:

Interior partition, as required.



BLDG. 5102 EAST ELEVATION



## 4. HQMC PROGRAMS

To meet minor facility or equipment requirements, the Marine Corps, under the authority of Title 10, 2674, can fund construction projects of less than \$500,000. Projects under \$100,000 (R1 Projects) are approved by the Commanding General, MCB Camp Butler. Projects costing from \$100,000 to \$200,000 are approved by the Commandant of the Marine Corps. Funding of projects from \$200,000 to \$500,000 is approved by ASN or ASD. The following projects in the Capital Improvement Plan have been programmed for R2 funding and are shown on G-4.

### A. YOUTH CENTER CONVERSION (R-2) OK 801R

Category Code: 740-55  
Scope: 6,351 SF  
Cost: \$300K  
Funding Year: FY87

#### 1. PROBLEM:

A Youth Center is nonexistent at Camp McTureous and Camp Courtney. A Youth Center is required to provide indoor social, cultural, and physical activities for youth ages 6 through 19 years old, that will be living at Camps Courtney and McTureous.

#### 2. RECOMMENDATION:

Convert building 5112 from its present use to a Youth Center at Camp McTureous. The lack of a youth facility lowers morale of the dependents

and contributes to juvenile delinquency on Camps McTureous and Courtney.

#### 3. SITING CONSIDERATIONS:

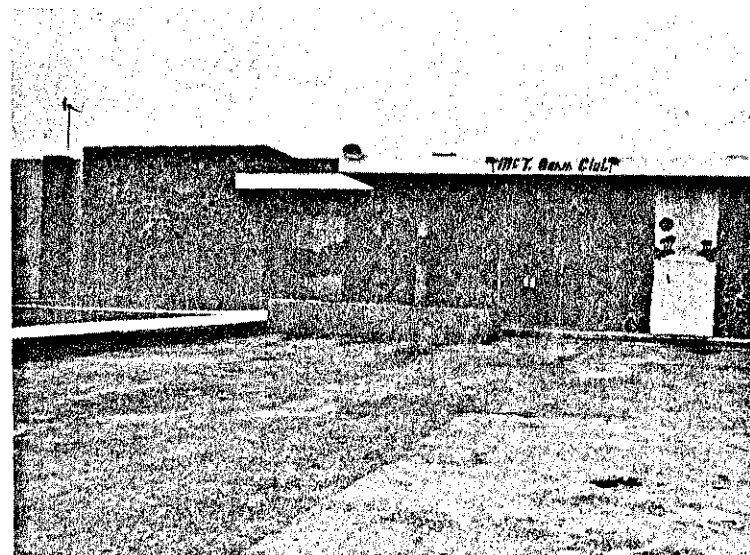
Building 5112 is the proposed Youth Center.

#### 4. PHASING:

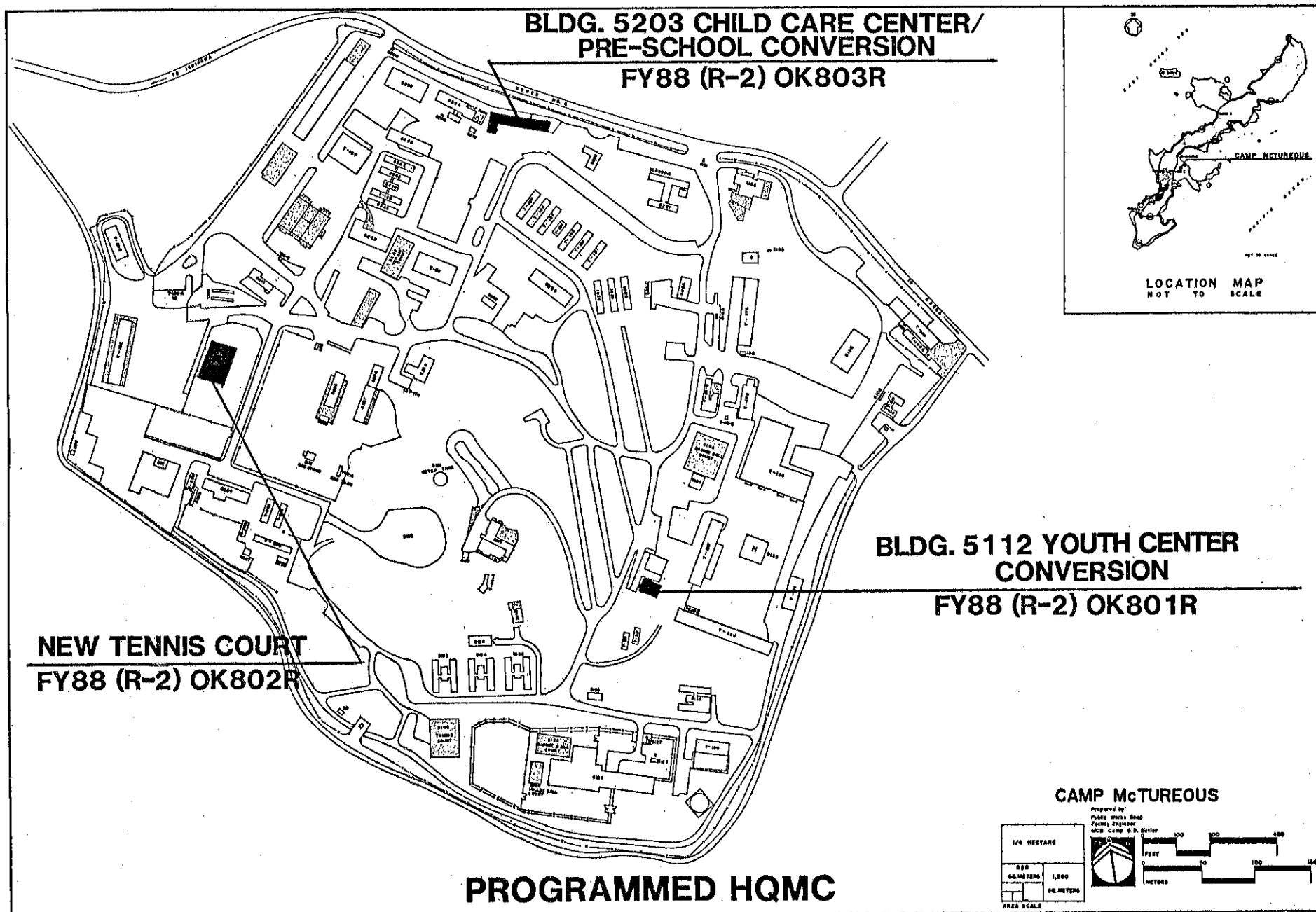
None

#### 5. DEMOLITION:

Interior partition, as required.



**BLDG: 5112(WEST ELEVATION)**



## **B. RELOCATE TENNIS COURT (R-2) OK 802R**

Category Code: 750-10  
Scope: One Court  
Cost: \$179K  
Funding Year: FY88

### **1. PROBLEM:**

The existing tennis court at Camp McTureous will be demolished under the JFY87 Military Family Housing Construction Program. One tennis court is required to meet the recreational needs of the military and civilian personnel and their dependents that will be stationed at Camp McTureous.

### **2. RECOMMENDATION:**

Construct one (1) outdoor tennis court, including lighting and 10 feet high chain link fence and gate.

### **3. SITING CONSIDERATIONS:**

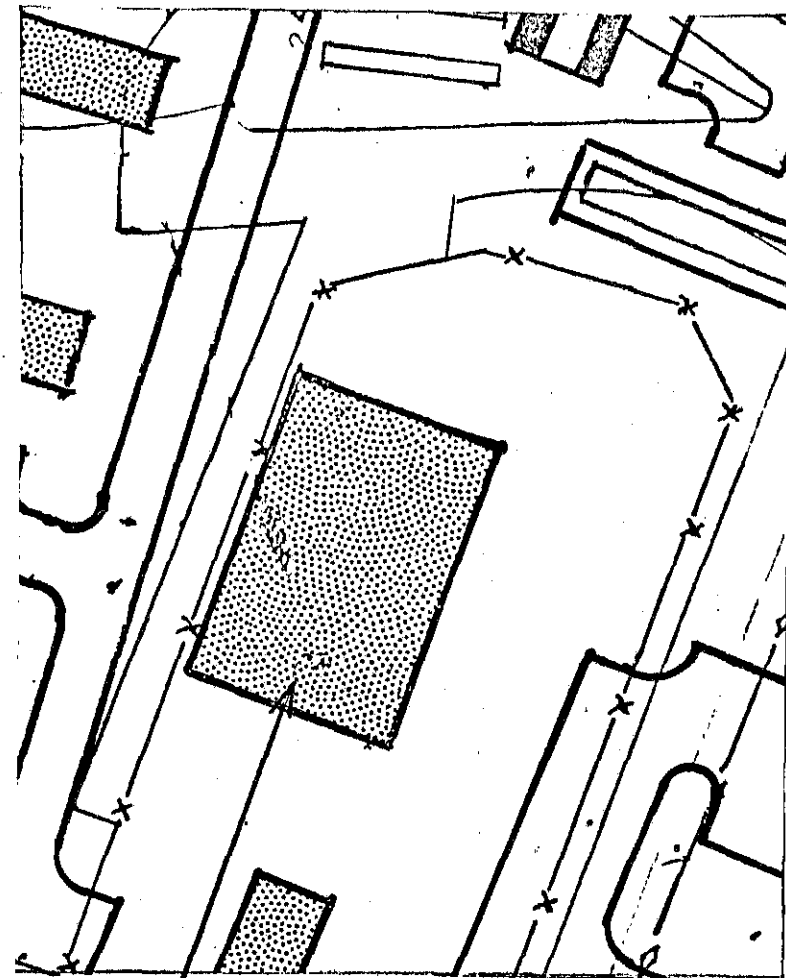
The proposed tennis court is sited on the west side of the camp.

### **4. PHASING:**

None

### **5. DEMOLITION:**

None



**RELOCATED TENNIS COURT  
FY88 HQMC (R-2) OK802R**

## **C. CHILD CARE CENTER/ PRE-SCHOOL CONVERSION (R-2) OK803R**

Category Code: 740-74  
Scope: 2,250 SF  
Cost: \$100K  
Funding Year: HQMC FY88 (R-2)

### **1. PROBLEM:**

There is no Child Care Center nor Pre-School at Camp McTureous. The Child Care Center located at Camp Courtney is small and was not built to support the larger requirement at Camp McTureous. The families requiring child care services will be forced into either driving long distances to other Government facilities, or using private facilities at high cost.

### **2. RECOMMENDATION:**

Convert Building 5203 from its present use to a Pre-School Child Care Center at Camp McTureous. Mechanical equipment would include central air conditioning and heating. Functional areas would include multi-bed sleeping rooms, play rooms, an isolation room, food service facilities, latrines fitted for both adults and children, an office, lobby/waiting space, and telephone systems.

This facility will provide day care for pre-school age children in situations where both parents are employed, or at times when the family is temporarily unable to care for their children.

### **3. SITING CONSIDERATIONS:**

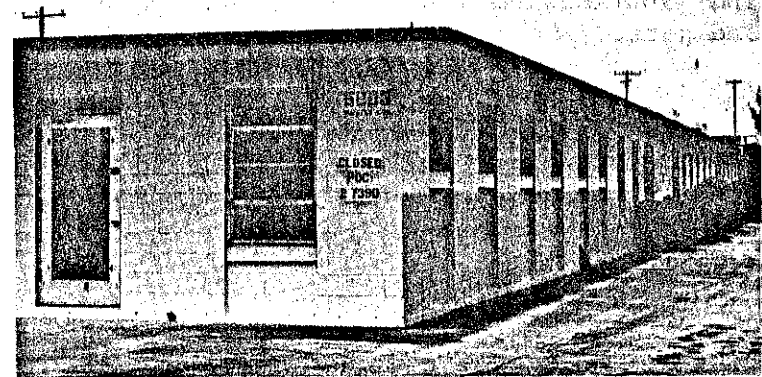
Building 5203 is the proposed Child Care Center.

### **4. PHASING:**

None

### **5. DEMOLITION:**

Interior partitions, as required.



**BLDG: 5203 (NORTHEAST ELEVATION)**

## H. ENERGY CONSERVATION PLAN

### 1. BACKGROUND

Presidential Executive Order (PEO) 12003 of July 1977 requires that all new U. S. Government buildings be 45 percent more energy efficient than similar buildings existing in 1975.

In addition to the 45 percent reduction in consumption mandated by PEO 12003 for new buildings, it also mandates a 20 percent reduction of energy usage in existing buildings, between FY75 and FY85. DOD augmented this requirement by an additional one percent per year, between FY85 and FY2000, to a total of a 35 percent reduction.

Commencing with the July 1975 relocation of Headquarters, MCB Camp Butler from Camp McTurkous to Camp Zukeran, Camp Butler started experiencing a radical change of its facilities physical structure. After the acquisition of Camps Zukeran (renamed Foster), Kuwae (Lester) and Makiminato Service Area (Kinser) from departing Army Commands, Camp Butler disposed of obsolete facilities at Camp Hague, Yaka Beach and Iha Castle and started an orderly program for disposal and/or replacement of other obsolete, energy inefficient facilities within the Base. A radical decline in the consumption of heating fuel per SF of facility was experienced. The present consumption per SF of building is 56 percent below FY75 consumption. This reduction in consumption can be attributed to the use of facilities with considerably less space heating load requirements than facilities used during

FY75. Records indicate that consumption of fuel for production of domestic hot water had increased, on an annual basis, until FY84. The most probable significant causes of these increases are the use of an increased number of washing machines and decreased efficiency of boilers due to aging and oversizing. There are less people per SF of building than during FY 75. When the required heating load is considerably less than the design capacity of the boiler or the boiler is oversized for existing requirements, boiler efficiency decreases. Existing boilers were designed for larger loads than presently required. When the number of personnel assigned to a building is reduced, it results in the existing boilers for production of domestic hot water being oversized for the required load. The acquisition of additional UEPH and UOPH buildings allowed for a reduction in occupancy of these buildings with a corresponding reduction of requirements for hot water. Boilers originally designed to supply hot water for more than twice the present building occupancy are operating at a significantly lower efficiency than their potential maximum and consequently use more fuel per capita. It is not cost effective to replace existing boilers with smaller boilers, just to improve their efficiency, because of the large number of UEPHS which will be replaced in the near future, under the JFIP. Also, it had been observed that maids, employed by UEPH and UOPH occupants, secured the cold water supply to washing machines and used only hot water to operate them. In addition to this wasteful practice, full volumes of water were being used for light loads. To remedy this situation the hot water

supply to washing machines was disconnected and water temperatures reduced to 110°F maximum where sufficient hot water storage capacity necessary to supply peak demand was available.

In spite of apparent wasteful practices, consumption of heating fuels per SF of existing buildings has been reduced by 56 percent. However, consumption of electricity has been reduced by only 14.5 percent as of the end of FY84. The base energy conservation record had dropped from 32.6 percent below the FY75 baseline during FY82 to 28.3 below the baseline during FY83. There was a temporary improvement during FY84 however, the increase in consumption trend is anticipated to continue over the next several years as existing non-air conditioned buildings are air conditioned or replaced with air conditioned buildings, unless more stringent conservation measures are implemented.

To pursue this trend recommendations by three energy conservation surveys accomplished during FY83 and FY84 are being implemented together with the more stringent design requirements of the latest edition of DOD 4270.1-M, Construction Criteria Manual. For example Chapter 8 of DOD 4270.1-M requires building insulation to comply with minimum established requirements, whether cost effective or not, when new air conditioning systems are installed or existing systems are replaced. It also requires that all cost effective energy conservation improvements to the building be identified and either accomplished or scheduled for implementation prior to/or concurrent with the mechanical equipment change before proceeding to

design and sizing of mechanical equipment for heating and/or air conditioning.

It is possible for Camp Butler to continue complying with PEO 12003 but it will require the complete eradication of misuse and waste. Every echelon of leadership within the Base is responsible for prevention of waste or misuse which used to be commonplace within many areas of the base.

Only the state of the art on energy conservation technology, with rigid, tamper proof controls, will preclude Camp Butler falling into noncompliance with the conservation goals established by higher headquarters. These goals are attainable only if efficient design and rigid controls to limit consumption to the absolute minimum requirements are provided as prescribed by current DOD and Marine Corps regulations.

## 2. CONSERVATION PLAN

### A. GENERAL

(1) Provide an Energy Management System (EMS) to control all phases of production and consumption in large buildings, such as the base exchange. Although these buildings are not under direct control of Camp Butler, they are large users of non-reimbursable energy. Camp Butler is required to support these facilities but cannot control their operations.

(2) Provide an EMS for small groups of buildings, such as bachelor quarters,

warehouses, and other community support facilities. The monitoring and control equipment should be located in spaces manned 24 hours per day.

(3) Install utility meters for each new facility which is not connected to a central production and distribution plant. At central plants, provide utility meters to measure both consumption and production. This is required by MCO P11000.9B.

(4) Where possible, consider architectural alternatives such as building orientation width/length ratio, number of stories, exterior wall construction, reduced window areas, and tinted glazing or solar film.

(5) All new buildings must comply with "U" factor requirements in Table 8-1 of DOD 4270.1-M, Construction Criteria Manual.

(6) Provide setback controls for all heating and air conditioning systems.

(7) Implement requirements of paragraphs 8-3.2.C and 8-4.1 of DOD 4270.1-M.

### **B. ELECTRICITY**

(1) Include the installation of watt-hour meters in the designs of new lighting systems for outdoor facilities which have not been previously lighted. Energy consumed by these facilities can be deleted from DEIS-II reports, if adequately metered. Under DEIS-II, all energy consumed as a utility is chargeable

to the SF in existing buildings unless it can be determined, by actual metering, that a portion of the energy was not consumed by existing buildings in the base line.

(2) Design all lighting systems for the minimum authorized DOD lighting standards as prescribed by NAVFACINST 11012.146. Task lights to supplement standard lighting is authorized where adequately justified.

(3) Provide only the most efficient lighting systems consistent with requirements. Sectionalize areas and provide electronic motion detector switches to automatically turn off unneeded lights.

(4) Provide programmable electronic time control for lighting and equipment not otherwise controlled by an EMS. All lighting systems, appliances, and heating/air conditioning systems which provide for personnel comfort must be secured during periods of non-occupancy.

(5) Comply with requirements of paragraph 8-4.12 of DOD 4270.1-M

### **C. HEAT AND FUEL**

(1) Design heating systems to provide only for minimum requirements in the building. DOD established temperature standards must be incorporated in the designs and heating equipment sized accordingly. Do not oversize heating and appurtenant equipment to provide for unneeded or unknown safety factors.

(2) Where possible, provide supplemental heating for small sections of BEQ, BOQ and administrative buildings which are used during periods when the building is not normally occupied to allow securing the central heating system. Supplemental systems, however, should be connected to the same EMS or programmable electronic time control as the central system as necessary to preclude simultaneous operation of both systems.

(3) Adjustable thermostats or automatic setback controls shall have a maximum setting of 72°F (22°C) as manufactured. The use of heating thermostats with settings higher than 72° is prohibited by DOD and Marine Corps regulations. The actual setting, except for medical facilities, shall be the setting required to raise the room temperature to a maximum 65°F - 68°F. Provide outside temperature reset control.

(4) Provide interlocking devices on windows to turn off heating and air conditioning systems when windows are opened. Operation of heating and air conditioning systems with opened windows is probably the most common energy misuse in Camp Butler.

(5) Provide heat recovery for blow-down systems. Provide air preheaters, economizers and other heat recovery equipment. Whenever possible, avoid dumping condensate.

(6) Provide the absolute minimum outside air make-up consistent with actual requirements.

(7) Provide radiant heating only where ever possible. Do not provide convection heating if it can be avoided.

(8) Design domestic hot water systems to provide for minimum requirements. Authorized maximum hot water temperatures, as delivered to the user, are 100°F in facilities without showers or bath tubs and 110°F in bachelor living quarters.

(9) Provide two cold water lines to washing machines in bachelor quarters buildings in lieu of one hot and one cold water lines. This Command has disconnected the existing hot water lines to the approximately 1,200 washing machines presently installed in Camp Butler. Water at the maximum authorized temperature of 110°F does not provide for cleaner or germ-free wash. When the hot water is mixed with cold water, the washing water temperature is approximately 90°F which is not a great improvement over the approximately 70°F temperature of the cold water.

## D. AIR CONDITIONING

(1) Design of air conditioning systems shall be in accordance with criteria provided by Chapter 8 of DOD 4270.1-M.

(2) Where possible, provide window or through the wall air conditioners for duty officers and shift workers in large buildings to allow securing central systems during periods of non-occupancy. Window or through the wall units should be controlled by the same EMS or

programmable electronic timer as the central system to preclude simultaneous operation of both systems.

(3) Provide programmable thermostats or as setback controls for each zone. All controls shall be located in spaces accessible only to authorized maintenance personnel.

(4) Provide the absolute minimum outside air make-up consistent with actual requirements.

(5) Provide waste heat recovery systems to capture some of the heat rejected by compressors and use for domestic hot water heating in buildings with hot water requirements, for air preheating in systems requiring dehumidification, and for winter space heating of adjacent spaces where air conditioning systems are used year-round.

(6) For facilities, such as data processing and communications, which require year-round air conditioning, consider reducing the cooling loads by recovering or exhausting some of the heat generated by the equipment for use in adjacent heated areas.

(7) Provide air curtains at doors with heavy traffic to minimize cooling and heating loads. Provide interlocking switches with time relay to turn off air curtain during extended periods of no traffic through the door.

(8) As an alternative to air curtains, provide vestibules at entrances with heavy traffic.

(9) Install tinted glazing or solar film on windows to reduce solar heat gain through glass.

# SITE DEVELOPMENT

## 1. INTRODUCTION

The purpose of this Section is to demonstrate the sequential development and changing landscape of Camp McTureous, to validate construction sequencing, and to identify (if not resolve) problems in the site development scheme and programming requirements.

The U.S. fiscal year starts October and the GOJ fiscal year starts April. To avoid confusion and to enhance useability by the Camp Commander and the general readership, this Section discusses all projects in the context of the calendar year which starts in January.

Construction start dates, completion dates and demolition dates are based on best-guess forecasts using known programmed years for MILCON, NAF, GOJ, and Headquarters, Marine Corps projects.

This Section, together with the Capital Improvements Plan (Section G) and the Utilities Improvements Plan (Section H), is considered the most dynamic part of the Master Plan. It will be updated by the Public Works Branch, Facilities Engineer, on an annual basis.

The Achilles' heel of master planning is the impact of planned construction on operational continuity. This Section, more than any other, demands scrutiny as (a) it most effects the Camp Commander and other users in the time frame

shown, and (b) due to scheduling constraints it is the least developed and relies on post-draft feedback from all concerned. The readership is invited to review this Section for compatibility with changed operational requirements.

## 2. SITE DEVELOPMENT SCENARIOS

### A. ESTIMATED CONSTRUCTION TIMES

Figure I-1 illustrates a best-guess for construction starts and Usable Completion Dates (UCDs) for projects discussed in Section G (Capital Improvements Plan). The dynamic nature of host-nation construction programs and the uncertainty of long-range NAF and MILCON programming all contribute to a degree of risk in using Figure I-1 as definitive in developing a logic of inter-connected construction starts. However, in order to develop an overall scenario of construction episodes at Camp McTureous for impact analysis, a "best-guess" approach was necessitated.

### B. DEMOLITION SCHEDULE

A demolition schedule, as shown by Figures I-2 and I-3 is essential to facility planners to provide information on the availability of sites for programmed construction. It further informs the facility managers which buildings are cost effective to maintain, and which should receive decreased expenditure of maintenance dollars. For planning purposes, two types of demolition

**JFIP****MCON**

**NAF**

**HQMC (R-2)**

I-2



## DEMOLITION SCHEDULE

**BLDG. VACATE  
NO. DATE**

**FY PROJECT REASON**

|       |        |     |            |                               |
|-------|--------|-----|------------|-------------------------------|
| 0010  | 860501 | J86 | Family Hsg | Family Hsg                    |
| 0129C | 860501 | J86 | Family Hsg | Family Hsg                    |
| 0149A | 860501 | J86 | Family Hsg | Family Hsg                    |
| 0185  | 860501 | J86 | Family Hsg | Family Hsg                    |
| 0186  | 860501 | J86 | Family Hsg | Family Hsg                    |
| 0191S | 860501 | J86 | Family Hsg | Family Hsg                    |
| 0226A | 860101 | J86 | Family Hsg | Family Hsg                    |
| 0231  | 870401 | J86 | Family Hsg | Family Hsg                    |
| 0232  | 860501 | J86 | Family Hsg | Family Hsg                    |
| 0233  | 860501 | J86 | Family Hsg | Family Hsg                    |
| 0240  | 860501 | J86 | Family Hsg | Family Hsg                    |
| 5100  | 860501 | J86 | Family Hsg | Family Hsg                    |
| 5101  | 870401 | J86 | Family Hsg | Family Hsg                    |
| 5103  | 870601 | J86 | Family Hsg | Family Hsg                    |
| 5105  | 860101 | J86 | Family Hsg | Family Hsg                    |
| 5107  | 860501 | F85 | DODDS MCON | Elem School                   |
| 5111  | 860501 | F85 | DODDS MCON | Elem School                   |
| 5118  | 860501 | F85 | DODDS MCON | Elem School                   |
| 5119  | 860501 | F86 | Family Hsg | Family Hsg                    |
| 5120  | 860501 | J86 | Family Hsg | Family Hsg                    |
| 5122  | 860805 | J86 | Family Hsg | Family Hsg                    |
| 5123  | 860501 | J86 | Family Hsg | Quid <i>Quid pro quo 4475</i> |
| 5124  | 860501 | J86 | Family Hsg | Quid                          |
| 5125  | 860501 | J86 | Family Hsg | Family Hsg                    |
| 5126  | 860501 | J86 | Family Hsg | Quid                          |
| 5127  | 860501 | J87 | 6031-07    | Elem School                   |
| 5128  | 860501 | J87 | 6031-07    | Elem School                   |
| 5129  | 860501 | J87 | 6031-07    | Elem School                   |
| 5131  | 860501 | J87 | 6031-07    | Elem School                   |
| 5132  | 860501 | J87 | 6031-07    | Quid                          |
| 5133  | 860501 | J87 | 6031-07    | Elem School                   |

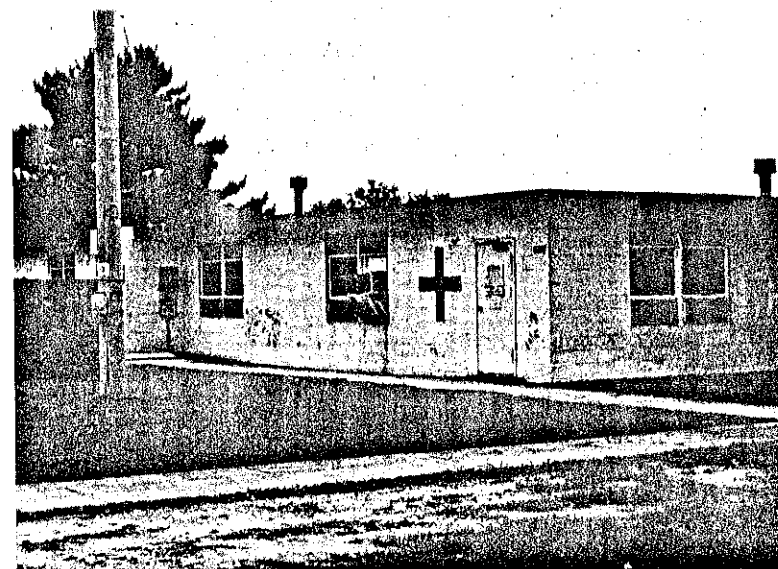
|        |        |     |            |             |
|--------|--------|-----|------------|-------------|
| 5134   | 860501 | J87 | 6031-07    | Elem School |
| 5135   | 860501 | F85 | DODDS MCON | Elem School |
| 5136   | 860501 | J87 | Family Hsg | Quid        |
| 5201   | 860501 | J87 | Family Hsg | Quid        |
| 5201A  | 860501 | J87 | Family Hsg | Family Hsg  |
| 5204   | 860501 | F88 | OK803R     | Playground  |
| 5205   | 860501 | F88 | OK803R     | Playground  |
| 5207   | 860501 | J87 | Family Hsg | Quid        |
| 5208   | 860501 | J87 | Family Hsg | Family Hsg  |
| 5209   | 860501 | F88 | OK803R     | Playground  |
| 5210   | 860501 | F88 | OK803R     | Playground  |
| 5214   | 860501 | J87 | Family Hsg | Quid        |
| 5222   | 860501 | J87 | Family Hsg | Family Hsg  |
| 5226   | 860501 | J87 | Family Hsg | Quid        |
| 5227   | 860501 | J87 | Family Hsg | Family Hsg  |
| 5228   | 860501 | J87 | Family Hsg | Family Hsg  |
| 5234   | 860501 | J87 | Family Hsg | Quid        |
| 5236   | 860501 | J87 | Family Hsg | Quid        |
| 5237   | 860501 | J87 | Family Hsg | Quid        |
| 5238   | 860501 | J87 | Family Hsg | Quid        |
| 5240   | 860501 | J87 | Family Hsg | Family Hsg  |
| 5243   | 860501 | J87 | Family Hsg | Family Hsg  |
| 5244   | 860501 | J87 | Family Hsg | Family Hsg  |
| 5246   | 860501 | J87 | Family Hsg | Quid        |
| 5247   | 860501 | J87 | Family Hsg | Quid        |
| 5248   | 860501 | J87 | Family Hsg | Family Hsg  |
| 5253   | 860501 | J87 | Family Hsg | Family Hsg  |
| 5254   | 860501 | J87 | Family Hsg | Family Hsg  |
| 5261   | 860501 | J87 | Family Hsg | Family Hsg  |
| 5262   | 860501 | J87 | Family Hsg | Family Hsg  |
| 5263   | 860501 | J87 | Family Hsg | Family Hsg  |
| 5264   | 860501 | J87 | Family Hsg | Family Hsg  |
| 5266   | 860501 | J87 | Family Hsg | Family Hsg  |
| T-034  | 860501 | J87 | 6031-07    | Elem School |
| T-035  | 860501 | J87 | 6031-07    | Elem School |
| T-043B | 860501 | J87 | Family Hsg | Family Hsg  |

**FIGURE I-2**

| BLDG. NO. | VACATE DATE | FY  | PROJECT    | REASON      |
|-----------|-------------|-----|------------|-------------|
| T-043D    | 860501      | J87 | Family Hsg | Family Hsg  |
| T-055     | 860501      | J87 | Family Hsg | Family Hsg  |
| T-064C    | 860501      | J87 | 6031-07    | Elem School |
| T-101     | 860501      | J87 | Family Hsg | Family Hsg  |
| T-102     | 860501      | J87 | Family Hsg | Quid        |
| T-103     | 860501      | J87 | Family Hsg | Quid        |
| T-104     | 860501      | J87 | Family Hsg | Family Hsg  |
| T-105     | 860501      | J87 | Family Hsg | Quid        |
| T-106     | 860501      | J87 | Family Hsg | Family Hsg  |
| T-107     | 860501      | J87 | Family Hsg | Family Hsg  |
| T-120     | 860501      | J87 | Family Hsg | Quid        |
| T-139     | 860501      | J87 | Family Hsg | Family Hsg  |
| T-146     | 860501      | J86 | Family Hsg | Family Hsg  |
| T-146A    | 860501      | J86 | Family Hsg | Family Hsg  |
| T-167     | 860101      | J86 | Family Hsg | Quid        |
| T-170     | 860501      | J86 | Family Hsg | Quid        |
| T-174     | 860501      | J86 | Family Hsg | Family Hsg  |
| T-176     | 860101      | J86 | Family Hsg | Family Hsg  |
| T-180     | 870401      | F85 | DODDS MCON | Elem School |
| T-181     | 860101      | F85 | DODDS MCON | Elem School |
| T-182     | 860101      | J86 | Family Hsg | Family Hsg  |
| T-182A    | 860501      | J86 | Family Hsg | Family Hsg  |
| T-198     | 860501      | J87 | 6031-07    | Elem School |
| T-201     | 860605      | J87 | Family Hsg | Quid        |
| T-202     | 860501      | J86 | Family Hsg | Quid        |
| T-203     | 860501      | J86 | Family Hsg | Quid        |
| T-204     | 860501      | J86 | Family Hsg | Quid        |
| T-226     | 860101      | F85 | DODDS MCON | Elem School |
| T-227     | 860101      | F85 | DODDS MCON | Elem School |
| T-228     | 860501      | J86 | Family Hsg | Quid        |
| T-230     | 860501      | J86 | Family Hsg | Quid        |
| WR-002    | 860501      | J86 | Family Hsg | Family Hsg  |
| WR-004    | 860501      | J86 | Family Hsg | Family Hsg  |
| WR-006    | 860501      | J86 | Family Hsg | Family Hsg  |
| WR-008    | 860501      | J86 | Family Hsg | Family Hsg  |
| WR-011    | 860501      | J86 | Family Hsg | Family Hsg  |



**BLDG: 5128 BRIG- TO BE DEMOLISHED**



**BLDG: 5201 MEDICAL- TO BE DEMOLISHED**

**FIGURE I-3**

are analyzed: "Programmed" Demolition.

## 1. PROGRAMMED DEMOLITION

The programmed demolition at Camp McTureous is illustrated by Plate I-1, representing the demolition associated with projects approved for design and construction. The probability of these demolitions is assumed by the status of the associated construction project.

## C. CONSTRUCTION EPISODES

### 1. 1986 CONSTRUCTION/DEMOLITION

Construction activity for calendar year 1986 is illustrated by Plate I-2.

The McTureous Elementary School had started construction early 1986 (DoDDS 88715-D). The school will provide the adequate learning stations for the military and civilian dependent children residing at Camp Courtney and Camp McTureous. The bulk of the demolition of the existing facilities will commence in mid-1986 for the preparation of 625 Military Family Housing units.

### 2. 1987 CONSTRUCTION ACTIVITIES

Construction activity for calendar year 1987 is illustrated by Plate I-3.

The 624 units of family housing (MC-6031-00) will commence construction in mid 1987 under the

GOJ, FIP Program. There will be one highrise and 2 mid-rise buildings providing 156 (3 bedroom) units, the two floors quadruplexes providing 96 (3 and 4 bedroom) units, sixplexes providing 312 (2, 3, and 4 bedroom) units, and eightplexes providing 80 (2 bedroom) units. The Government of Japan will determine the phasing of construction.

### 3. 1988 CONSTRUCTION ACTIVITIES

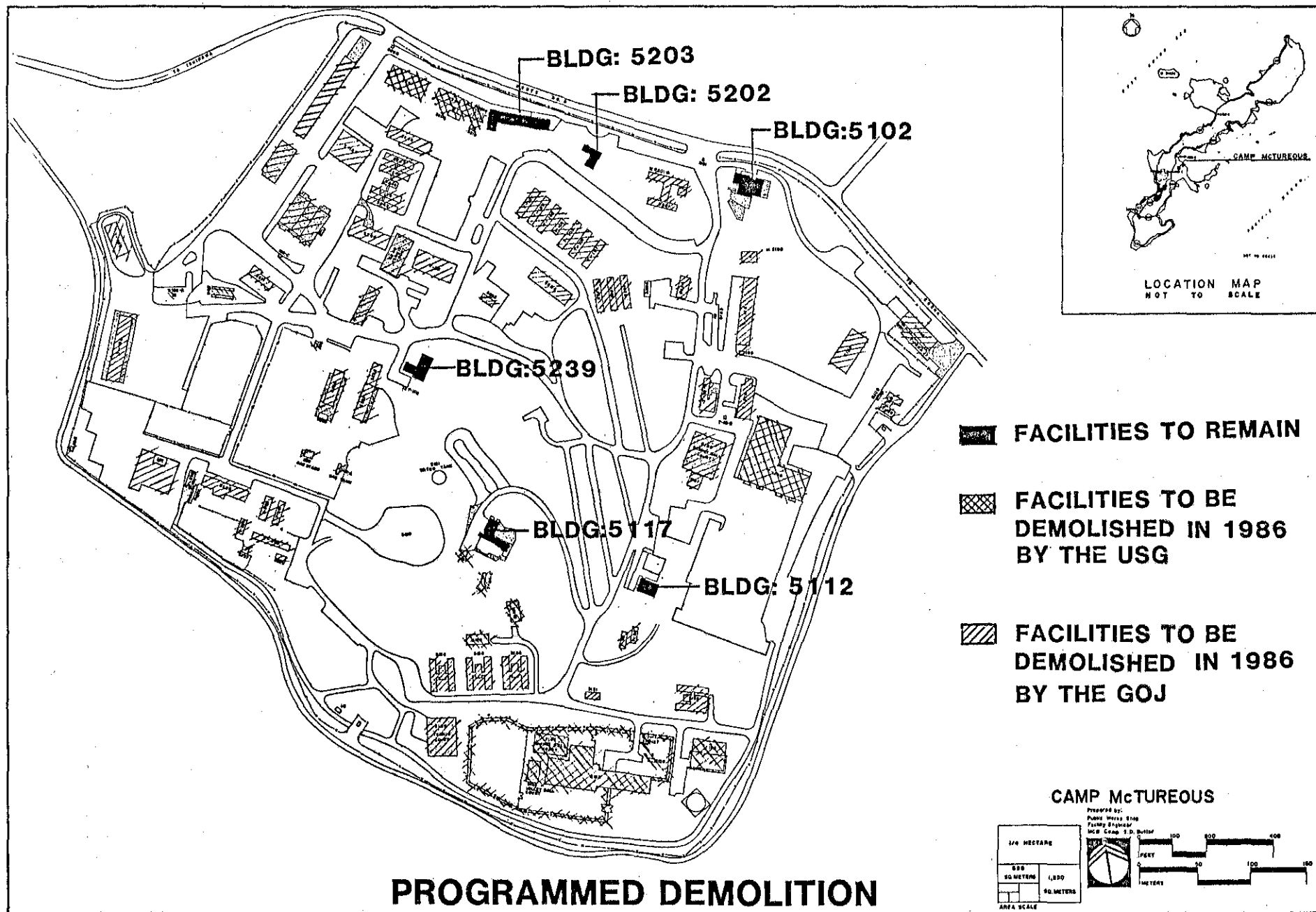
Construction activities for calendar year 1988 is illustrated by Plate I-4.

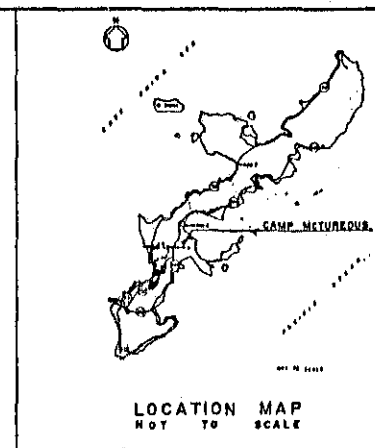
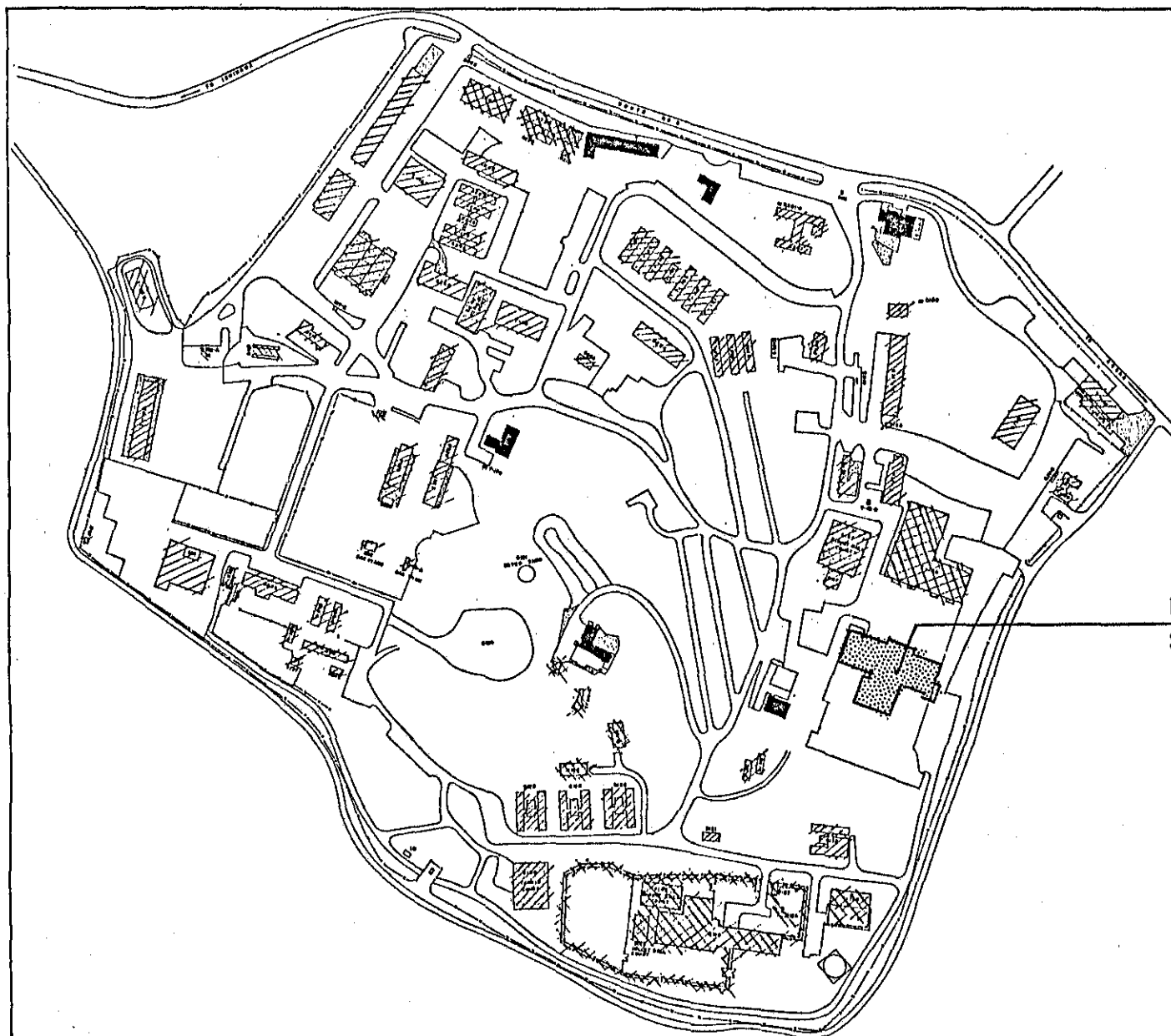
The Elementary School Expansion (MC-6031-07) will commence construction mid-1988. The school expansion will support the children that will live in the new family housing areas at Camps Courtney and McTureous. Adjacent to the school, a 25 meter swimming pool with bath house and wading pool, football/soccer field, softball field, volleyball court, and basketball court will also start construction in late 1988. Buildings T-34, T-35, T-198, 5127, 5128, 5129, 5131, and 5134 will be demolished.

### 4. 1989 CONSTRUCTION ACTIVITIES

Construction activities for calendar year 1989 is illustrated by Plate I-5.

Building 5112 will be converted to a Youth Center (OK801R). Building 5203 will be converted to a Child Care Center/Pre-School (OK803R), and a new tennis court will be provided (OK802R). All planned for construction in early 1989 using HQMC construction funds.

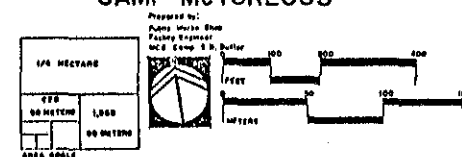




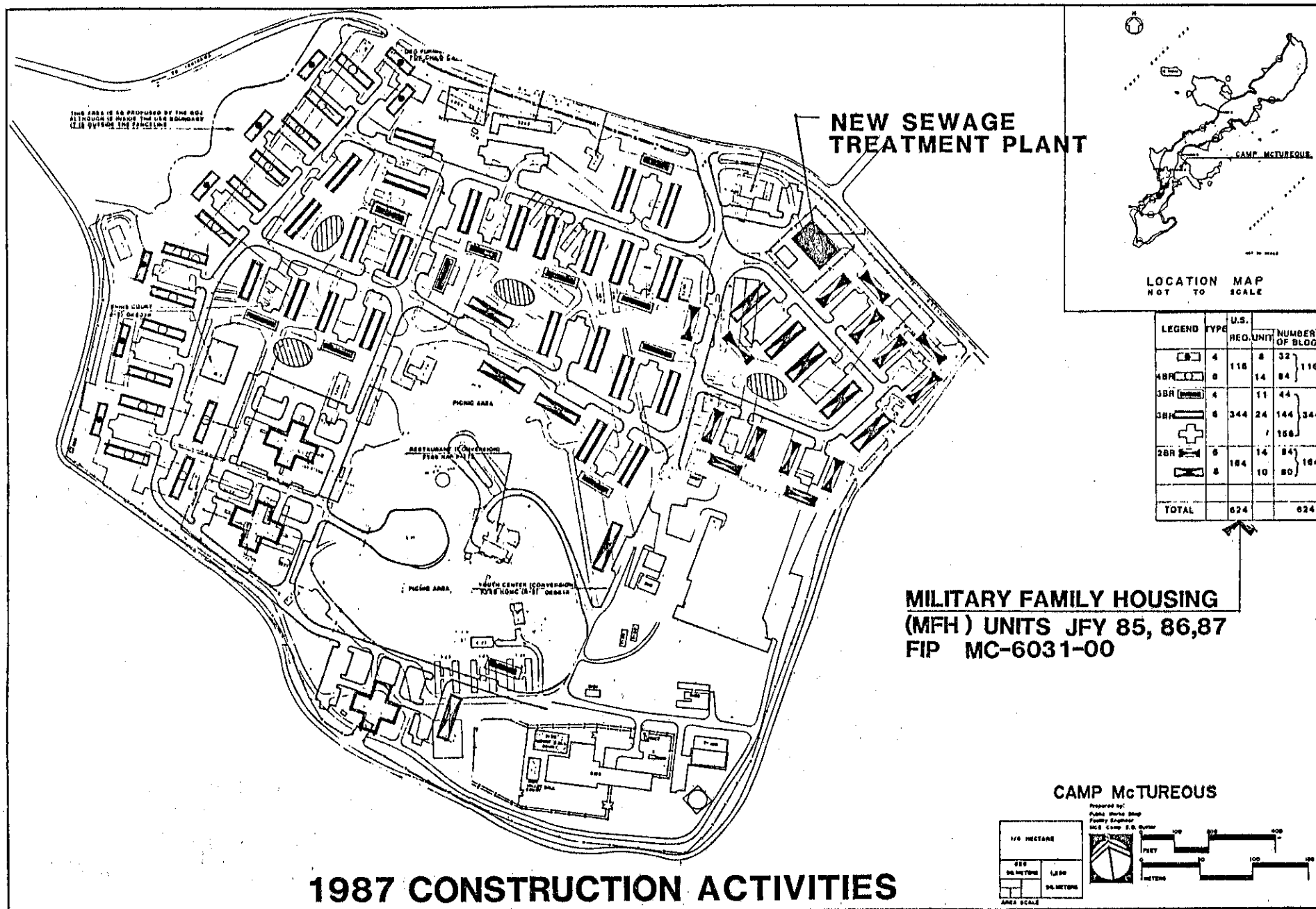
# **McTUREOUS ELEMENTARY SCHOOL MCON FY85**

**1986 CONSTRUCTION/DEMOLITION**

## **CAMP MCTUREOUS**

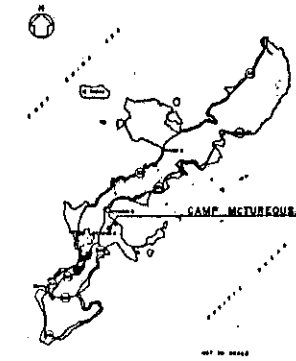
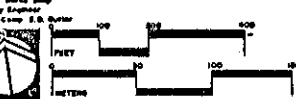


**PLATE I-2**



# CAMP MCTUREOUS

Prepared by:  
Public Works Shop  
Family Engineer  
MCS Camp 2.8. Quarter

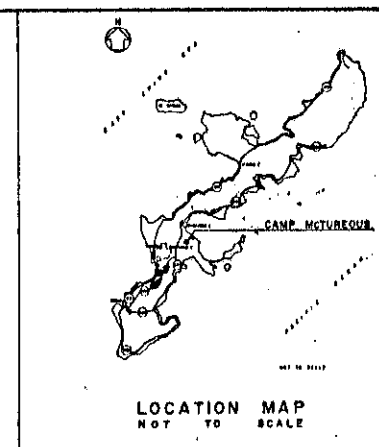
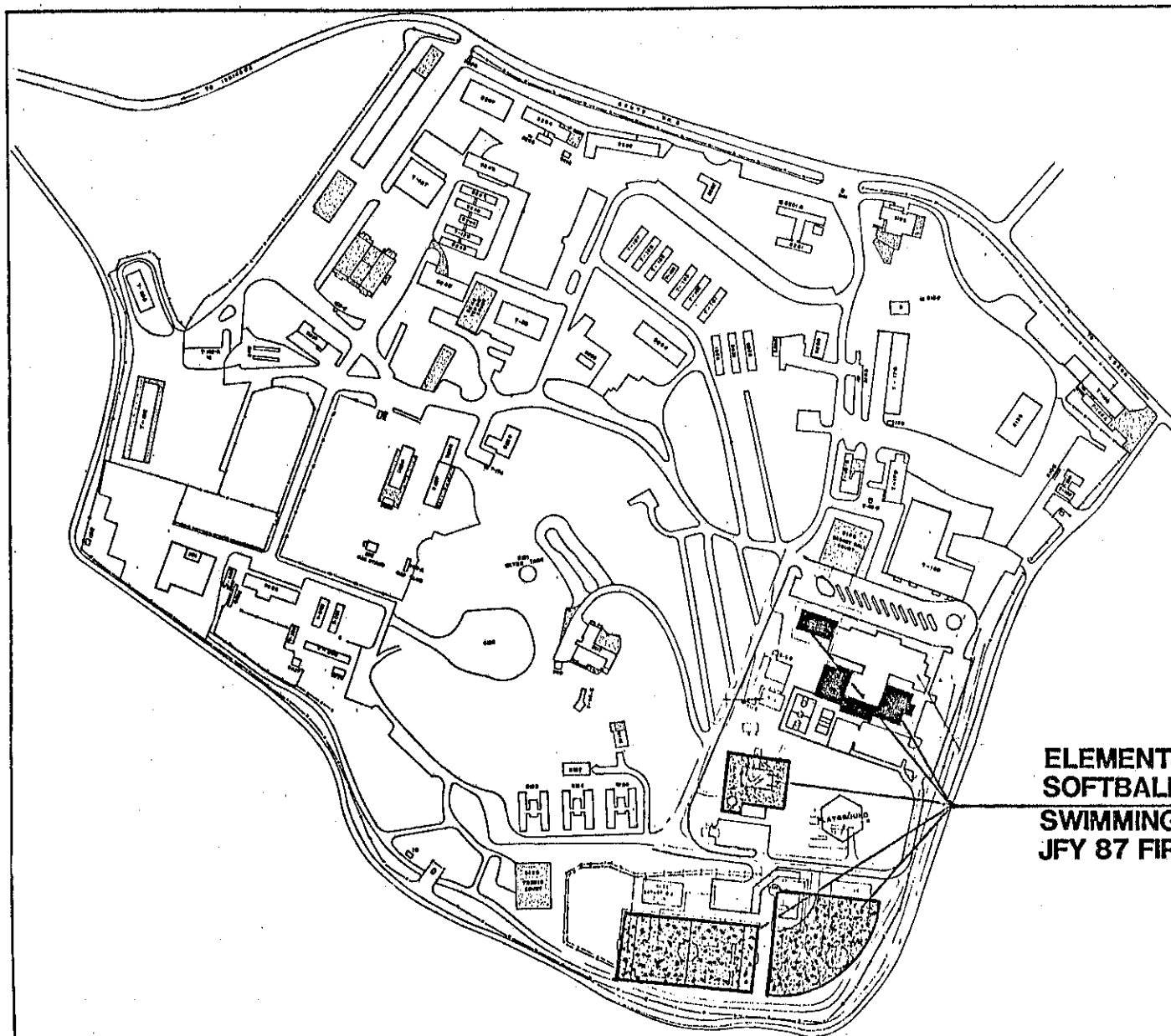


LOCATION MAP  
NOT TO SCALE

| LEGEND | TYPE | U.S.<br>REQ. UNIT | NUMBER<br>OF BLOC. |
|--------|------|-------------------|--------------------|
| 1BR    | 4    | 116               | 8 32               |
| 4BR    | 0    | 14                | 84                 |
| 3BR    | 4    | 11                | 44                 |
| 3BR    | 6    | 344               | 24 144             |
| 2BR    | 6    | 184               | 14 84              |
| 2BR    | 6    | 10                | 80                 |
| TOTAL  |      | 624               | 624                |

**MILITARY FAMILY HOUSING  
(MFH) UNITS JFY 85, 86, 87  
FIP MC-6031-00**

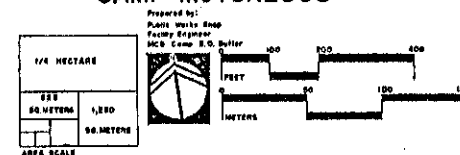
## 1987 CONSTRUCTION ACTIVITIES



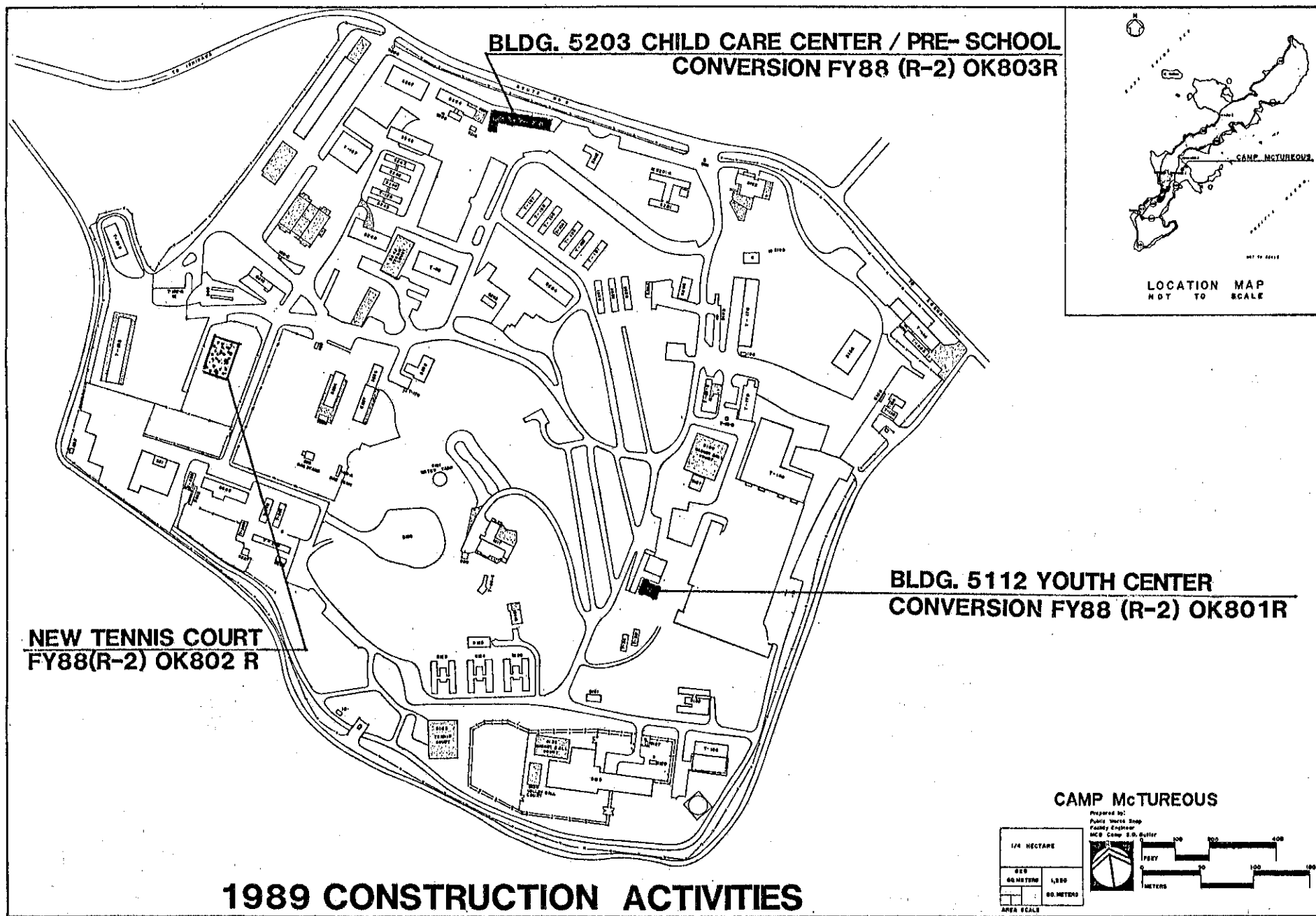
**ELEMENTARY SCHOOL EXPANSION /  
SOFTBALL & SOCCER FIELDS /  
SWIMMING WITH BATHHOUSE**  
JFY 87 FIP-MC 6031-07

**1988 CONSTRUCTION ACTIVITIES**

**CAMP MCTUREOUS**



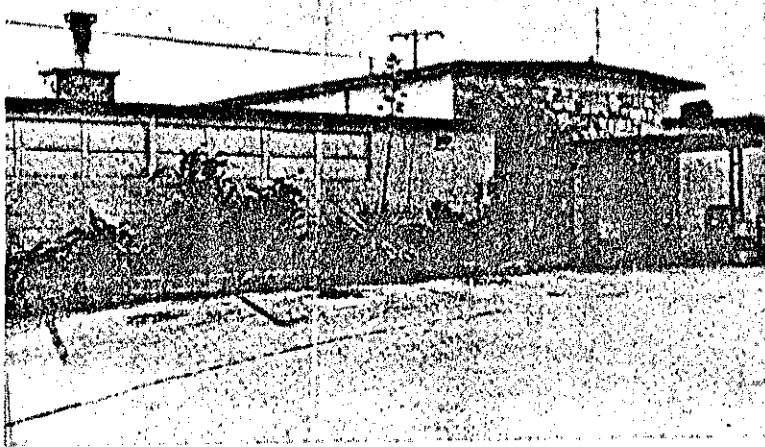
**PLATE I-4**



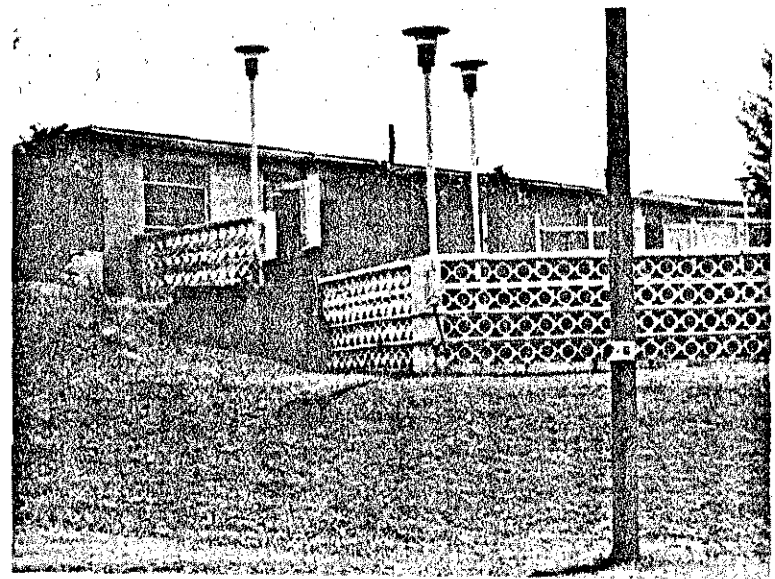
## 5. 1990 CONSTRUCTION ACTIVITIES

Construction activities for calendar year 1990 is illustrated by Plate I-6.

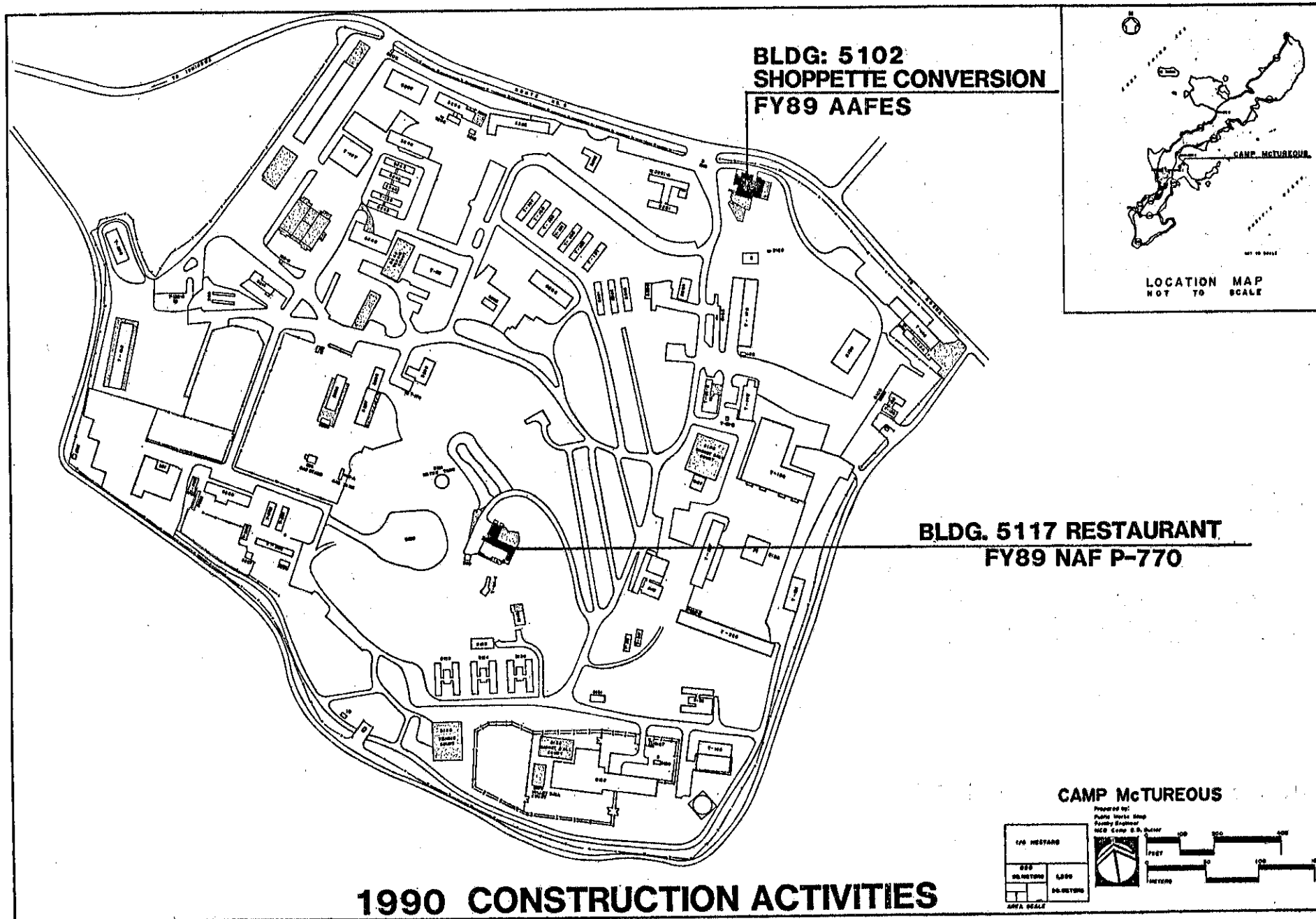
Building 5102 will be converted to a Shoppette, and Building 5117 to a restaurant (P-770). These two facilities will support the proposed 624 family housing units at Camp McTureous. The construction on both conversions are planned in early 1990, using the NAF program fund.



**BLDG: 5117 WEST ELEVATION**

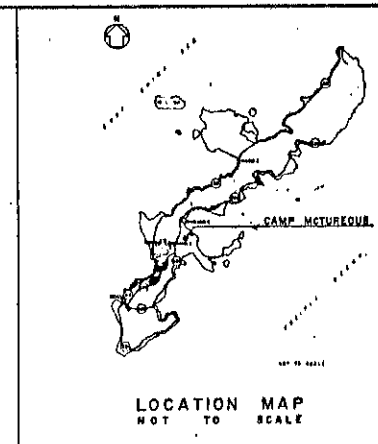
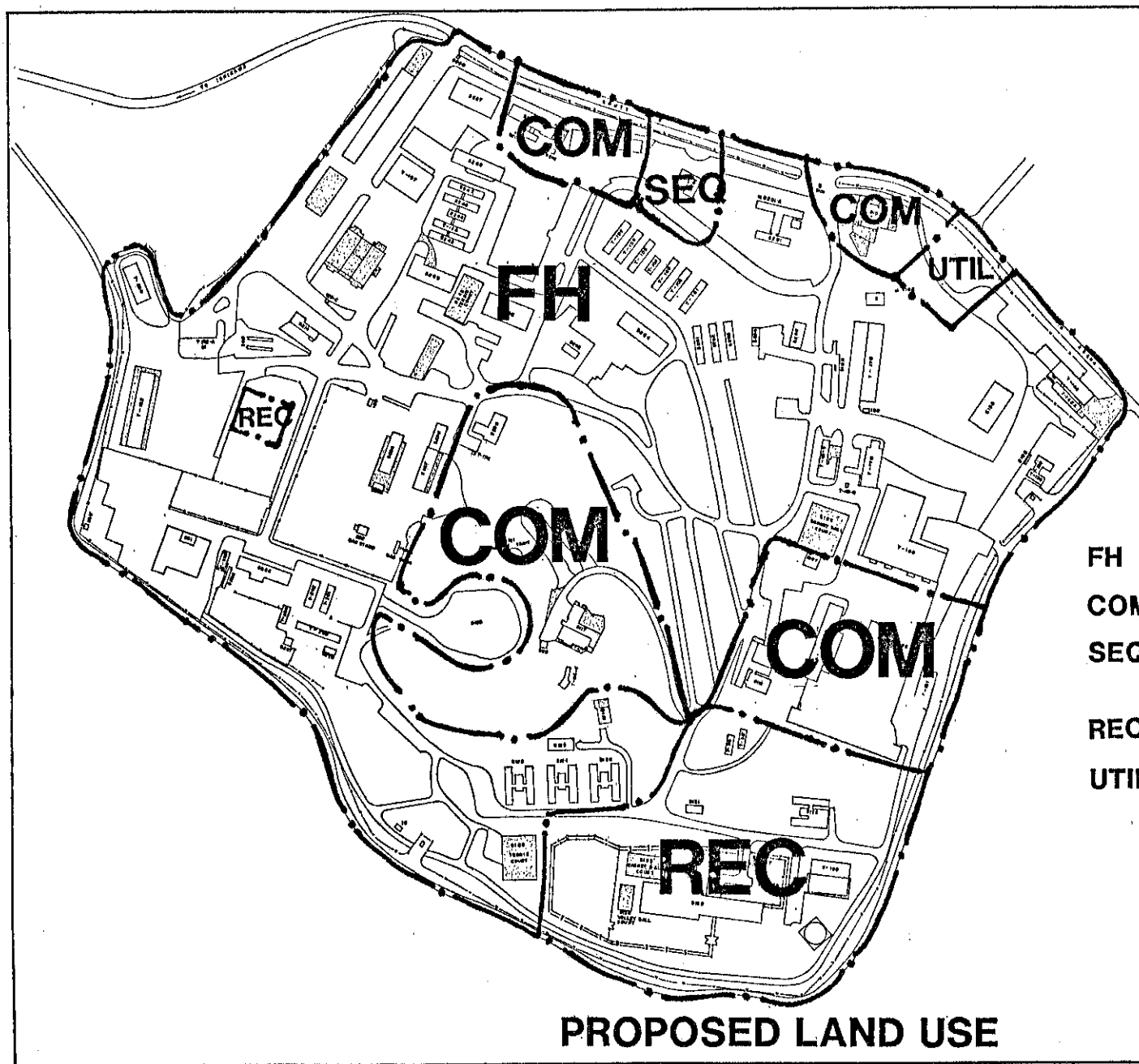


**BLDG:5102 SOUTH ELEVATION**



**1990 CONSTRUCTION ACTIVITIES**

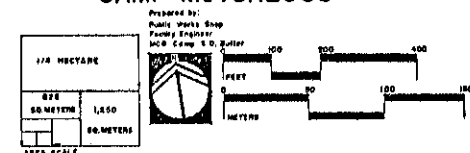
**PLATE I-6**



### LEGEND

- FH - FAMILY HOUSING
- COM - COMMUNITY SUPPORT
- SEQ - SENIOR ENLISTED QUARTERS
- REC - RECREATIONAL
- UTIL - UTILITIES

### CAMP McTUREOUS



**PROPOSED LAND USE**

# **ENVIRONMENTAL PROGRAMS AND PRELIMINARY ENVIRONMENTAL ASSESSMENT (PEA)**

## **PREPARERS:**

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**and**

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CEC, USN, Assistant Public Works Officer  
Public Works Branch,  
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P. O. Box 395  
FPO Seattle, WA 98773-5000**

## **MASTER PLAN FOR CAMP McTUREOUS**

**Prepared in accordance with Chapter 3,  
Section 2 of MCO P11000.8B.  
in Compliance with Section 102(2)(c) of  
The National Environmental Policy Act (NEPA of 1969**

# PRELIMINARY ENVIRONMENTAL ASSESSMENT

## 1. INTRODUCTION

This is a PEA for a Master Plan. It is intended to identify broad areas of impact of planning proposals contained in the Master Plan and will not examine, in detail the environmental impact of each and every project.

Components of the Master Plan will have impact upon the environment, and certain projects may have significant impact. PEAs are prepared for individual projects as required for Military Construction (MCON) submission procedures and in accordance with MCO P11000.8B, Chapter 3, Section 2. PEA's are not prepared by US Forces for individual projects under the Japanese Facilities Improvements Program (JFIP). The Government of Japan has the responsibility to prepare environmental assessments in accordance with their regulations.

## 2. NAME OF ACTION

MASTER PLAN FOR CAMP MCTUREOUS

(X) Administrative      ( ) Legislative

## 3. DESCRIPTION OF ACTION

### A. INTRODUCTION

The project is a Master Plan for Camp McTureous, Okinawa, Japan. It is a document which provides guidelines for future land use and facilities development for the mid-range time frame (three to eight years). Camp McTureous is a component installation of Marine Corps Base Camp Smedley D. Butler, which provides housing, training facilities, logistic support and administrative support for Fleet Marine Force units on Okinawa. MCB Camp Butler consists of eight major camps spread over a distance of 50 kilometers in length, encompassing 81,456 acres with more than 3,527 buildings and structures with a replacement value in excess of 1.3 billion dollars. Major construction projects proposed for Camp McTureous are to be used for military family housing, community support, morale and welfare, and an elementary school.

### B. EXISTING SITE CHARACTERISTICS

Camp McTureous is located in the central portion of Okinawa on the eastern (Pacific) side of the island. It is approximately 1/2 mile southwest of the Camp Courtney REX Area along Okinawa Highway 8, between the villages of Takoji and Agena. Camp McTureous is located in the northern population centroid of MCB Camp Butler.

Camp McTureous is part of the Naha geologic formation. Most of Camp McTureous consists of a quartz-sand member of well-cemented limestone, with a dominant calcarenite outcrop rising 185 feet above sea level. The Okinawa clay loam and Chinen stony clay soils found at Camp McTureous and related, fertile, well-drained clayey soils which occur on limestone plains.

The calcarenite outcrop centrally located is covered by rough stony land, with several inches of crumbly clay and clay loam over bedrock, interspersed with bare outcrops.

Surface water drains into the Tengan River or percolates into the groundwater system.

## **C. DEVELOPMENT**

Construction projects for Camp McTureous are categorized under the following headings:

### **1. JFIP PROJECTS**

The following projects are programmed under the Japanese Facilities Improvement Program:

- A. MILITARY FAMILY HOUSING, JFY 85/86/87  
MC-6031-00
- B. ELEMENTARY SCHOOL EXPANSION/SOFTBALL &  
SOCCER FIELDS/SWIMMING POOL AND  
BATHHOUSE, JFY87  
MC-6031-07

- C. NEW SEWAGE TREATMENT FACILITY  
MC-6031-00

## **2. MILITARY CONSTRUCTION PROGRAM**

The following project is programmed under the Military Construction Program:

- ELEMENTARY SCHOOL, FY85  
DODDS

## **3. NON-APPROPRIATED FUND PROGRAM**

The following projects are programmed under the NAFI Program:

- A. RESTAURANT CONVERSION, FY89  
P-770
- B. SHOPPETTE CONVERSION, FY88

## **4. HQMC PROJECTS**

The following projects are programmed as Headquarters Marine Corps construction or repair projects:

- A. YOUTH CENTER CONVERSION, FY88  
HQMC OK801R
- B. RELOCATE TENNIS COURT, FY88  
HQMC OK802R
- C. CHILD CARE CENTER/PRE-SCHOOL CONVERSION,  
FY88  
HQMC OK803R

## **D. ENVIRONMENTAL POLLUTION CONTROL**

The Marine Corps shall program to upgrade fixed facilities provided by the US and operated by the Marine Corps, where such upgrading is necessary to meet the Government of Japan (GOJ) Basic Law for Environmental Pollution Control. Planning proposals include consideration that would minimize the disruption of the environment during construction.

In compliance with Executive Order 12088, a PEA is required to ensure that construction and operation of facilities outside the United States complies with the environmental pollution control standards of general applicability of the host country. This general requirement is extended by Article III of the Status-of-Forces Agreement (SOFA) which specifies that all US facilities and areas in use by US Forces are to be operated with due regard for public safety.

In light of these requirements, the only existing facilities with routine operations generating significant potential for adverse effect to the environment will be the Sewage Treatment Plant operated by the Facilities Engineer, Marine Corps Base Camp Butler. This facility is shown on Plate J-1.

## **4. IMPACTS ON THE ENVIRONMENT**

### **A. NATIONAL AND INTERNATIONAL ENVIRONMENT**

The plan will have impact on the international

environment as the installation is located in Okinawa, Japan.

## **B. PRIMARY IMPACTS**

### **1. ECONOMIC**

The economy will improve slightly when Japanese Yen and U.S. dollars are provided for construction. Employment for the local population will assist the economy.

### **2. WATER**

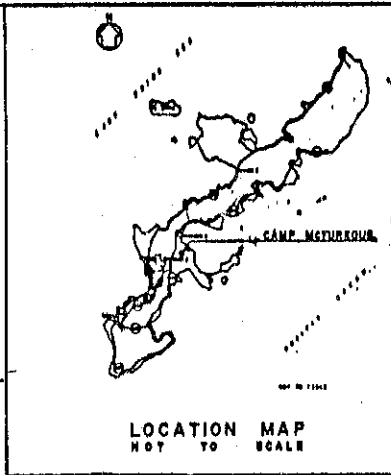
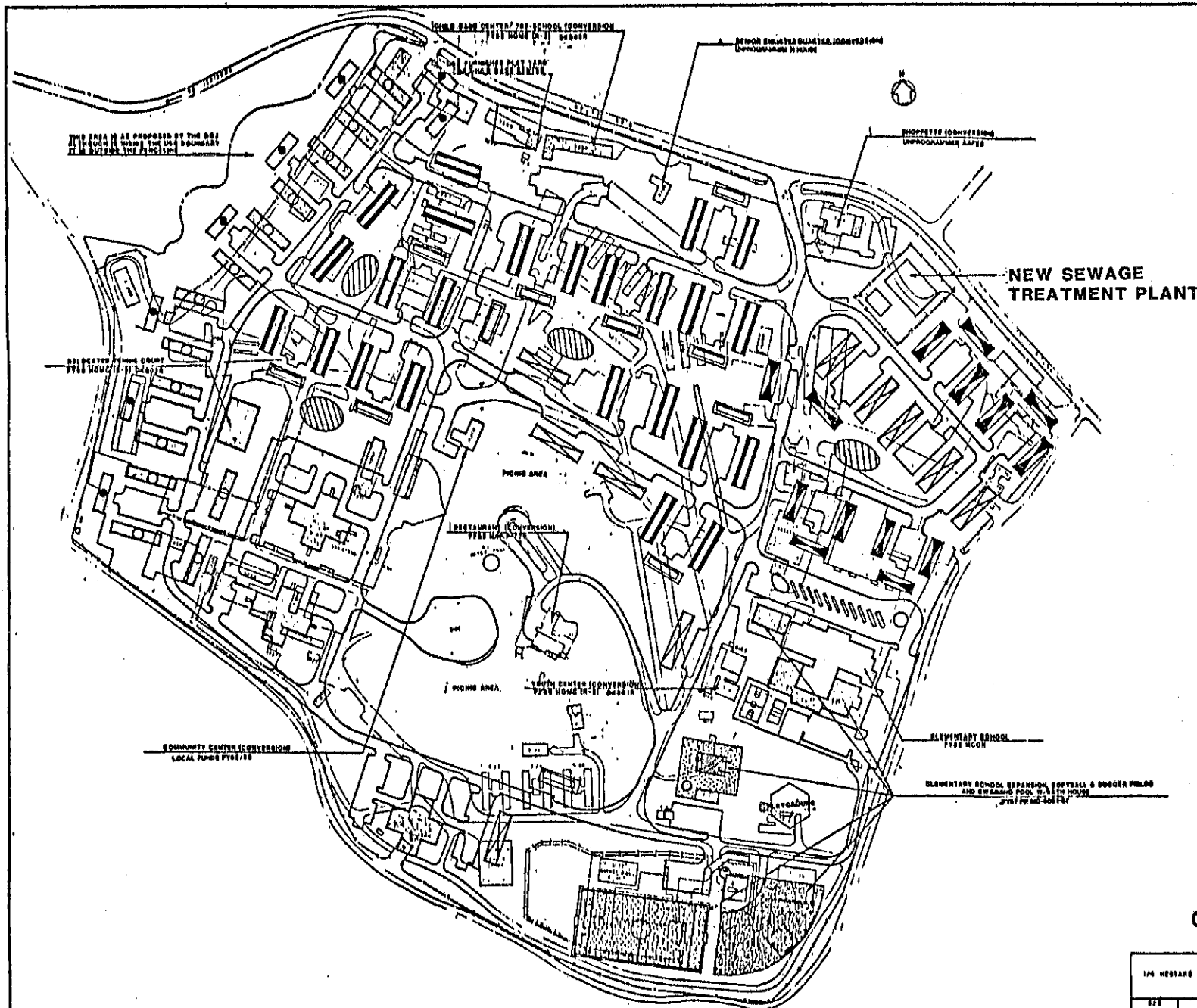
The overall water consumption is expected to increase considerably. But the increased consumption will not affect water quality nor facilitate any water shortage.

### **3. SEWAGE**

There will be a considerable increase in sewage flows which has been taken into account in planning for the new Sewage Treatment Plant. The quality of the effluent is expected to be well above the minimum quality requirement set by the GOJ Ministry of Health and Welfare Ordinance No. 35.

### **4. SOLID WASTE**

An overall increase in solid waste generation is expected. Solid waste disposal throughout Okinawa is by sanitary landfill. Maintenance contracts for solid waste disposal are handled by the Facilities Engineer, MCB Camp Butler.

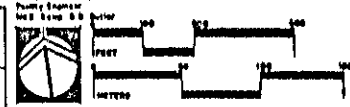
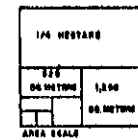


| LEGEND       | TYPE | U.S.       | REQ. UNIT | NUMBER OF BLDG. |
|--------------|------|------------|-----------|-----------------|
|              | A    | 118        | 8         | 38              |
|              | B    | 14         | 84        | 118             |
|              | C    | 11         | 44        |                 |
|              | D    | 344        | 24        | 144             |
|              | E    | 184        | 14        | 84              |
|              | F    | 10         | 80        | 164             |
| <b>TOTAL</b> |      | <b>624</b> |           | <b>624</b>      |

PLAYGROUND

# ENVIRONMENTAL ASSESSMENT

## CAMP McTUREOUS



## **5. ENERGY**

There will be an increase in the consumption of electrical power. Energy consumption features, however, will be incorporated in the design and construction of new facilities to conserve energy. No power shortages are expected to occur.

## **6. TRANSPORTATION**

The impact on transportation will congest rush-hour traffic at key intersections between Military Family Housing areas and work locations around Camp McTureous. Some alleviation is planned through the acquisition of a right-of-way between Camp McTureous and Camp Courtney, for use by commuters, shoppers, and School Buses.

## **7. AESTHETICS**

Camp McTureous is gifted aesthetically by the central hills at the camp, the old trees, and the historic tombs. These will remain basically undisturbed throughout the construction period. Exterior painting of buildings has been color-coordination, and landscaping projects have been developed and will be implemented. Dump and Borrow sites used for JFIP construction projects are required to be reclaimed using natural plant associations typical of the area, and are reviewed by the Public Works Branch, Facilities Engineer Division, Marine Corps Base Camp Butler.

## **8. FLORA AND FAUNA**

Some removal of vegetative cover is unavoidable due to the intense development of the Camp. However, no rare nor endangered species are known to inhabit Camp McTureous.

## **9. CONSTRUCTION**

Temporary noise, dust, erosion, and transportation problems are expected. These impacts will occur only during the construction of the projects.

## **10. HISTORIC SITES**

Historic or cultural sites on the Camp have been identified and where possible all planned construction has respected these sites. The urbanization of South Camp McTureous necessitated the removal of few tombs with the concurrence of tomb owners, who were reimbursed by the Government of Japan prior to construction of Military Family Housing. A large hill, centrally sited on Camp McTureous, remains an aesthetic resource as well as a cultural site, and has been considered a major constraint during the planning process.

# **5. ALTERNATIVES TO THE PLAN**

## **A. PROPOSED DEVELOPMENT**

Implementation of the Master Plan offers the advantage of maximizing the utilization of

existing and to-be-developed resources at Camp McTureous, while at the same time, integrating concepts to protect and enhance the environment into the development scheme.

## **B. NO ACTION**

If no changes are made to the Camp, the installation would be severely limited to its present state of development, requiring the continued use of many substandard facilities. This would severely hinder the Camp activities in performing assigned missions and would cause a deterioration of personnel morale due to substandard and/or non-existent military family housing and support facilities conditions.

## **C. ALTERNATIVE LOCATIONS**

Alternative sites on other military controlled lands were evaluated during the planning process. Over a period of two years, the Public Works Branch at MCB Camp Butler published a family of draft Master Plans which interlocked all facilities requirements for MCB Camp Butler. Where reassignment of proposed projects to a different installation enhanced mission requirements, reduced adverse environmental impact, or improved the overall holism of the planning process, such reassignments were made during the two year evolution.

The final Camp McTureous Master Plan represents an important milestone in the planning of MCB Camp Butler. However, it will be continuously updated to insure that alternative solutions are

evaluated and incorporated, where they represent improved optimization of the holistic Master Plan for Marine Corps Base.

## **D. STAGED IMPLEMENTATION**

This alternative is similar to the "Proposed Development" alternative, as the planned projects recommended by this Master Plan will be implemented on an individual basis. In fact, the Master Plan considered construction sequencing and the probability of construction as two important factors in developing a realistic Master Plan.

## **6. UNAVOIDABLE EFFECTS**

No major adverse environmental effects are foreseen which are unavoidable should the Master Plan be implemented.

## **7. RELATIONSHIP TO LAND USE PLANS**

The following are relationships of the proposed action to land use plans, policies, and controls for the affected area:

### **A. FEDERAL**

There is no specific approved Federal Land Use Plan for MCB Camp Butler, other than the land use categories identified for use in this Master Plan. These will become an approved Federal Land Use Plan when the Master Plan is approved by the Commandant of the United States Marine Corps.

## **B. GOVERNMENT OF JAPAN AND LOCAL**

In general, the GOJ and local government land use policies do not designate specific land uses for military controlled real estate. One exception is the GOJ's plan to retain the mountainous region on northern Okinawa in its natural state, for potable and industrial water supply development. The Marine Corps Base Family of Master Plans recognizes this requirement and recommends that only compatible uses be permitted in the restricted areas. Camp MCTureous proper is not affected by this requirement. All development proposed by this Plan is compatible with adjacent non-military land uses. The Master Plan does not propose any major change in land use that would conflict with existing civilian land uses.

## **8. COMMITMENTS OF RESOURCES**

The proposed Master Plan does involve some irreversible and irretrievable commitments of resources should the Plan be implemented. Labor, materials, and funds used for the construction of the projects concerned would be irretrievably lost, although the land areas could be recovered and restored at any time by the removal of the structures and reclaiming of the project site through planting of vegetation similar to that found on-site, or through natural succession.

## **9. CONSIDERATIONS**

Several considerations offset the stated adverse environmental effects on the proposed Master Plan. The adoption and implementation of the Master Plan would result in more effective operations, conservation of resources, and preservation of the environment: all of which insure the readiness of military forces in Okinawa. These benefits more than offset the minor adverse environmental impacts generated by the proposed Plan.

## **10. SUMMARY OF IMPACTS**

### **A. ECONOMIC**

The local economy would benefit significantly as US or GOJ monies are expended to construct new facilities useable and developable lands to the local population.

### **B. WATER**

Overall water consumption is expected to increase, but within the capability of the island-wide utility system to accommodate the increased demand.

### **C. SEWAGE**

Proposed construction projects will result in increased sewage discharge from a new sewage treatment plant. The discharge is expected to be well within local and national standards.

## **D. SOLID WASTE**

There will be an increase in solid waste generation. This will present no significant problem for local landfill disposal.

## **E. ENERGY**

Increased consumption of electricity is expected due to the extensive construction of new facilities. The increase is, however, within the capacity of the island-wide utility system to accommodate the increased demand.

## **F. TRANSPORTATION**

There will probably be some unavoidable increase in automobile congestion during peak traffic hours.

## **G. AESTHETIC**

Minimal change.

## **H. FLORA AND FAUNA**

Minimal impact.

## **I. CONSTRUCTION**

Temporary noise, dust, drainage, and transportation impacts would occur during construction.

## **J. HISTORIC SITES**

Known historic and cultural sites on Camp McTureous have been identified and will be protected, except for those tombs which by agreement with the owners have been removed for Military Family Housing at South Camp Courtney.

# BIBLIOGRAPHY

DoD standard 5154.45, Explosives Safety Quantity Distance

NAVFAC P-80, Parts I and II, Facility Planning Factors for Naval Shore Activities

NAVFACENGCOMINST 11010.63B  
Subj: Master Plans for Navy and Marine Corps Shore Activities

OPNAVINST 6240.3D (24 April 1975)  
Subj: Environmental Protection Manual

PACNAVFACENGCOM Regional Profile, Navy/Marine Corps Activities, Okinawa 1978

PACNAVFACENGCOM Master Plan, Camp Smedley D. Butler, Okinawa, Japan, September 1980

U.S. Army Engineer District, Okinawa, Ryukyu Islands, Sewerage Study for Misato-Son and Gushikawa-Shi, April 1970. Pacific A&E, Okinawa Office.

MILWATER-OKI, Study of water requirements for DoD facilities on Okinawa, prepared by M&E Pacific, Inc. for PACNAVFACENGCOM, June 1983.

Military Geology of Okinawa-Jima, Ryukyu-Retto Vol V Geology prepared under the direction of the Chief of Engineers, U.S. Army, with personnel of the U.S. Geologic Survey (1959).

Utilities Improvement Program Survey Report, MCB Camp S. D. Butler, Okinawa, Japan, February 1977, prepared by PACNAVFACENGCOM.

Electric Power Survey, MCB Camp S. D. Butler, Okinawa, Japan, 1978, prepared by PACNAVFACENGCOM.

MILPRO-OKI, Military Property Requirements in Okinawa, Japan, September 1982, prepared by PACNAVFACENGCOM.

Development of Camp Beautification Plan, U.S. Marine Corps, Camp Butler, Okinawa, Japan prepared for Facility Engineer, MCB, Camp Butler by Onuma and Onuma Associates, July 1983.

Family Housing and Community Development, Preliminary Criteria Package for South Courtney and Camp McTureous, March 1982, prepared for Japan District, U.S. Army, Corps of Engineers.

Okinawa Regional Profile published by PACNAVFACENGCOM, September, 1985.

Camp Courtney Master Plan (Final) unpublished.

MCB Camp Butler Recreational Master Plan (Draft), unpublished.

Joint Services Development Plan for Military Family Housing, published by USMC/USAF/USN/USA Okinawa, 12 September 1985.

# APPENDIX L-1

## HOUSING AGREEMENT

AGREEMENT BETWEEN THE UNITED STATES AIR FORCE  
AND UNITED STATES MARINE CORPS RELATIVE TO  
HOUSING AND COMMUNITY SUPPORT FOR US FORCES,  
OKINAWA PREFECTURE, JAPAN

## 1. OVERVIEW

a. The United States Air Force and the United States Marine Corps, by this document, agree to develop plans to accommodate conversion of all eligible Marine billets on Okinawa from dependents restricted to an accompanied tour status, while improving the existing deficit of housing and community support facilities of all services already assigned to Okinawa.

## 2. ASSUMPTIONS

a. The Government of Japan, through the Japanese Facilities Improvement Program (JFIP), will provide all Military Family Housing (MFH) and the majority of Community Support Facilities (CSF) toward this initiative.

b. No major mission or force structure changes of US units on Okinawa will occur.

c. The number of Marine accompanied tours will be about 4,400 once the initiative is completed.

d. Land will be made available by the Japanese to support required housing.

## 3. AGREEMENTS

a. As executive agent, the United States Air Force will:

### (1) Manage Military Family Housing

(a) Program and submit for funding through the JFIP to COMUSJAPAN all MFH required by US Forces stationed on Okinawa.

(b) Program and fund those activities integral to the Base Operating Support (BOS) of Military Family Housing on Okinawa pursuant to DoD Directive 7150.4.

(c) Provide all Government Furnished Equipment (GFE) for the new housing construction.

(2) Manage Commissary System - Program additional facilities and manpower requirements to support newly constructed joint housing sites in such a time sequence as to permit availability within three years after beneficial occupancy of the MFH, consistent with the realities of funding sources, JFIP or Air Force Surcharge Revenues.

### (3) Manage Exchange System

(a) Ensure that adequate exchange service is identified and sited for the additional housing areas and increased number of families.

(b) Continue to operate, man and equip all exchanges.

(c) Distribute Army and Air Force Exchange dividends in accordance with existing policies and procedures.

(4) Manage Youth Activities - Continue to manage youth activities on Okinawa.

b. The United States Marine Corps will:

(1) Limit the growth of command-sponsored tours consistent with the construction of housing and essential community support facilities, i.e. schools, commissaries, exchanges, and medical/dental facilities.

(2) Program support facilities for Marine installations on Okinawa.

(3) Duplicate program community support facilities that are considered essential but are not funded by the GOJ through JFIP in a timely manner. This programming will be such that construction by MILCON or NAF will generally occur within three years after the JFY for which originally programmed.

(4) Separately manage a Marine Corps child care program.

(5) Determine the appropriate sizing, siting, and phasing of Marine Corps MWR facilities on Marine Corps installations.

(6) Separately manage the Marine Corps club system and ensure that adequate club facilities are provided for Marines on Okinawa.

#### 4. GENERAL

a. Those support facilities that are not single-service managed or exclusively used by the occupants of family housing will be managed, operated and funded (to include Real Property Maintenance Activities (RPMA) by the host installation commander. Certain facilities that are individually managed by the Services will also be operated and funded by the host installation commander. Specific facilities are listed below:

(1) Clubs

(2) Child Care centers

(3) Libraries

(4) MWR Facilities (excluding single-service managed facilities)

b. Host US installation commanders will provide RPMA support for single-service managed community support facilities located on their property on a reimbursable basis.

#### 5. ACCOMPANIED TOURS

a. During the period, FY85 and beyond, the increases in accompanied tours by the Marine Corps will be 68% of the number (net) of new quarters built and available for occupancy in the respective USFY.

b. Should the projected size of the increase in Marine accompanied tours

significantly change, then the size (percentage) of the increases will be reevaluated.

c. Should there be a shortfall in essential community support facilities, i.e., schools, commissaries, exchanges, and medical/dental facilities (due to JFIP fallout or reduction, US MILCON appropriation, or other unforeseen circumstances) a reevaluation of accompanied tour increase for all services should be conducted.

d. Phasing of the personnel increases for accompanied tours will be an annual basis.

e. Assignment to quarters will be on a first-come, first-serve basis in accordance with DOD/AFR 90-1. The assignment to quarters policy will not use a set-aside of units by Service or separate waiting lists. Waiting list will be integrated and reflect equal access by all eligible enlisted and officer personnel assigned to the area. The single-service manager for family housing recognizes the requirement to incorporate wherever possible the assignment policies of other Services.

## 6. PRINCIPLES

a. Community Support Facilities (CSF) must be evaluated by all services involved, in terms of actual necessity, to determine if they should be considered Essential or Highly Desired.

(1) Essential CSF should be programmed with judgement, considering the finite JFIP funding and, when possible, should

be built concurrently with MFH. In the event the facility cannot be completed simultaneously with MFH, it should be completed within three years of the MFH Beneficial Occupancy Date (BOD).

(2) Highly Desired CSF are those considered important to improve quality of life, but not essential. These facilities should be programmed no later than five years after completion of a family housing area.

b. The services on whose real estate a CSF is to be built should sponsor and program its construction in the JFIP. The agency which ultimately will operate the facility must program and fund dollars, manpower, and collateral equipment. Exception: CSF that are single-service managed.

c. For those facilities that will be single-service managed, the service on whose installation the facility will exist and the executive agent will mutually size and site the facility. The executive agent will sponsor and program the construction in the JFIP and fund for manning, equipping, and operating the facility.

d. All facilities will be provided as much as practicable through JFIP. Due to the finite resources of JFIP, it is realized that some projects may undergo unsatisfactory funding slippage. To preclude this slippage from having an adverse effect on quality of life related facilities, the following guidelines will be used:

(1) Essential community support facilities planned for concurrent construction with new MFH, but not funded by the Government of Japan (GOJ) through JFIP in a timely manner, will be included in appropriate service programming for construction by MILCON or NAF to become generally available within three years after the JFY in which originally programmed.

(2) A project funded by the host nation may not be included in the MILCON budget. Programming of projects in both MILCON programs and host nation-funded construction programs is authorized beyond the first year of the current program objective memorandum (POM).

e. Formulation of the Development Plans for Okinawa

(1) HQMC/Air Staff jointly develop a set of instructions that directs COMMARCORBASESPAC/PACAF to formulate a general development plan for Okinawa using the Engineering Study for Site Development of Military Housing on Okinawa, prepared by the Army Corps of Engineers for PACAF as a general guideline. The general development plan should be prepared at the lowest level and submitted through COMMARCORBASESPAC/PACAF for approval at the HQMC/Air Staff level. The general development plan will be the basis for manpower requirements and costing information. Additionally, it will be submitted to the Deputy Secretary of Defense as requested.

(2) This plan should include:

(a) A site sequencing plan taking into account the existing political constraints.

(b) The determination of which camps and housing areas contained in each "centroid".

(c) The determination of which CSF are considered Essential or Highly Desired will be by mutual service agreement. Once these priorities are established, the siting of CSF within each "centroid" must be agreed upon by the executive agent for MFH and the service component commander on whose installation it will be located.

(d) The source for electrical power, water and telephone service and sewage disposal must be identified for each housing area.

(e) An evaluation of site availability versus the total new requirement will clarify the need for additional unencumbered land if political constraints cannot be overcome.

(f) An estimate of the total manpower requirements to support the increases in accompanied tours.

(g) An estimate of the total cost to support the increases in accompanied tours.

(3) Once the general development plan

is completed, detailed planning will be undertaken in two phases:

(a) Phase A - By 1 February 84, formulate a three year detailed plan which will be used as the basis for JFY 85-87 JFIP submissions. This plan should include:

1 A detailed layout of proposed housing to include type structure and bedroom mix. Also included must be the CSF associated with that building site, and

2 All associated utilities

(b) Phase B - By 1 August 1984, formulate detailed plans for the remainder of the available sites. These plans should include enough flexibility to increase the density of MFH units and to:

1 Ensure that each "centroid" contains 100 percent of the essential CSF for the quantity of MFH it will contain.

2 Ensure the requirements for additional military vehicles and the existing support facilities, i.e., vehicle maintenance shops, fuel storage, etc. are adequate to absorb the increased requirements and are considered.

3 Ensure that parking facilities are adequate for POVs.

4 Ensure that the adequacy of present MAC air terminal is reviewed and it

is adequate to handle the projected increase in workload. Modifications or additions to the air terminal must be incorporated in this plan, if required.

5 Ensure that the adequacy of the port facility to handle the additional HHG shipments is reviewed with a view toward increasing capability if required. Requirements to increase the facility with regard to POV shipments are not considered necessary since all US vehicles made subsequent to 1975 are restricted from Okinawa.

6 Ensure that communication requirements are considered and incorporated, if necessary.

(4) These plans should be reviewed on an annual basis for the purpose of refining or modifying as required. The review process should be timed to allow the changes to be reflected in annual JFIP submissions.

SIGNED

21 Dec, 1983

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L. D. WELCH  
Lt. General, U.S. Air Force

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W. R. MALONEY  
Lt. General, U.S. Marine Corps

# APPENDIX L-2

## MEMORANDUM OF UNDERSTANDING

MEMORANDUM OF UNDERSTANDING BETWEEN COMMANDER  
313TH AIR DIVISION (PACAF) AND COMMANDING  
GENERAL MARINE CORPS BASE, CAMP SMEDLEY D.  
BUTLER, OKINAWA.

MEMORANDUM OF UNDERSTANDING

BETWEEN

COMMANDER

313TH AIR DIVISION (PACAF)

AND

COMMANDING GENERAL

MARINE CORPS BASE

CAMP SMEDLEY D. BUTLER, OKINAWA

SUBJECT: Housing and Community Support for US Forces, Okinawa

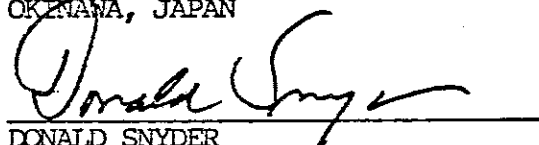
- A. PURPOSE: The purpose of this Memorandum of Understanding (MOU) is to supplement the agreement between the United States Air Force (USAF) and United States Marine Corps (USMC) signed on 21 December 1983.
- B. SPECIFIC PROVISIONS: The USMC and USAF agree that for the period of FY 86 and 87 the increase in USMC accompanied tours will be 68 percent of the net increase in quarters built and ready for occupancy during the two-year period. These will be appointed as follows:

| <u>FY</u> | <u>INCREASE</u> | <u>CUMULATIVE TOTAL</u> |
|-----------|-----------------|-------------------------|
| 86        | 225             | 1,720                   |
| 87        | 236             | 1,956                   |

Any adjustments due to change in the actual net increase will be made in the allocation for FY 88.

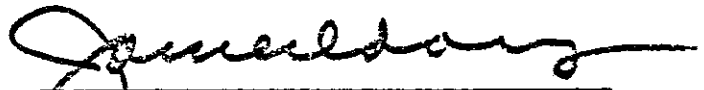
- C. EFFECTIVE DATE: This MOU is effective immediately with the signature of the USAF and USMC Commanders and supersedes the MOU dated 1 and 2 February 1984.

FOR 313TH AIR DIVISION  
KADENA AIR BASE,  
OKINAWA, JAPAN



DONALD SNYDER  
Brigadier General, USAF  
Commander

FOR MARINE CORPS BASE  
CAMP SMEDLEY D. BUTLER  
OKINAWA, JAPAN



JAMES L. DAY  
Major General, USMC  
Commanding General

Date 5 MAR 86

Date 86.2.6

FOR OFFICIAL USE ONLY NOFORN

# APPENDIX L-3

## PLANT INVENTORY

This appendix provides an inventory of natural and cultivated plants at Camp McTureous. The inventory was conducted in May 1986 by the Public Works facility engineers, MCB, Camp Smedley D. Butler, Okinawa, Japan.

1. SMALL SAGO PALM

Local Name: Sotestu

Scientific Name: Cycas revoluta Thunb

Place of Origin: Southern Japan

Morphology: Mature Height = 8 feet  
Crown spread (30 years) = 10 feet

Blossoming season: March - April

Soil: a. Can be grown in direct sunlight or  
shady areas.  
b. Wind resistance, poor.

Remarks: 1. Generally too fragile for use in  
housing areas on parks.  
2. Do not plant closer than five feet  
from buildings, sidewalks, roads,  
sewer, or water lines.

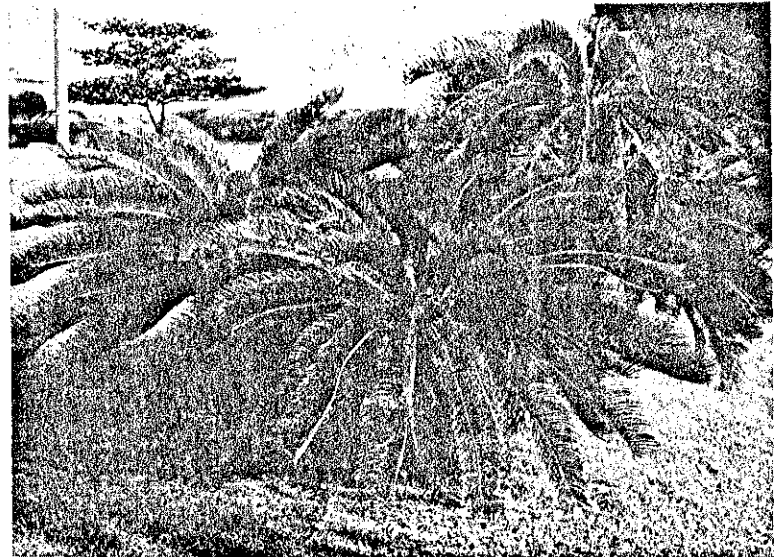
Maintenance: Remove dead leaves.

When to apply fertilizer: Apply \* Tsubohi  
Mar-May and use organic ferti-  
lizer.

Harmful Insects (Season): Scale Insect,  
Sept-Oct.

Treatment (Pesticide): Jimateate....dilute  
w/water one part to 1,000. Apply  
three times, once every ten days.

\* See Plant Maintenance



## 2. LUCHU PINE

Local Name: Ryukyumastu

Scientific Name: Pinus Luchuensis Mayr.

Place of Origin: Okinawa

Morphology: Evergreen tree

Blossoming season: N.A.

Soil:

- a. Affinity to sunlight.
- b. Able to withstand saline environment.
- c. Rapid growth.

Remarks:

- 1. Okinawa prefectural tree.
- 2. Grows well in sunny areas, acidic and pedocal soil.

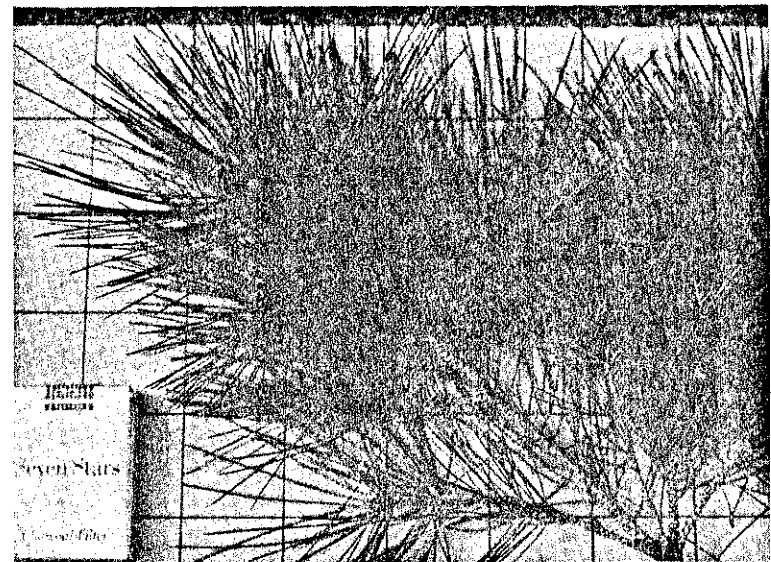
Maintenance: Cut dead or broken branches.

When to apply fertilizer: Apply \*Tsubohi  
Mar-May, Sep-Oct and use organic  
fertilizer.

Harmful Insects (Season): Pine engraver.

Treatment (Pesticide): Pinetex...dilute w/water  
one part to 50. Sept-Dec, as  
protection, diseased tree should  
be cut down and burned.

\* See Plant Maintenance



### 3. NORFLOLK CEDAR

Local Name: Kobanonyosugi

Scientific Name: Araucaria heterophylla

Place of Origin: Norfolk Island

Morphology: Evergreen tree

Blossoming season: N/A

Soil: a. Affinity to sunlight.  
b. Able to withstand saline.  
c. Rapid growth.

Remarks: 1. This tree is naturally symmetric.  
Care should be taken when pruning  
so as not to cut off the upper  
trunk of the tree.  
2. Excellent wind resistance.

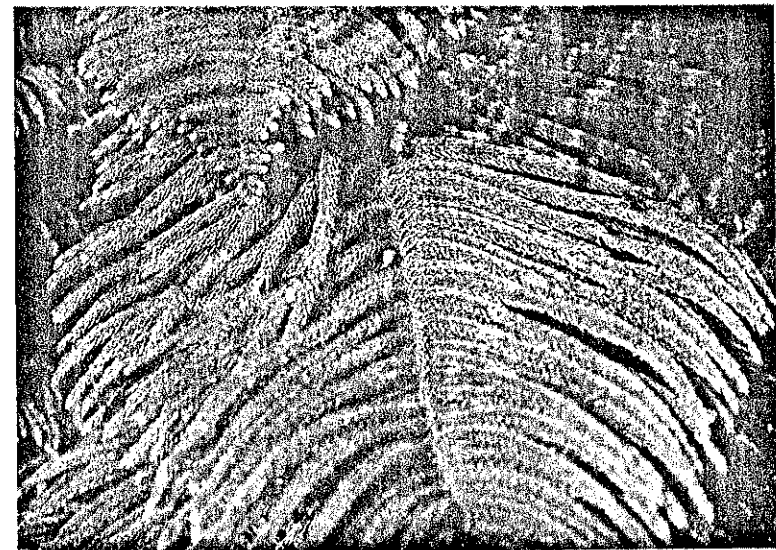
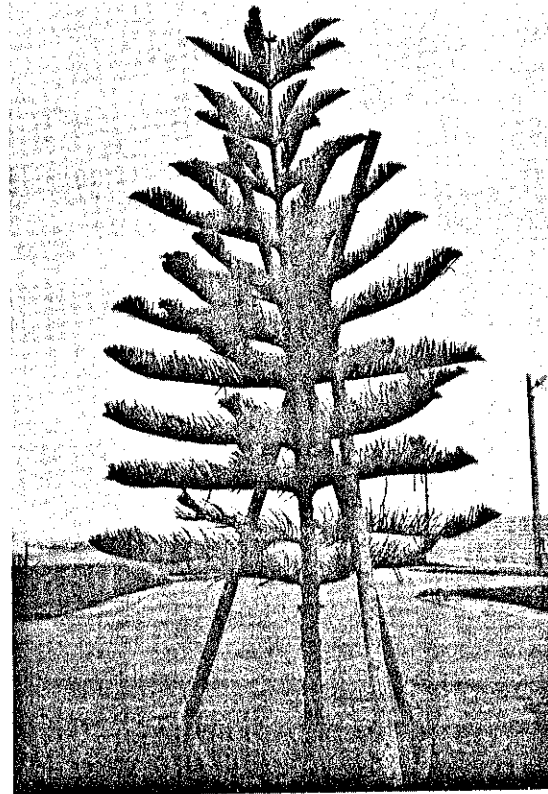
Maintenance: Remove dead branches.

When to apply fertilizer: Apply \* Tsubohi  
Mar-April, Sept-Oct and use  
organic fertilizer.

Harmful Insects (Season): N/A

Treatment (Pesticide): N/A

\* See Plant Maintenance



#### 4. INDIAN LAUREL

Local Name: Gajimaru

Scientific Name: Ficus retusa L.

Place of Origin: Southern Japan, China, Taiwan,  
India, Malaysia, Australia.

Morphology: Evergreen tree

Blossoming season: February - March.

Soil: a. Affinity to sunlight.  
b. Able to withstand saline environment.  
c. Rapid growth.

Remarks: 1. After maturing, this plant will  
have a large root and limb system  
that is good for shade purposes.  
2. Pruning may be necessary.

Maintenance: Prune Feb-Mar

When to apply fertilizer: Apply \* Rinpi  
Mar-May, Sept-Oct and use organic  
fertilizer.

Harmful Insects (Season): Many varieties of  
caterpillars; June-July.

Treatment (Pesticide): Diputerex....dilute  
w/water one part to 1000. Apply  
anytime.

\* See Plant Maintenance



5. AKOU

Local Name: (Above same)

Scientific Name: Ficus wightiana wall.

Place of Origin: Southern Japan, Taiwan,  
Southern China (PRC) Indochina,  
Thailand, Western Malaysian Island.

Morphology: Evergreen tree.

Blossoming season: February - March

Soil: a. Affinity to sunlight.  
b. Able to withstand saline  
environment.  
c. Rapid growth.

Remarks: 1. Primarily used for shadetree.

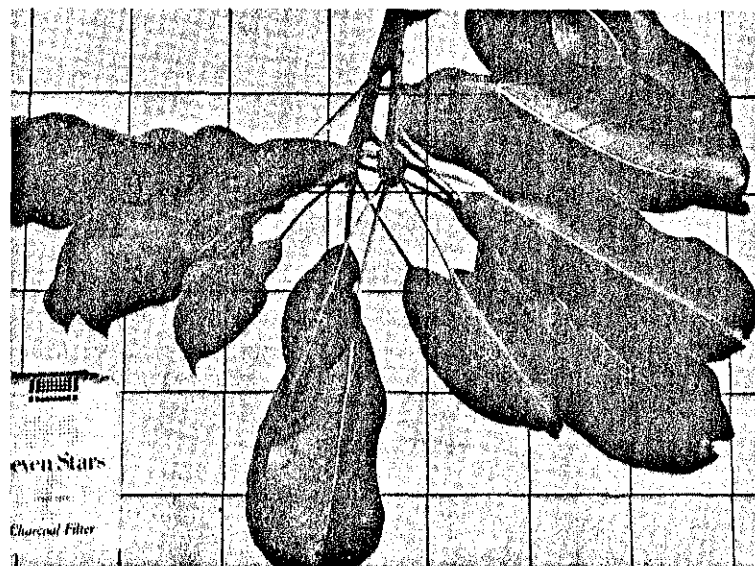
Maintenance: Remove dead branches.

When to apply fertilizer: Apply \* Tsubohi  
Mar-April, Sep-Oct and use organic  
fertilizer.

Harmful Insects (Season): Scale Insect.

Treatment (Pesticide): Jimateate...dilute  
w/water one part to 1000. Apply  
three times, once every 10 days.

\* See Plant Maintenance



## 6. TROPICAL ALMOND

Local Name: Momotamana

Scientific Name: Terminaria catappa

Place of Origin: Southern Japan (Okinawa),  
Taiwan, Southern China, India,  
Malaysia, Polynesia.

Morphology: Decidious tree

Blossoming season: June

Soil: a. Affinity to sunlight.  
b. Able to withstand saline environment.  
c. Normal growth.

Remarks: 1. Good shade.  
2. Good wind resistance.  
3. Leaves change color in autumn.

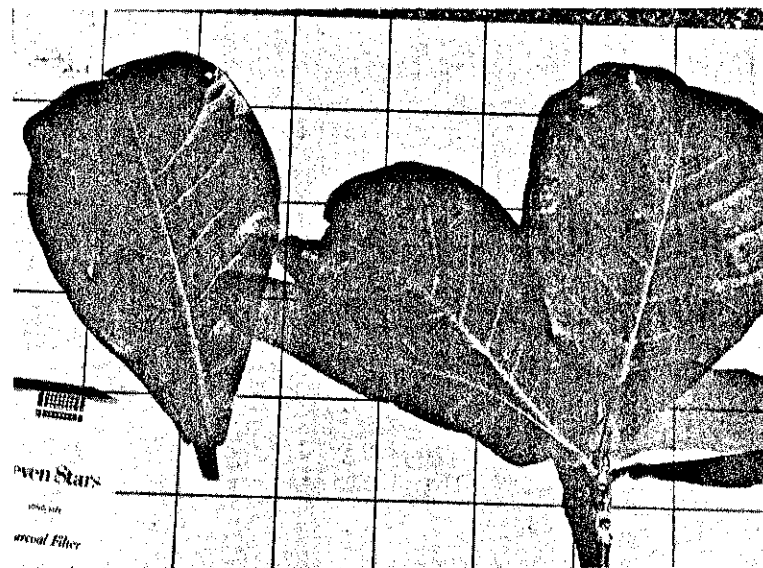
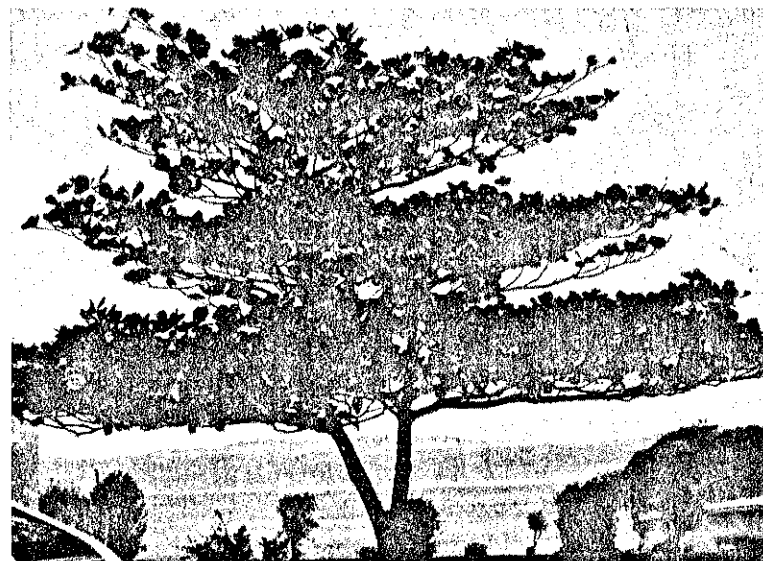
Maintenance: Remove dead or broken branches.

When to apply fertilizer: Apply \* Tsubohi  
Mar-April, Sept-Oct and use  
organic fertilizer.

Harmful Insects (Season): Oriental tussock  
moth, May-July.

Treatment (Pesticide): Diputerex....dilute  
w/water one part to 1000. Apply  
three times, once every 10 days.

\* See Plant Maintenance



## 7. CORAL TREE

Local Name: Deigo

Scientific Name: *Erythrina variegata* var.  
*orientalis merril*

Place of Origin: India

Morphology: Deciduous tree

Blossoming season: April - May.

Soil: a. Affinity to sunlight.  
b. Able to withstand saline environment.  
c. Rapid growth.

Remarks: 1. Okinawa prefectural flower.  
2. Good shadetree.

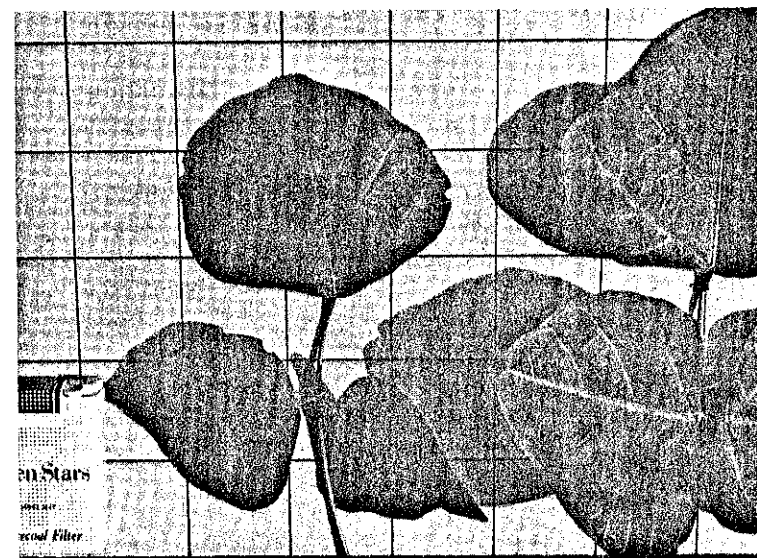
Maintenance: Cut dead or broken branches.

When to apply fertilizer: Apply \* Tsubohi  
May-June and use organic fertilizer.

Harmful Insects (Season): Scale Insect; Mar-Oct

Treatment (Pesticide): Jimateate....dilute  
w/water one part to 1000. Apply  
three times, once every 10 days.

\* See Plant Maintenance



## 8. SOSHIJU

Local Name: Soshiju

Scientific Name: *Acacia confusa* Merr.

Place of Origin: Southern Taiwan, Philippines

Morphology: Tree, deciduous

Blossoming season: April - May

Soil:

- a. Affinity to sunlight.
- b. Low saline environment.
- c. Rapid growth.

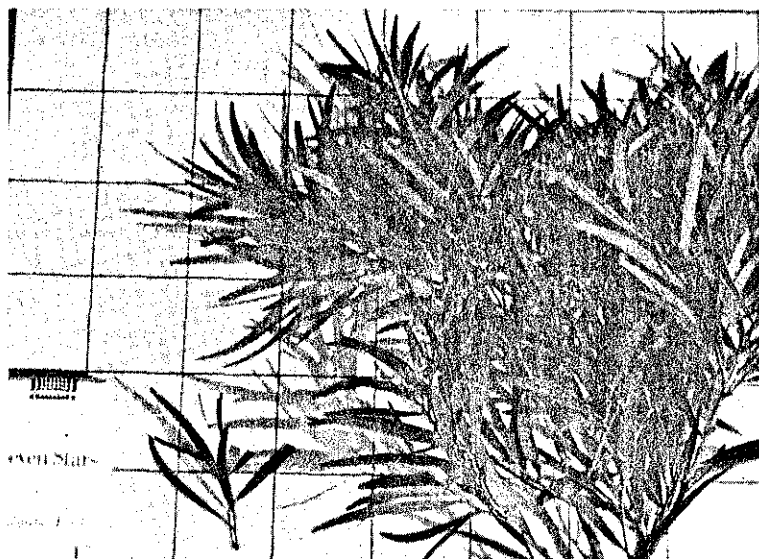
Maintenance: 1. Remove dead branches.

When to apply fertilizer: Apply \* Tsubohi  
Feb-April and use organic  
fertilizer.

Harmful Insects (Season): Scale Insect

Treatment (Pesticide): Jimateate....dilute  
w/water one part to 1000. Apply  
twice, once every 10 days.

\* See Plant Maintenance



## 9. COAST CASUARINA

Local Name: Mokumao

Scientific Name: Casuarina stricta Ait

Place of Origin: Australia

Morphology: Evergreen tree

Blossoming season: April

Soil:

- a. Affinity to sunlight.
- b. Able to withstand saline environment.
- c. Rapid growth.

Remarks: 1. Germinates rapidly pruning is necessary.

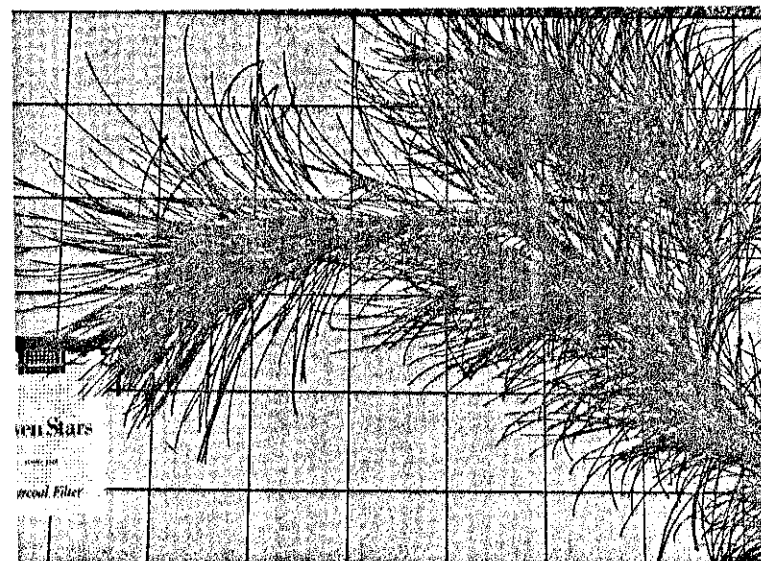
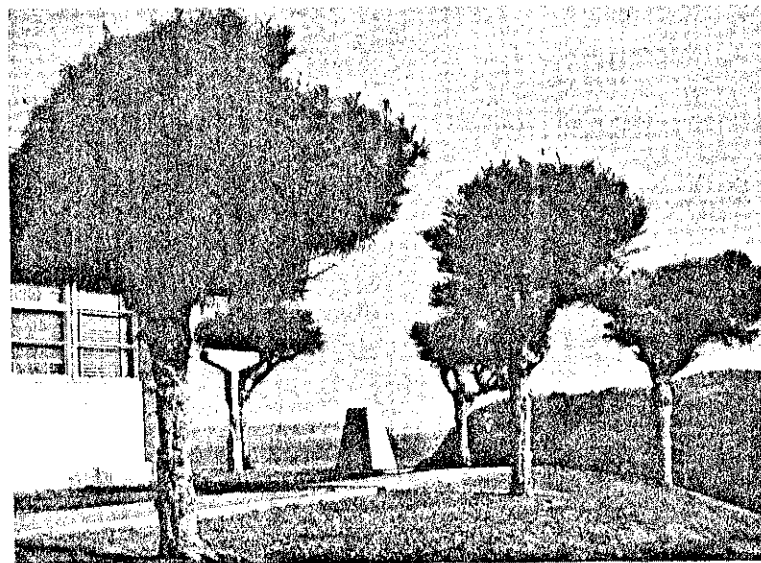
Maintenance: Prune Feb-Mar and before typhoons.

When to apply fertilizer: Apply \* Rinpi Mar-May and use organic fertilizer.

Harmful Insects (Season): Scale Insect

Treatment (Pesticide): Jimateate....dilute w/water one part to 1000. Apply three times, once every 10 days.

\* See Plant Maintenance



# 10. OLEANDER

Local Name: Kyochikuto

Scientific Name: Nerium Oleander and N. indicum

Place of Origin: Native to areas from Iran to Japan.

Morphology: Evergreen shrub  
Mature Height: 30 feet  
Crown spread: (30 years): 10 feet  
Flowers: white, pink violet, orange  
Depending on the plant year round.

Blossoming season: Depending on the plant, year round.

Soil: a.  
b.  
c.

Remarks: 1. The tree sap is poisonous, so caution should be taken.  
2. Can withstand saline soil and smokey environment.

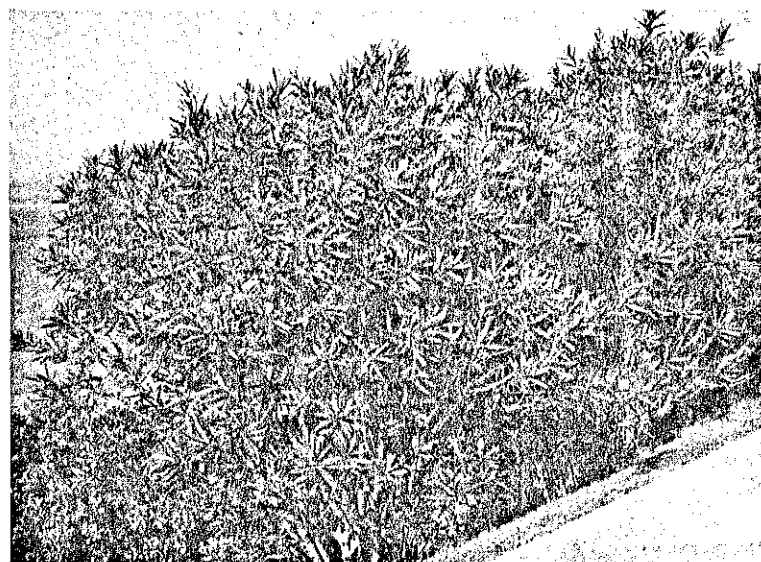
Maintenance: Prune Mar-April

When to apply fertilizer: Apply \* Tsubohi  
Feb-April, Oct-Nov and use organic fertilizer.

Harmful Insects (Season): Kyochikuto-suzumega  
July-Oct

Treatment (Pesticide): Jimateate or  
Diputerex...dilute w/water one  
part to 1000. Apply three times,  
once every 10 days.

\* See Plant Maintenance



11. CROTON

Local Name: Croton

Scientific Name: Codiaeum Variegatum L.

Place of Origin: Malaysia, Indonesia, Australia

Morphology: Shrublike evergreen.

Blossoming season: Year round.

Soil: a. Affinity to sunlight.  
b. Able to withstand saline environment.  
c. Rapid growth.

Remarks: 1. Sunshine gives good color to leaves.

Maintenance: Trim occasionally, need much irrigation in summer.

When to apply fertilizer: Apply \* Tsubohi Mar-April, Sept-Dec and use organic fertilizer.

Harmful Insects (Season): Scale Insect.

Treatment (Pesticide): Jimateate.....dilute w/water one part to 1000. Apply three times, once every 10 days.

\* See Plant Maintenance



## 12. CHINESE HIBISCUS

Local Name: Hibiscus

Scientific Name: Hibiscus rosa-sinensis L.

Place of Origin: East India

Morphology: Evergreen shrub

Blossoming season: March-December

Soil: a. Affinity to sunlight.  
b. Normal saline environment.  
c. Rapid growth.

Remarks: 1. Since this plant blossoms throughout the year it can be used to beautify certain areas.  
2. Grows in any type of soil.  
3. Pruning is necessary.

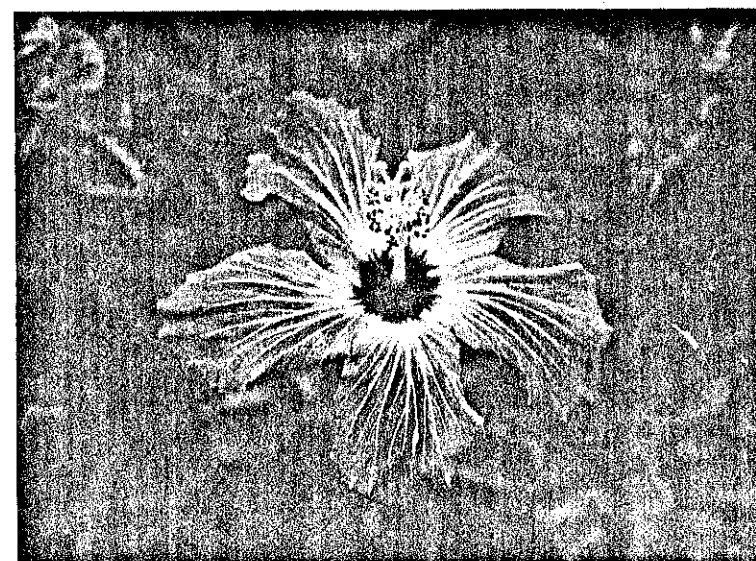
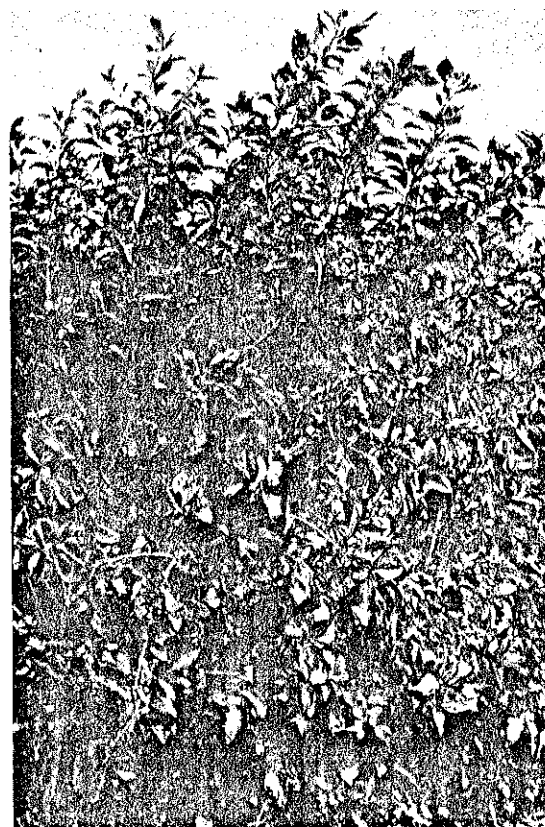
Maintenance: Certain branches when thick cover.  
Prune Feb-Mar.

When to apply fertilizer: Apply \* Tsubohi  
Mar-April and use  
organic fertilizer.

Harmful Insects (Season): Aphid, Mar-May.

Treatment (Pesticide): DDVP....dilute w/water  
one part to 2000. Apply twice,  
once every five days.

\* See Plant Maintenance



### 13. CENTURY PLANT

Local Name: Ryuzetsuran

Scientific Name: Marginata

Place of Origin: Central America

Morphology: Shrub

Blossoming season: May

Soil:

- a. Affinity to sunlight.
- b. Poor to saline environment.
- c. Rapid growth.

Remarks:

- 1. Must be well drained. Grow in sandy, poor soil.
- 2. Does not blossom every year. Once it blossoms, the plant shall perish.

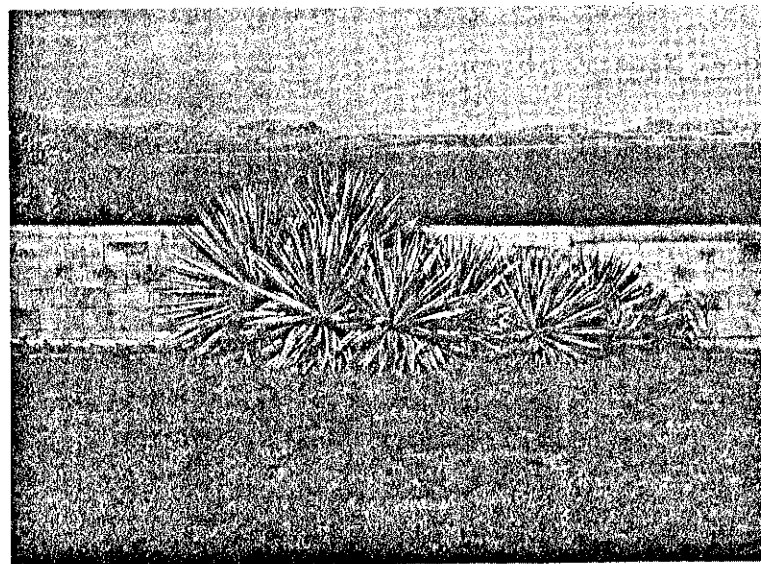
Maintenance: Remove dead or broken branches.

When to apply fertilizer: Apply \* Tsubohi May-June and use organic fertilizer.

Harmful Insects (Season): N.A.

Treatment (Pesticide): N.A.

\* See Plant Maintenance



14. KORAISHIBA

Local Name: (above same)

Scientific Name: Zoysia Tenuifolia

Place of Origin: Southern Japan, Taiwan,  
Southern China to tropical Asia.

Morphology: Ground cover.

Blossoming season: N.A.

Soil: a. Affinity to unlight.  
b. Able to withstand saline environment  
c. Able to withstand to several cuttings  
and been walked over.

Remarks: 1. Able to withstand to dry  
environment.

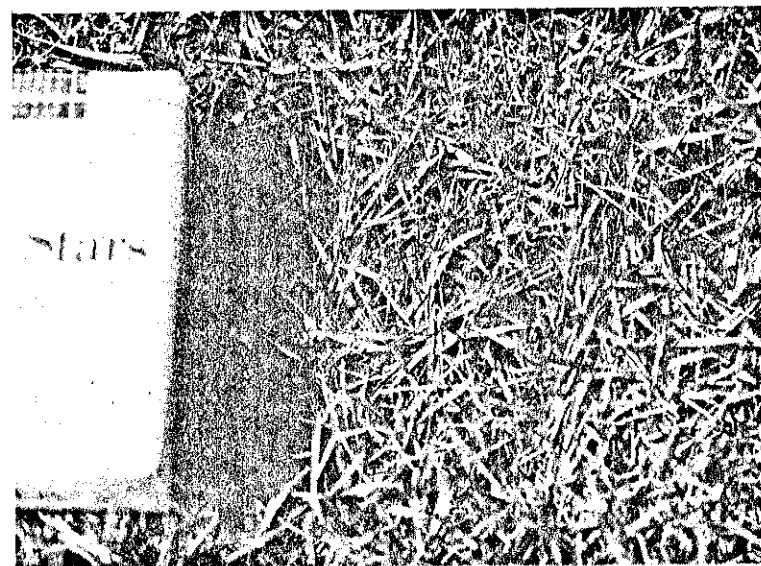
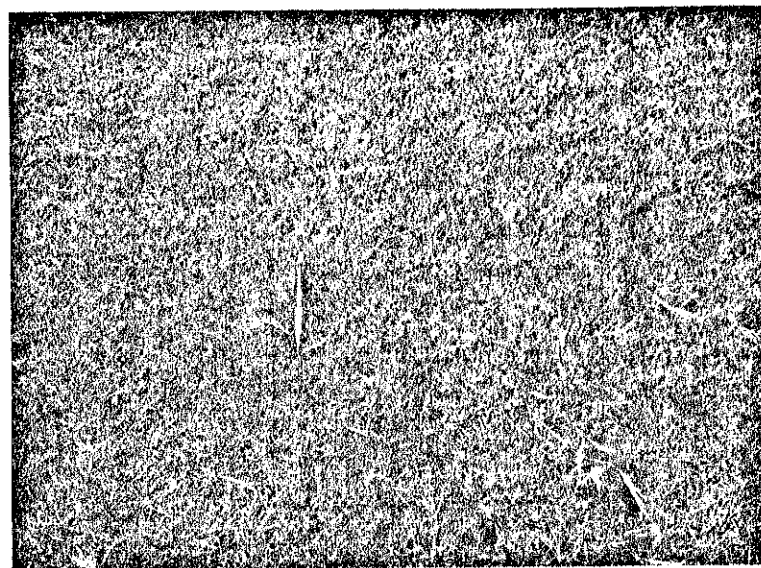
Maintenance: Cutting spring Mar-April twice,  
summer four times, autumn once.

When to apply fertilizer: Apply \* Hyomensehi  
Mar-May, June-Dec after cutting  
and use chemical fertilizer.

Harmful Insects (Season): Cut worm.

Treatment (Pesticide): Diputerex....dilute  
w/water one part to 1000. Apply  
during night.

\* See Plant Maintenance



# APPENDIX L-4

## ABBREVIATIONS AND MILITARY ACRONYMS

### Abbreviations

|      |                         |
|------|-------------------------|
| AVE  | Average                 |
| CAP  | Capita                  |
| GAL  | Gallons                 |
| GPCD | Gallons Per Capita-Day  |
| GPD  | Gallons Per Day         |
| GPM  | Gallons Per Minute      |
| KGAL | Kilogallons             |
| LF   | Lineal Feet             |
| MIN  | Minutes                 |
| MG   | Million Gallons         |
| MGD  | Million Gallons Per Day |
| NO.  | Number                  |
| PSI  | Pounds Per Square Inch  |
| PPM  | Parts Per Million       |
| SF   | Square Feet             |

### Military Acronyms

|           |                                      |
|-----------|--------------------------------------|
| AFB       | Air Force Base                       |
| BEQ       | Bachelors Enlisted Quarters          |
| BOQ       | Bachelors Officers Quarters          |
| CDAA      | Circularly Disposed Antenna Array    |
| CESS      | Civil Engineering Support Squadron   |
| CINCPACAF | Commander in Chief Pacific Air Force |

CINCPACFLT

Commander in Chief U.S. Pacific Fleet

CIP

Cast Iron Pipe

COMFLEACT

Commander, Fleet Activities, Okinawa

CONF

Confined Personnel

CPX

Command Post Exercise

CSG

Combat Support Group

DDEO

Deputy Division Engineer Office

DEP

Dependents

DFAB

Defense Facilities Advisory Board

DOD

U.S. Department of Defense

EMI

Electromagnetic Interference

EMR

Electromagnetic Radiation

ENL

Enlisted Personnel

EOD

Explosive Ordnance Disposal

ESQD

Explosive Safety Quantity

Distance

FBIS

Foreign Broadcast Information Service

FIP

Facilities Improvement Program

FLEACT

Fleet Activities

FMF

Fleet Marine Force

FSSG

Force Service Support Group

GOJ

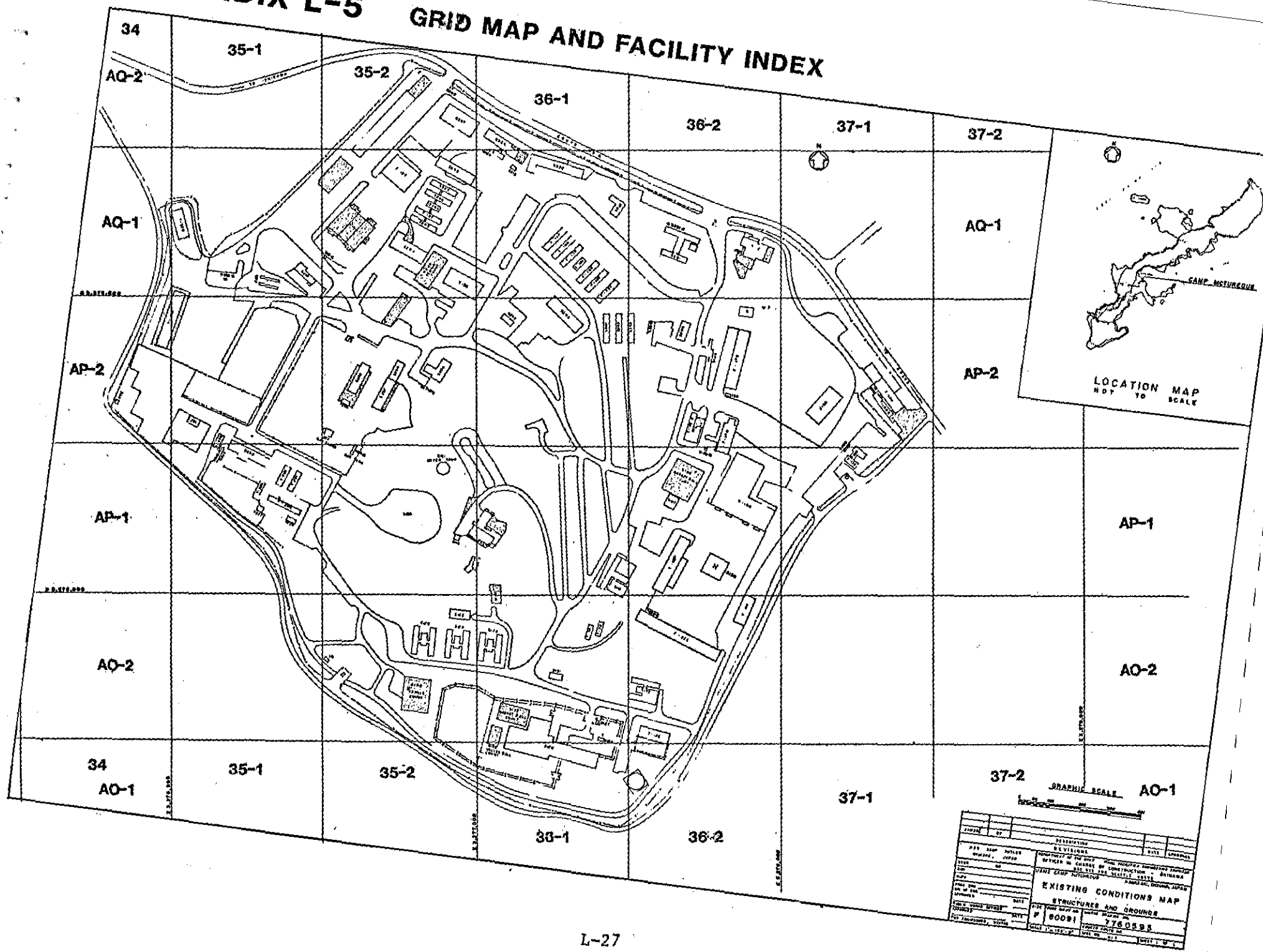
Government of Japan

IJCS

Integrated Joint Communication System

# APPENDIX L-5

## GRID MAP AND FACILITY INDEX



| CAMP<br>CODE                    | BLDG<br>NUMBER | E<br>X | MAP<br>GRID | CONS<br>YEAR | OUTGRANT<br>EXPIRES | UN<br>MS | UNITS   | USE<br>CAT | DESCRIPTION      | CHD<br>CODE | USEK      | RECORD<br>NUMBER | UPDATE<br>NUMBER |
|---------------------------------|----------------|--------|-------------|--------------|---------------------|----------|---------|------------|------------------|-------------|-----------|------------------|------------------|
| *****                           |                |        |             |              |                     |          |         |            |                  |             |           |                  |                  |
| CAMP MATUREDUS AREA 93.99 ACRES |                |        |             |              |                     |          |         |            |                  |             |           |                  |                  |
| 05                              |                | Y      |             | 1947         |                     | SY       | 47,898  | 85110      | ROADS            | 1520        | FAC MAINT | 200035           | 33220            |
| 05                              |                | Y      |             | 1960         |                     | SY       | 8,627   | 85220      | SIDEWALK         | 1520        | FAC MAINT | 200039           | 33230            |
| 05                              |                | Y      |             | 1956         |                     | LF       | 16,109  | 87210      | SCRTY FENCE/WALL | 1520        | FAC MAINT | 200040           | 33240            |
| 05                              |                | Y      |             | 1949         |                     | SY       | 42,991  | 85210      | PARKING AREA     | 1520        | FAC MAINT | 200042           | 33250            |
| 05                              |                | Y      |             | 1955         |                     | SY       | 1,261   | 45110      | OPEN STAG AREA   | 1520        | FAC MAINT | 200044           | 33260            |
| 05                              |                | Y      |             | 1956         |                     | GA       | 68,000  | 83130      | SEPTC TK/DN FLD  | 1520        | FAC MAINT | 200046           | 33270            |
| 05                              |                | Y      |             | 1947         |                     | LF       | 85,140  | 81230      | ELEC DISTR LINE  | 1520        | FAC MAINT | 200114           | 33280            |
| 05                              |                | Y      |             | 1958         |                     | LF       | 13,453  | 83210      | SANITARY SLUR    | 1520        | FAC MAINT | 200133           | 33290            |
| 05                              |                | Y      |             | 1958         |                     | LF       | 1,051   | 87214      | INTERIOR FENCE   | 1520        | FAC MAINT | 201379           | 33300            |
| 05                              |                | Y      |             | 1958         |                     | LF       | 39,356  | 81220      | STREET LIGHTING  | 1520        | FAC MAINT | 201435           | 33310            |
| 05                              |                | Y      |             | 1958         |                     | GA       | 129,300 | 83130      | SEPTC TK/DN FLD  | 1520        | FAC MAINT | 201458           | 33320            |
| 05                              |                | Y      |             | 1959         |                     | EA       | 1       | 83330      | GARBAGE STAND    | 1520        | FAC MAINT | 201565           | 33340            |
| 05                              |                | Y      |             | 1959         |                     | LF       | 3,636   | 87120      | DRAINAGE DITCH   | 1520        | FAC MAINT | 201753           | 33350            |
| 05                              |                | Y      |             | 1960         |                     | LF       | 866     | 87135      | RETAINING WALL   | 1520        | FAC MAINT | 201865           | 33360            |
| 05                              |                | Y      |             | 1959         |                     | MI       | 3       | 13520      | TELE LINES/OTHR  | 1520        | FAC MAINT | 202557           | 33380            |
| 05                              |                | Y      |             | 1966         |                     | EA       | 3       | 72361      | OTHR DET FAC     | 1520        | FAC MAINT | 202885           | 33390            |
| 05                              |                | Y      |             | 1969         |                     | LF       | 218     | 87110      | STORM SEWER      | 1520        | FAC MAINT | 203037           | 33400            |
| 05                              |                | Y      |             | 1957         |                     | LF       | 33,444  | 84210      | WTR/DIST/LN/PJT  | 1520        | FAC MAINT | 207247           | 33410            |
| *****                           |                |        |             |              |                     |          |         |            |                  |             |           |                  |                  |
| 408,357                         |                |        |             |              |                     |          |         |            |                  |             |           |                  |                  |
| 05                              | 10             | Y      | AU35        | 1947         |                     | SF       | 1,030   | 44140      | UNDERGR STORAGE  | 1905        | CP CO MCT | 200061           | 33420            |

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| CAMP<br>CODE | BLDG<br>NUMBER | E<br>X | MAP<br>GRID | CONS<br>YEAR | DU GRANT<br>EXPIRES | ON<br>MS | UNITS  | USL<br>CAT | DESCRIPTION     | CMD<br>CODE | USER      | RECORD<br>NUMBER | UPDATE<br>NUMBER |
|--------------|----------------|--------|-------------|--------------|---------------------|----------|--------|------------|-----------------|-------------|-----------|------------------|------------------|
| 05           | 129C           | Y      | AQ35        | 1959         |                     | EA       | 1      | 03330      | GARBAGE STAND   | 1905        | CP CO MCT | 201565           | 33430            |
| 05           | 149A           | Y      | AP35        | 1955         |                     | GA       | 12,030 | 12450      | VEH R/FUEL ST   | 1905        | CP CO MCT | 207148           | 33440            |
| 05           | 185            | Y      | AP35        | 1959         |                     | SF       | 150    | 61010      | ADMIN OFF       | 1905        | CP CO MCT | 201306           | 33460            |
| 05           | 186            | Y      | AP36        | 1959         |                     | SF       | 974    | 61010      | ADMIN OFF       | 1905        | CP CO MCT | 201595           | 33470            |
| 05           | 191S           | Y      | AP35        | 1960         |                     | GA       | 6,696  | 83130      | SEPTC TK/DN FLD | 1520        | FAC MAINT | 201806           | 33480            |
| 05           | 231            | Y      | AP35        | 1960         |                     | SF       | 12,703 | 21910      | PW SHOP         | 1520        | FAC MAINT | 201910           | 33500            |
| 05           | 232            | Y      | AP35        | 1961         |                     | UL       | 5      | 12310      | FILLING STATION | 1500        | FE MCB    | 202534           | 33510            |
| 05           | 233            | Y      | AP34        | 1961         |                     | SF       | 100    | 14378      | OP HAZ/FLAH STG | 1905        | CP CO MCT | 202533           | 33520            |
| 05           | 240            | Y      | AQ35        | 1962         |                     | EA       | 1      | 21455      | VEH WASH PLATFM | 1905        | CP CO MCT | 202543           | 33530            |
| 05           | 1212           | Y      | A1          | 1976         |                     | SF       | 129    | 13110      | CABLE HOUSE     | 1700        | LED MCB   | 204311           | 33535            |
| 05           | 5100           | Y      | AP36        | 1963         |                     | SF       | 63     | 83109      | SWGE TRMT BLDG  | 1520        | FAC MAINT | 202592           | 33540            |
| 05           | 5101           | Y      | AQ36        | 1957         |                     | SF       | 35     | 73025      | GATE/SENT HOUSE | 1905        | CP CO MCT | 200857           | 33550            |
| 05           | 5102           |        | AQ36        | 1957         |                     | SF       | 5,731  | 73029      | POLICE STATION  | 9014        | AAFES     | 200852           | 33560            |
| 05           | 5103           | Y      | AP36        | 1970         |                     | SF       | 96     | 74031      | EX SUPP GAS STA | 1905        | CP CO MCT | 204027           | 33570            |
| 05           | 5105           | Y      | AP36        | 1971         |                     | SF       | 273    | 73076      | KENNEL          | 1905        | CP CO MCT | 204038           | 33571            |
| 05           | 5106           | Y      | AP36        | 1954         |                     | EA       | 2      | 75010      | PLAYING COURTS  | 1650        | SPEC SER  | 200043           | 33590            |
| 05           | 5107           | Y      | AP36        | 1957         |                     | SF       | 1,806  | 74084      | INDR PLAY CRTS  | 1650        | SPEC SER  | 200865           | 33600            |
| 05           | 5112           |        | AP36        | 1947         |                     | SF       | 6,351  | 74064      | EN MESS OPEN    | 1610        | CLUBS     | 200775           | 33630            |
| 05           | 5117           |        | AP36        | 1956         |                     | SF       | 6,011  | 72210      | ENLST DINIG HAL | 1905        | CP CO MCT | 200795           | 33660            |
| 05           | 5118           | Y      | AQ36        | 1962         |                     | SF       | 1,500  | 72412      | UOPH OJLABOVE   | 4000        | 3D MAR    | 202564           | 33670            |
| 05           | 5119           | Y      | AP35        | 1957         |                     | SF       | 400    | 72113      | UEPH E7/E9      | 1905        | CP CO MCT | 200867           | 33680            |

| CAMP<br>CODE | BLDG<br>NUMBER | E<br>X | MAP<br>GRID | CONS<br>YEAR | OUTGRANT<br>EXPIRES | ON<br>HS | UNITS   | USE<br>CAT | DESCRIPTION     | CMD<br>COOL | USER      | RECORD<br>NUMBER | UPDATE<br>NUMBER |
|--------------|----------------|--------|-------------|--------------|---------------------|----------|---------|------------|-----------------|-------------|-----------|------------------|------------------|
| 05           | 5120           | Y      | AP35        | 1956         |                     | LA       | 1       | 75020      | PLAYING FIELD   | 1650        | SPEC SER  | 202570           | 33690            |
| 05           | 5121           | Y      | AP35        | 1959         |                     | GA       | 200,000 | 84140      | STOR JNK/CO POT | 1520        | FAC MAINT | 201465           | 33700            |
| 05           | 5122           | Y      | AU35        | 1958         |                     | SF       | 2,040   | 72411      | UEPH W1/E2      | 4000        | 3D MAB    | 201305           | 33710            |
| 05           | 5123           | Y      | AU35        | 1956         |                     | SF       | 4,983   | 72113      | UEPH E7/E9      | 4000        | 3D MAB    | 200836           | 33720            |
| 05           | 5124           | Y      | AU35        | 1956         |                     | SF       | 4,983   | 72113      | UEPH E7/E9      | 4000        | 3D MAB    | 200835           | 33730            |
| 05           | 5125           | Y      | AU35        | 1960         |                     | EA       | 2       | 75010      | PLAYING COURTS  | 1650        | SPLC SER  | 201903           | 33740            |
| 05           | 5126           | Y      | AU35        | 1956         |                     | SF       | 4,983   | 72113      | UEPH E7/E9      | 1905        | CP CO MCT | 200834           | 33750            |
| 05           | 5127           | Y      | AU35        | 1969         |                     | SF       | 263     | 73025      | GATE/SENT HOUSE | 1905        | CP CO MCT | 203035           | 33760            |
| 05           | 5128           | Y      | AU35        | 1969         |                     | SF       | 23,611  | 73015      | BRIG            | 1905        | CP CO MCT | 203034           | 33770            |
| 05           | 5129           | Y      | AU35        | 1969         |                     | SF       | 266     | 81159      | STD-RY GEN BLD  | 1905        | CP CO MCT | 203036           | 33780            |
| 05           | 5131           | Y      | AU36        | 1957         |                     | SF       | 1,107   | 73015      | BRIG            | 1905        | CP CO MCT | 200849           | 33790            |
| 05           | 5132           | Y      | AU36        | 1956         |                     | SF       | 4,200   | 72111      | UEPH E1/E4      | 1905        | CP CO MCT | 200837           | 33800            |
| 05           | 5132           | Y      | AU36        | 1956         |                     | SF       | 1,550   | 72112      | UEPH E5/E6      | 1905        | CP CO MCT | 200837           | 33810            |
| *****        |                |        |             |              |                     |          | 5,750   | *****      |                 |             |           |                  |                  |
| 05           | 5133           | Y      | AU36        | 1970         |                     | EA       | 1       | 75010      | PLAYING COURT   | 1650        | SPEC SER  | 204025           | 33820            |
| 05           | 5134           | Y      | AU36        | 1970         |                     | EA       | 1       | 75010      | PLAYING COURT   | 1650        | SPLC SER  | 204026           | 33830            |
| 05           | 5136           | Y      | AP37        | 1974         |                     | SF       | 7,200   | 44112      | STRG MAR CORPS  | 1905        | CP CO MCT | 204267           | 33850            |
| 05           | 5201           | Y      | AU36        | 1957         |                     | SF       | 1,060   | 55010      | MEDICAL CLINIC  | 1905        | CP CO MCT | 201534           | 33860            |
| 05           | 5201A          | Y      | AU36        | 1954         |                     | EA       | 1       | 69010      | FLSPL/3BRD/MAKR | 1905        | CP CO MCT | 200047           | 33870            |
| 05           | 5202           |        | AU36        | 1958         |                     | SF       | 2,103   | 72412      | UEPH D36ABOVE   | 1905        | CP CO MCT | 201383           | 33880            |
| 05           | 5203           |        | AU36        | 1956         |                     | SF       | 4,400   | 72111      | UEPH E1/E4      | 1360        | PMO       | 200827           | 33890            |

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| CAMP<br>CODE | BLDG<br>NUMBER | E<br>X | HAP<br>CR ID | CONS<br>YEAR | OUTGRANT<br>EXPIRES | UN<br>MS | UNITS | USF<br>CAT | DESCRIPTION     | CMD<br>CODE | USER      | RECORD<br>NUMBER | UPDATE<br>NUMBER |
|--------------|----------------|--------|--------------|--------------|---------------------|----------|-------|------------|-----------------|-------------|-----------|------------------|------------------|
| 05           | 5203           |        | A036         | 1956         |                     | SF       | 2,032 | 72112      | UEPH E5/E6      | 1860        | PMO       | 200827           | 33900            |
|              |                |        |              |              |                     |          | 6,432 | *****      |                 |             |           |                  |                  |
| 05           | 5204           | Y      | A036         | 1956         |                     | SF       | 5,545 | 61073      | CO/BTRY HDQ     | 1905        | CP CO MCT | 200828           | 33910            |
| 05           | 5205           | Y      | AQ36         | 1959         |                     | SF       | 36    | 14378      | OP HAZ/FLAM STG | 1905        | CP CO MCT | 202393           | 33920            |
| 05           | 5207           | Y      | AQ35         | 1957         |                     | SF       | 8,256 | 61071      | REG/GROUP HDQ   | 4000        | 3D MAB    | 200859           | 33930            |
| 05           | 5208           | Y      | AQ35         | 1957         |                     | SF       | 35    | 73025      | GATE/SENTRY HSE | 1905        | CP CO MCT | 200858           | 33940            |
| 05           | 5209           | Y      | AQ36         | 1962         |                     | EA       | 1     | 69010      | FLGPL/BBRO/HRKR | 1905        | CP CO MCT | 202537           | 33950            |
| 05           | 5210           | Y      | AQ36         | 1969         |                     | SF       | 200   | 81159      | STD-RY GEN BLD  | 1520        | FAC MAINT | 203047           | 33960            |
| 05           | 5214           | Y      | AQ35         | 1963         |                     | SF       | 2,110 | 44112      | STRG MAR CORPS  | 1905        | CP CO MCT | 202599           | 33970            |
| 05           | 5222           | Y      | AP35         | 1958         |                     | SF       | 550   | 44112      | STRG MAR CORPS  | 1905        | CP CO MCT | 201414           | 33980            |
| 05           | 5226           | Y      | AP35         | 1961         |                     | SF       | 5,133 | 73015      | CONFINEMENT FAC | 1905        | CP CO MCT | 202530           | 33990            |
| 05           | 5227           | Y      | AP35         | 1962         |                     | SF       | 440   | 44112      | STRG MAR CORPS  | 1905        | CP CO MCT | 202555           | 34000            |
| 05           | 5228           | Y      | AP35         | 1959         |                     | SF       | 512   | 14378      | OP HAZ/FLAM STG | 1905        | CP CO MCT | 201648           | 34010            |
| 05           | 5234           | Y      | AP35         | 1957         |                     | SF       | 3,392 | 21451      | AUTO ORGNL SHOP | 1905        | CP CO MCT | 200853           | 34030            |
| 05           | 5236           | Y      | AP35         | 1957         |                     | SF       | 455   | 14378      | OP HAZ/FLAM STG | 1905        | CP CO MCT | 200854           | 34040            |
| 05           | 5237           | Y      | AP35         | 1959         |                     | SF       | 3,663 | 44112      | STRG MAR CORPS  | 1905        | CP CO MCT | 201747           | 34050            |
| 05           | 5238           | Y      | AP35         | 1960         |                     | SF       | 2,044 | 44112      | STRG MAR CORPS  | 1905        | CP CO MCT | 201808           | 34060            |
| 05           | 5239           |        | AP35         | 1957         |                     | SF       | 3,226 | 73083      | CHAPEL          | 1905        | CP CO MCT | 200855           | 34070            |
| 05           | 5240           | Y      | AQ35         | 1960         |                     | SF       | 4,406 | 21710      | ELEC COM MTN SH | 1905        | CP CO MCT | 202031           | 34080            |
| 05           | 5242           | Y      | AQ35         | 1958         |                     | EA       | 1     | 75010      | PLAYING COURT   | 1650        | SPEC SER  | 201649           | 34090            |
| 05           | 5243           | Y      | AQ35         | 1956         |                     | SF       | 1,680 | 72111      | UEPH E1/E4      | 1905        | CP CO MCT | 200824           | 34100            |

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| CAMP<br>CODE | BUILDING<br>NUMBER | E<br>X | MAP<br>GRID | CONS<br>YEAR | OUTGRANT<br>EXPIRES | UN<br>HS | UNITS | USE<br>CAT | DESCRIPTION          | UIC<br>CODE | USER      | RECORD<br>NUMBER | UPDATE<br>NUMBER |
|--------------|--------------------|--------|-------------|--------------|---------------------|----------|-------|------------|----------------------|-------------|-----------|------------------|------------------|
| 05           | 5243               | Y      | AQ35        | 1956         |                     | SF       | 320   | 72112      | UEPH E5/E6           | 1905        | CP CO MCT | 200824           | 34110            |
|              |                    |        |             |              |                     |          | 2,000 | *****      |                      |             |           |                  |                  |
| 05           | 5244               | Y      | AQ35        | 1956         |                     | SF       | 1,000 | 72320      | LATRINE DET          | 1905        | CP CO MCT | 200829           | 34120            |
| 05           | 5246               | Y      | AQ35        | 1956         |                     | SF       | 1,600 | 72111      | UEPH E1/E4           | 1905        | CP CO MCT | 200825           | 34130            |
| 05           | 5246               | Y      | AQ35        | 1956         |                     | SF       | 320   | 72112      | UEPH E5/E6           | 1905        | CP CO MCT | 200825           | 34140            |
|              |                    |        |             |              |                     |          | 2,000 | *****      |                      |             |           |                  |                  |
| 05           | 5247               | Y      | AQ35        | 1956         |                     | SF       | 1,600 | 72111      | UEPH E1/E4           | 1905        | CP CO MCT | 200826           | 34150            |
| 05           | 5247               | Y      | AQ35        | 1956         |                     | SF       | 320   | 72112      | UEPH E5/E6           | 1905        | CP CO MCT | 200826           | 34160            |
|              |                    |        |             |              |                     |          | 2,000 | *****      |                      |             |           |                  |                  |
| 05           | 5248               | Y      | AQ35        | 1960         |                     | SF       | 4,400 | 13140      | TELE EX BLDG         | 1700        | CEN MCB   | 201749           | 34170            |
| 05           | 5253               | Y      | AP36        | 1965         |                     | SF       | 567   | 21910      | PA SHOP              | 1520        | FAC MAINT | 200770           | 34190            |
| 05           | 5253               | Y      | AP36        | 1965         |                     | SF       | 546   | 72330      | LAUNDRY DET          | 1905        | CP CO MCT | 200774           | 34200            |
|              |                    |        |             |              |                     |          | 1,113 | *****      |                      |             |           |                  |                  |
| 05           | 5254               | Y      | AP36        | 1972         |                     | SF       | 5,720 | 74009      | EXC SVC OUTLETS 9014 | AAVES       |           | 204102           | 34210            |
| 05           | 5261               | Y      | AP36        | 1957         |                     | SF       | 1,600 | 72111      | UEPH E1/E4           | 1905        | CP CO MCT | 200864           | 34220            |
| 05           | 5261               | Y      | AP36        | 1957         |                     | SF       | 320   | 72112      | UEPH E5/E6           | 1905        | CP CO MCT | 200864           | 34230            |
|              |                    |        |             |              |                     |          | 2,000 | *****      |                      |             |           |                  |                  |
| 05           | 5262               | Y      | AP36        | 1957         |                     | SF       | 1,600 | 72111      | UEPH E1/E4           | 1905        | CP CO MCT | 200865           | 34240            |
| 05           | 5262               | Y      | AP36        | 1957         |                     | SF       | 320   | 72112      | UEPH E5/E6           | 1905        | CP CO MCT | 200865           | 34250            |
|              |                    |        |             |              |                     |          | 2,000 | *****      |                      |             |           |                  |                  |
| 05           | 5263               | Y      | AP36        | 1957         |                     | SF       | 1,600 | 72111      | UEPH E1/E4           | 1905        | CP CO MCT | 200862           | 34260            |

| CAMP<br>CODE | BLDG<br>NUMBER | E<br>X | MAP<br>GRID | CONS<br>YEAR | OUTGRANT<br>EXPIRES | UN<br>HS | UNITS | USE<br>CAT | DESCRIPTION     | CHD<br>CODE | USER      | RECORD<br>NUMBER | UPDATE<br>NUMBER |
|--------------|----------------|--------|-------------|--------------|---------------------|----------|-------|------------|-----------------|-------------|-----------|------------------|------------------|
| 05           | 5203           | Y      | AP36        | 1957         |                     | SF       | 320   | 72112      | UEPH E5/E6      | 1905        | CP CO MCT | 200862           | 34270            |
|              |                |        |             |              |                     |          | 2,000 |            |                 |             |           |                  |                  |
| 05           | 5204           | Y      | AP36        | 1957         |                     | SF       | 960   | 72320      | LATRINE DET     | 1905        | CP CO MCT | 200861           | 34280            |
| 05           | 5266           | Y      | AP36        | 1963         |                     | SF       | 1,145 | 74076      | LIBRARY         | 1650        | SPEC SER  | 202598           | 34290            |
| 05           | 5266           | Y      | AP36        | 1963         |                     | SF       | 1,000 | 74088      | EDUCATION CNTR  | 1905        | CP CO MCT | 202596           | 34300            |
|              |                |        |             |              |                     |          | 2,145 |            |                 |             |           |                  |                  |
| 05           | T 34           | Y      | AQ36        | 1976         |                     | SF       | 960   | 72111      | UEPH E1/E4      | 1905        | CP CO MCT | 204317           | 34310            |
| 05           | T 35           | Y      | AQ36        | 1976         |                     | SF       | 960   | 72111      | UEPH E1/E4      | 1905        | CP CO MCT | 204318           | 34320            |
| 05           | T 43B          | Y      | AP36        | 1955         |                     | SF       | 3,016 | 74004      | EX CAFE         | 9014        | AAFES     | 200773           | 34330            |
| 05           | T 43D          | Y      | AP36        | 1967         |                     | SF       | 99    | 83340      | GARBAGE HOUSE   | 1905        | CP CO MCT | 204024           | 34340            |
| 05           | T 55           | Y      | AQ35        | 1947         |                     | SF       | 4,000 | 74043      | GYMNASIUM       | 1650        | SPEC SFR  | 200706           | 34350            |
| 05           | T 55           | Y      | AQ35        | 1947         |                     | SF       | 3,200 | 74037      | SPEC SVC CTR    | 1650        | SPEC SER  | 200706           | 34360            |
|              |                |        |             |              |                     |          | 7,200 |            |                 |             |           |                  |                  |
| 05           | T 101          | Y      | AQ36        | 1955         |                     | SF       | 1,920 | 72510      | TRHSG/EMER BLDG | 1905        | CP CO MCT | 200810           | 34370            |
| 05           | T 102          | Y      | AQ36        | 1955         |                     | SF       | 2,016 | 72510      | TRHSG/EMER BLDG | 1905        | CP CO MCT | 200311           | 34380            |
| 05           | T 103          | Y      | AQ36        | 1955         |                     | SF       | 2,016 | 73081      | REHAB CENTER    | 1905        | CP CO MCT | 200812           | 34390            |
| 05           | T 104          | Y      | AQ36        | 1955         |                     | SF       | 960   | 73081      | REHAB CENTER    | 1905        | CP CO MCT | 200813           | 34400            |
| 05           | T 105          | Y      | AQ36        | 1955         |                     | SF       | 2,016 | 73081      | REHAB CENTER    | 1905        | CP CO MCT | 200814           | 34410            |
| 05           | T 106          | Y      | AQ36        | 1955         |                     | SF       | 2,016 | 73081      | REHAB CENTER    | 1905        | CP CO MCT | 200815           | 34420            |
| 05           | T 107          | Y      | AQ36        | 1955         |                     | SF       | 2,016 | 73081      | REHAB CENTER    | 1905        | CP CO MCT | 200816           | 34430            |
| 05           | T 120          | Y      | AQ35        | 1947         |                     | SF       | 1,920 | 72111      | UEPH E1/E4      | 1905        | CP CO MCT | 200823           | 34440            |

| CAMP<br>CODE | BLDG<br>NUMBER | E<br>X | MAP<br>GRID | CONS<br>YEAR | OUTGRANT<br>EXPIRES | UN<br>MS | UNITS | USE<br>CAT | DESCRIPTION     | CMD<br>CODE | USER      | RECORD<br>NUMBER | UPDATE<br>NUMBER |
|--------------|----------------|--------|-------------|--------------|---------------------|----------|-------|------------|-----------------|-------------|-----------|------------------|------------------|
| 05           | T 139          | Y      | AP37        | 1956         |                     | SF       | 2,220 | 21910      | PW SHOP         | 1520        | FAC MAINT | 200843           | 34450            |
| 05           | T 146          | Y      | AP37        | 1957         |                     | SF       | 2,400 | 44112      | STRG MAR CORPS  | 1905        | CP CO MCT | 200850           | 34460            |
| 05           | T 146          | Y      | AP37        | 1957         |                     | SF       | 2,400 | 73010      | FIRE STATION    | 1530        | FIRE DEPT | 200850           | 34470            |
|              |                |        |             |              |                     |          | 4,800 |            |                 |             |           |                  |                  |
| 05           | T 146A         | Y      | AP37        | 1960         |                     | SF       | 1,920 | 73010      | FIRE STATION    | 1530        | FIRE DEPT | 201805           | 34480            |
| 05           | T 167          | Y      | AQ35        | 1957         |                     | SF       | 0,100 | 44112      | STRG MAR CORPS  | 1905        | CP CO MCT | 200873           | 34490            |
| 05           | T 170          | Y      | AP36        | 1958         |                     | SF       | 4,360 | 44111      | GEN WHSE MARCOR | 1905        | CP CO MCT | 201261           | 34500            |
| 05           | T 174          | Y      | AP35        | 1957         |                     | SF       | 120   | 44135      | GEN STRG SHED   | 1905        | CP CO MCT | 201264           | 34520            |
| 05           | T 176          | Y      | AP36        | 1958         |                     | SF       | 8,000 | 44111      | GEN WHSE MARCOR | 1905        | CP CO MCT | 201266           | 34530            |
| 05           | T 182          | Y      | AP34        | 1953         |                     | SF       | 8,000 | 21910      | PW SHOP         | 1520        | FAC MAINT | 201451           | 34560            |
| 05           | T 182A         | Y      | AQ35        | 1980         |                     | SF       | 298   | 73066      | MISC WTHR SILTR | 1905        | CP CO MCT | 207361           | 34570            |
| 05           | T 198          | Y      | AQ36        | 1960         |                     | SF       | 4,000 | 73015      | BRIG            | 1905        | CP CO MCT | 201763           | 34590            |
| 05           | T 201          | Y      | AP35        | 1958         |                     | SF       | 1,440 | 72140      | DISCIPLIN BKS   | 1905        | CP CO MCT | 201398           | 34600            |
| 05           | T 202          | Y      | AP35        | 1958         |                     | SF       | 1,440 | 72111      | UEPH E1/E4      | 1905        | CP CO MCT | 201399           | 34610            |
| 05           | T 203          | Y      | AP35        | 1958         |                     | SF       | 2,480 | 72111      | UEPH E1/E4      | 1905        | CP CO MCT | 201400           | 34620            |
| 05           | T 204          | Y      | AP35        | 1958         |                     | SF       | 960   | 72320      | LATRINE DET     | 1905        | CP CO MCT | 201401           | 34630            |
| 05           | T 228          | Y      | AP35        | 1972         |                     | SF       | 960   | 74043      | GYMNASIUM       | 1650        | SPEC SER  | 204105           | 34660            |
| 05           | T 230          | Y      | AQ35        | 1960         |                     | SF       | 4,000 | 44112      | STRG MAR CORPS  | 1905        | CP CO MCT | 201869           | 34670            |
| 05           | WR 2           | Y      | AQ36        | 1957         |                     | EA       | 1     | 72350      | WASH RACK DFT   | 1905        | CP CO MCT | 200050           | 34680            |
| 05           | WR 4           | Y      | AQ35        | 1957         |                     | EA       | 1     | 72350      | WASH RACK DLT   | 1905        | CP CO MCT | 200052           | 34690            |
| 05           | WR 6           | Y      | AP35        | 1957         |                     | EA       | 1     | 72350      | WASH RACK DET   | 1905        | CP CO MCT | 200054           | 34700            |

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| CAMP<br>CODE | BLDG<br>NUMBER | E<br>X | MAP<br>GRID | CONS<br>YEAR | OUTGRANT<br>EXPIRES | UN<br>MS | UNITS | USE<br>CAT | DESCRIPTION   | CMD<br>CODE | USER      | RECORD<br>NUMBER | UPDATE<br>NUMBER |
|--------------|----------------|--------|-------------|--------------|---------------------|----------|-------|------------|---------------|-------------|-----------|------------------|------------------|
| 05           | WR 8           | Y      | AD36        | 1957         |                     | EA       | 1     | 72350      | WASH RACK DET | 1905        | CP CO MCT | 200056           | 34710            |
| 05           | WR 11          | Y      | AP37        | 1960         |                     | EA       | 1     | 72350      | WASH RACK DET | 1905        | CP CO MCT | 202029           | 34720            |

TOTAL # OF BUILDINGS FOR CAMP CODE 05 IS 106