

Marine Corps Base Hawaii

**PEST MANAGEMENT
PLAN**



Volume 1
- Kaneohe Bay -

August 2000

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LIST OF ABBREVIATIONS

AQS	Animal Quarantine Station
BASH	Bird Aircraft Strike Hazard
°C	Degrees Centigrade
CFR	Code of Federal Regulations
CIS	Cholinesterase Inhibiting Substances
Cm	Centimeter
DENIX	Defense Environmental Network Information Exchange
DOD	Department of Defense
ESA	Emergency Service Authorization
°F	Degrees Fahrenheit
ha	Hectares
INRMP	Integrated Natural Resources Management Plan
IPM	Integrated Pest Management
IPMC	Installation Pest Management Coordinator
ISMP	Invasive Species Management Plan
Km	Kilometer
M	Meters
MCBH	Marine Corps Base Hawaii
MBTA	Migratory Bird Treaty Act
MIL-HDBK	Military Handbook
MIL-STD	Military Standard
Mm	Millimeters
MOMs	Measures of Merit
MSDS	Materials Safety Data Sheet
MWR	Morale, Welfare and Recreation
NEPMU-6	Naval Environmental and Preventative Medicine Unit 6
NAVFACINST	Naval Facilities Instruction
NAVMED	Naval Medical
NBMC	Naval Branch Medical Clinic
NOSC	Naval Ocean System Center
OPNAVINST	Operations Naval Instructions
OSHA	Occupational Safety and Health Administration
PACNAVFACENGCOM	Pacific Naval Facilities Engineering Command
PMC	Pest Management Consultant
PMDS	Pest Management Data System
PMP	Pest Management Plan
RBC	Red Blood Cell
RCRA	Resource Conservation and Recovery Act
ROICC	Resident Officer-In-Charge of Construction
SECNAVINST	Secretary of the Navy Instructions
TIM	Technical Information Memorandum
U.S.C.	United States Code
WMA	Wildlife Management Area

EXECUTIVE SUMMARY

This plan applies to all activities and individuals working, residing, or doing business on the installation, and will be implemented to the maximum extent feasible. At no time will pest management operations be performed in such a manner as to constitute a threat to personnel or to the environment. Primary responsibility for pest management resides with those individuals working or living on the installation. Non-chemical control efforts will be used to the maximum extent possible before pesticides are used.

This plan is a working document and will be continually updated to reflect actual pest management practices. It describes pest management requirements, outlines the resources necessary for surveillance and control, and describes the administrative, safety, and environmental requirements of the program. It uses certified pesticide applicators to control pests, including insects, other invertebrates and weeds threatening public health, real property, a golf course, stored food product pests, vertebrate pests (such as rodents and birds) and stray animals. Without control, these organisms could interfere with the military mission by exposing personnel to disease, causing damage to structures, and destroying stored commodities.

SECTION I

1 BACKGROUND

1.1 PURPOSE

Volume 1 of the pest management plan (PMP) has been prepared with consideration to existing MCBH Kaneohe Bay activities only. (The PMP for MCBH Camp H.M. Smith will be addressed under a separate document (Volume 2). The purpose of the PMP is to serve as the guiding document through which an effective, economical and environmentally acceptable pest management program can be defined and maintained at the Base. Adherence to the guidelines set forth in the PMP will assist pest management personnel at MCBH Kaneohe Bay to perform their work in accordance with applicable laws and regulations. This plan is not intended to be a pest management instruction manual.

1.2 AUTHORITY

DOD Directive 4150.7, DOD Pest Management Programs, 22 April 1996.

OPNAV Instruction 6250.4B, Pest Management Programs, October 1998.

MCO P5090.2A, Environmental Compliance and Protection Manual, Chapters 13 & 14 (Pesticide Pollution Prevention), 4 March 1999.

1.3 OBJECTIVE OF THE PLAN

The objective of the PMP is to provide guidance for the maintenance of an effective pest management program at MCBH Kaneohe Bay. The Plan shall be technically reviewed on a three-year cycle or as deemed necessary by the PACNAVFACENGCOM or NEPMU-6 entomologist with input from the MCBH Kaneohe Bay Facilities and Environmental Departments and the Branch Medical Clinic. The review will have three objectives: (a) identify new pest problems not covered in the existing PMP and recommend management procedures, (b) determine if there are any exceptions to the procedures and standards established in the PMP, and (c) provide an evaluation of the measure of the activity pest management program's effectiveness. All of these objectives will be reported in an exit critique and written as an addendum to the PMP. On a three-year cycle, recommendations will be incorporated into the PMP.

2 RESPONSIBILITIES

Administration of pest management programs for MCBH Kaneohe Bay is accomplished by the Installation Pest Management Coordinator. Actual day-to-day pest management operations are handled by the Facilities Department Pest Control Shop and the Golf Course Maintenance Shop.

Information provided in this section summarizes the major roles and responsibilities of key personnel.

For reference purposes, an organizational chart for MCBH Kaneohe Bay (streamlined to show pest management activities) is presented in Figure 2-1. Working relationships between activities are summarized in Figure 2-2.

2.1 COMMANDING GENERAL

The Commanding General has the following responsibilities:

- (1) Designates an Installation Pest Management Coordinator for MCBH; and
- (2) Approves and supports the PMP.

The Commanding General is kept apprised of the status of ongoing pest management activities through the Installation Pest Management Coordinator.

2.2 INSTALLATION PEST MANAGEMENT COORDINATOR (IPMC)

- The IPMC has the following responsibilities:
- Ensures that all pesticide applicators receive adequate training, and acquire and maintain the required pest management certifications;
- Ensures that installation pest management operations are conducted safely and with minimal impact on the environment;
- Prepares or coordinates the periodic updating of the installation PMP;
- Ensures that all applicable pest management information is recorded and reported as required by this plan;
- Oversees the sale and distribution of pesticides on the installation;
- Functions as a point of contact between activities that store and apply pesticides and activities or individuals that document or deal with pesticide use in their programs;

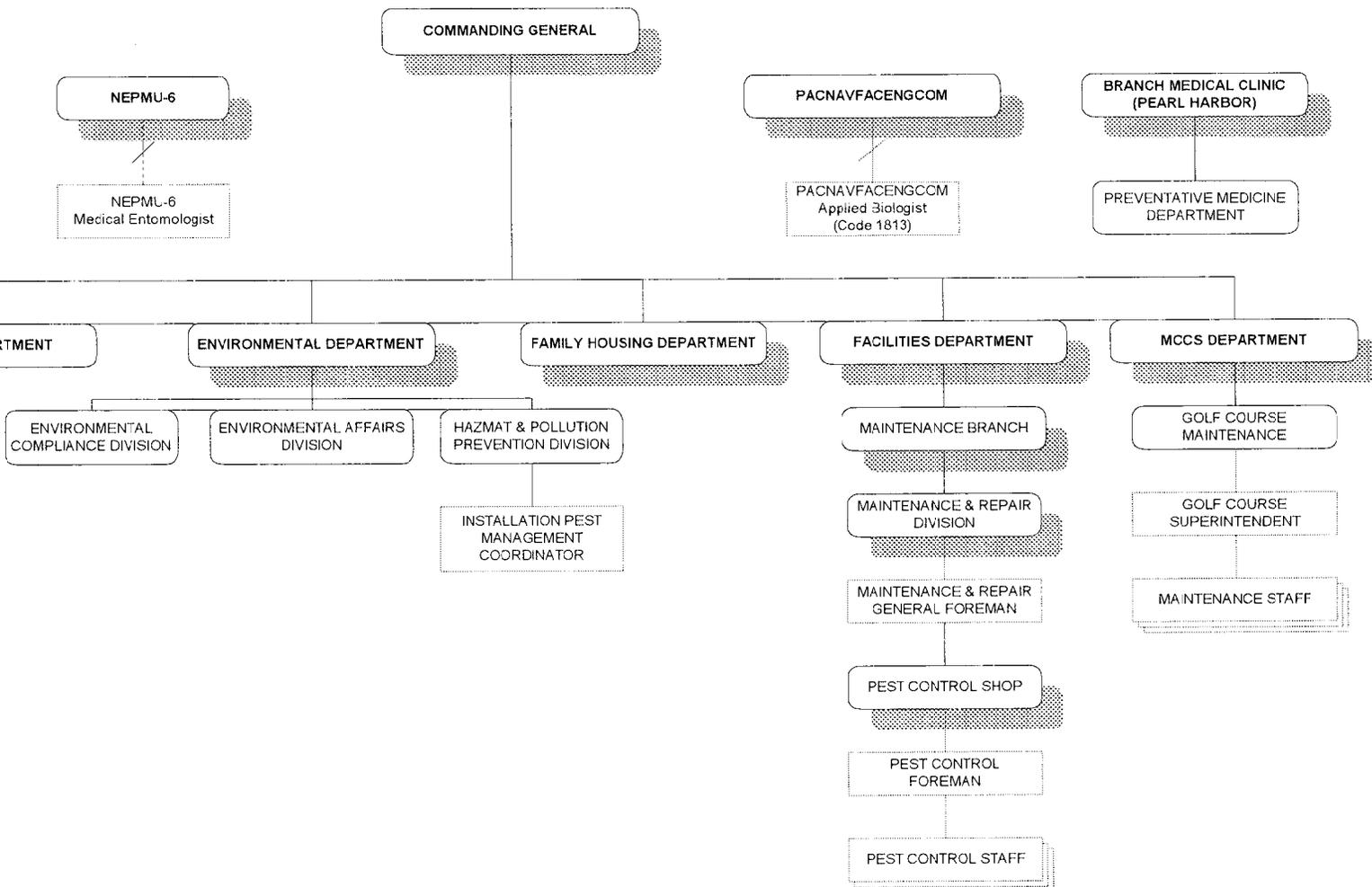


Figure 2-1
ORGANIZATIONAL CHART
 (Streamlined to show Pest Management Activities)

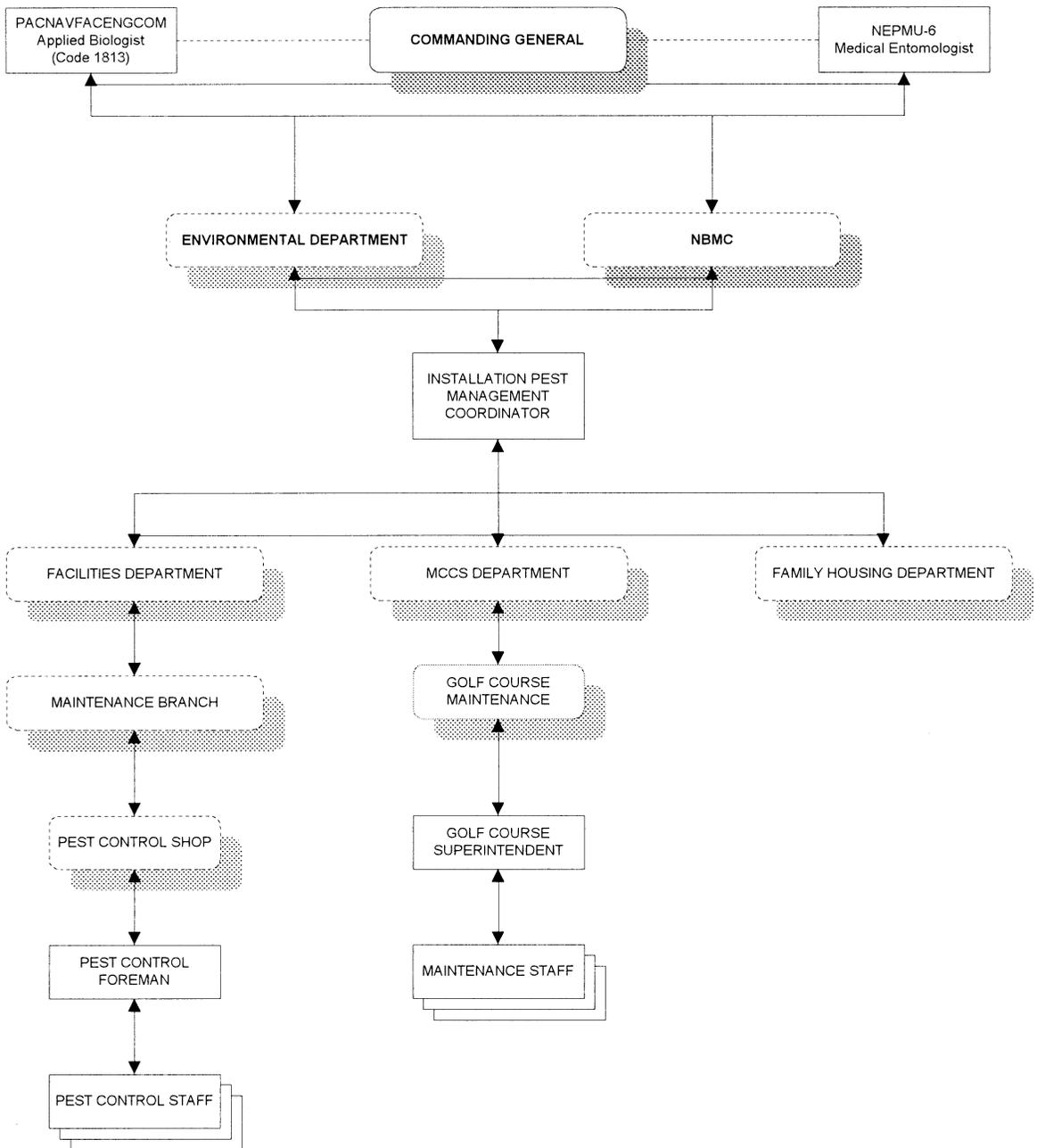


Figure 2-2
WORKING RELATIONSHIPS
 (Streamlined to show Pest Management Activities)

- Assists the pest control shop foremen to secure the necessary funding for supplies, equipment, training, and facilities improvements in a timely manner; and
- Ensures that pest management work is performed by or under direct supervision of DOD certified applicators.
- Ensures that all pest management contracts, including those purchased by non-appropriated funded activities and family housing residents, are monitored by DOD-certified pesticide applicators or pest management quality assurance evaluators.

2.3 FACILITIES DEPARTMENT

The Facilities Department, Maintenance Branch, pest control shop is the principle activity involved in pest management on Base (excluding golf course related maintenance). The Shop is operated by the pest control shop foreman (herein referred to as the foreman) and a staff of pesticide applicators (herein referred to as applicators). The foreman has the following responsibilities:

- Ensures that installation pesticide applicators receive adequate training, periodic medical monitoring, and maintain their required pest management certifications.
- Ensures that integrated pest management (IPM) techniques are employed in daily pest management operations to the fullest extent (see page 4-1).
- Ensures that all pest management operations are conducted safely and have minimal impact on the environment.
- Assists the IPMC with the preparation, monitoring and updating of the installation PMP.
- Ensures that all applicable information is recorded and reported as required by this plan.
- Maintains effective liaison with Base environmental, medical, safety and security departments.
- Ensures that all pesticide applications are performed by, or under direct supervision of DOD certified applicators.
- Assists the IPMC in monitoring all pest management contract operations on Base.
- Obtains the assistance of the IPMC for securing of necessary funds for recurring shop activities (e.g., for supplies, training, equipment, and facilities improvements).
- Coordinates with the Environmental Department on all pest management activities in and around environmentally sensitive areas.

Pesticide applicators have the following responsibilities:

- Provide on-base pest management services in and around food service, industrial, institutional and housing areas that include ant, cockroach and rodent control in the galley, service clubs, Base Exchange and Commissary, ration warehouse, Branch medical clinic, and child development center. Additionally, provide annual termite inspection of family housing, mosquito surveillance and control, and weed management in the wildlife management areas.
- Maintain adequate supplies of pesticides and pesticide dispersal equipment, and ensure that the equipment is properly maintained.
- Provide quality assurance evaluation (QAE) services for all pest control contracts, including those used by non-appropriated funded activities and family housing residents.
- Maintain records of pest management operations.
- Determine pest management requirements for the Base (excluding golf course areas).
- Coordinate with the Environmental Department on all pest management activities in and around environmentally sensitive areas.

2.4 GOLF COURSE MAINTENANCE

Pest management activities related to the operation of the Base golf course (Klipper Golf Course) are handled by golf course maintenance department pesticide applicators that work under the guidance of the grounds Superintendent (herein referred to as the Superintendent). Golf Course pesticide applicators are subject to the same training and certification requirements of Shop pesticide applicators.

The Superintendent oversees the following duties:

- Ensures that pesticide applicators receive adequate training, annual medical examination and maintain the required pesticide applicator certification.
- Ensures that IPM methodologies are employed in daily operation to the fullest extent.
- Ensures that all pest management operations are conducted safely and have minimal impact on the environment.
- Assists the IPMC to prepare, monitor and update of the installation PMP.
- Maintains effective liaison with Base environmental, medical, safety and security

departments.

- Ensures that records for pest management operations and personnel training are adequately maintained.
- Ensures that pesticide applications are performed by or under direct supervision of DOD certified applicators.
- Obtains the assistance of the IPMC in securing necessary funds for recurring shop activities (e.g., for supplies, training, equipment, and facilities improvements).
- Ensure that the ponds on the golf course are properly maintained to enhance the pond habitat for protected waterfowl, as described in the INRMP and ISMP.

Golf course pesticide applicators have the following responsibilities:

- Secure and maintain adequate inventories of pesticides and pesticide dispersal equipment.
- Maintain landscaped golf course areas.
- Provide pest management services for golf course related buildings and facilities.
- Ensure that pesticide applications at the golf course are performed by or under the direct supervision of DOD certified applicators.
- Communicate with the superintendent to determine golf course pest management requirements.
- Maintain and enhance the habitat of the ponds on the golf course for protected waterfowl use, as described in the INRMP and ISMP

2.5 BASE ENVIRONMENTAL DEPARTMENT

- Provides technical guidance on pest management procedures in environmentally sensitive areas.
- Assists the IPMC with the preparation, monitoring and updating of the installation PMP.
- Implements and updates the Base Integrated Natural Resources Management Plan (INRMP) and Invasive Species Management Plan (ISMP) and coordinates the required efforts of the plans with activities affected by them.

2.6 BUILDING OCCUPANTS

Building occupants include residents of family and bachelor housing, as well as occupants (military and civilian work force) in office buildings and industrial and institutional facilities.

Occupants are responsible for the following:

- Apply good sanitary practices in and around buildings to prevent pest infestations.
- Use non-chemical and chemical pest control techniques available through the self-help program to the fullest extent before requesting assistance from the Pest Control Shop through the Family Housing Office. Family housing and bachelor housing occupants are authorized, by current pest management instructions, to solicit the services of a commercial (licensed) pesticide applicator at their own expense. However, the use of commercial pest management services must be done with discretion and only after conferring with the family housing office.
- Cooperate fully with Pest Control Shop personnel and contractors in scheduling pest management operations, including preparation of areas to be treated.

2.7 MCBH KANEOHE BAY BRANCH MEDICAL CLINIC

- Conducts surveillance for pests that could adversely affect the health and welfare of installation occupants and personnel.
- Coordinates with local health officials to determine the prevalence of disease vectors and other public health pests in the area surrounding the installation.
- Monitors pesticide sales at the Self-Service Supply Center, the Commissary, and the Post Exchange.
- Maintains and evaluates the health aspects of the pest management program.
- Conducts quarterly inspections of the pest control shop and golf course maintenance shop.
- Prepares an emergency vector control plan that becomes part of the MCBH Kaneohe Bay PMP.

2.8 FAMILY HOUSING OFFICE

- Maintains inventory of self-help pest management items and monitors issuance of products to family housing residents.
- Maintains records of pesticide usage (issuance to residents) and forwards reports to

the pest control shop for incorporation in the shop's monthly summary of pesticides usage.

- Develops and coordinates on-going training on use of self-help pest management products for in-coming family housing residents.
- Coordinates residential pest management operation provided by the pest control shop or by contract.
- Coordinates QAE of pest management performed by contract in family housing.

2.9 Marine Corps Community Services (MCCS) Department

- Provides funding for Golf Course Maintenance training, pesticides and equipment purchases, and facilities improvements.
- Coordinates QAE of Pest Management performed by contract.

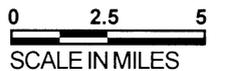
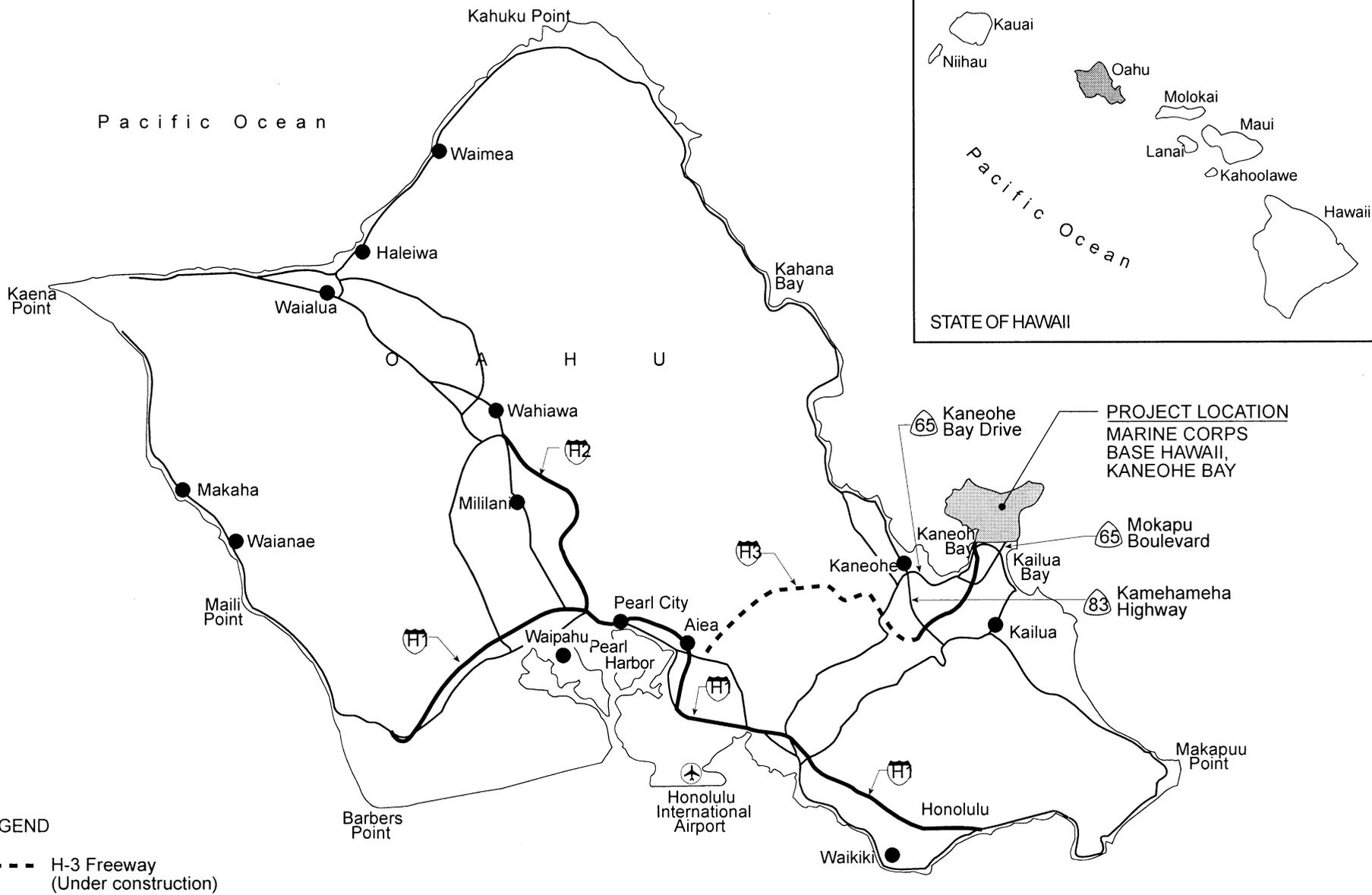
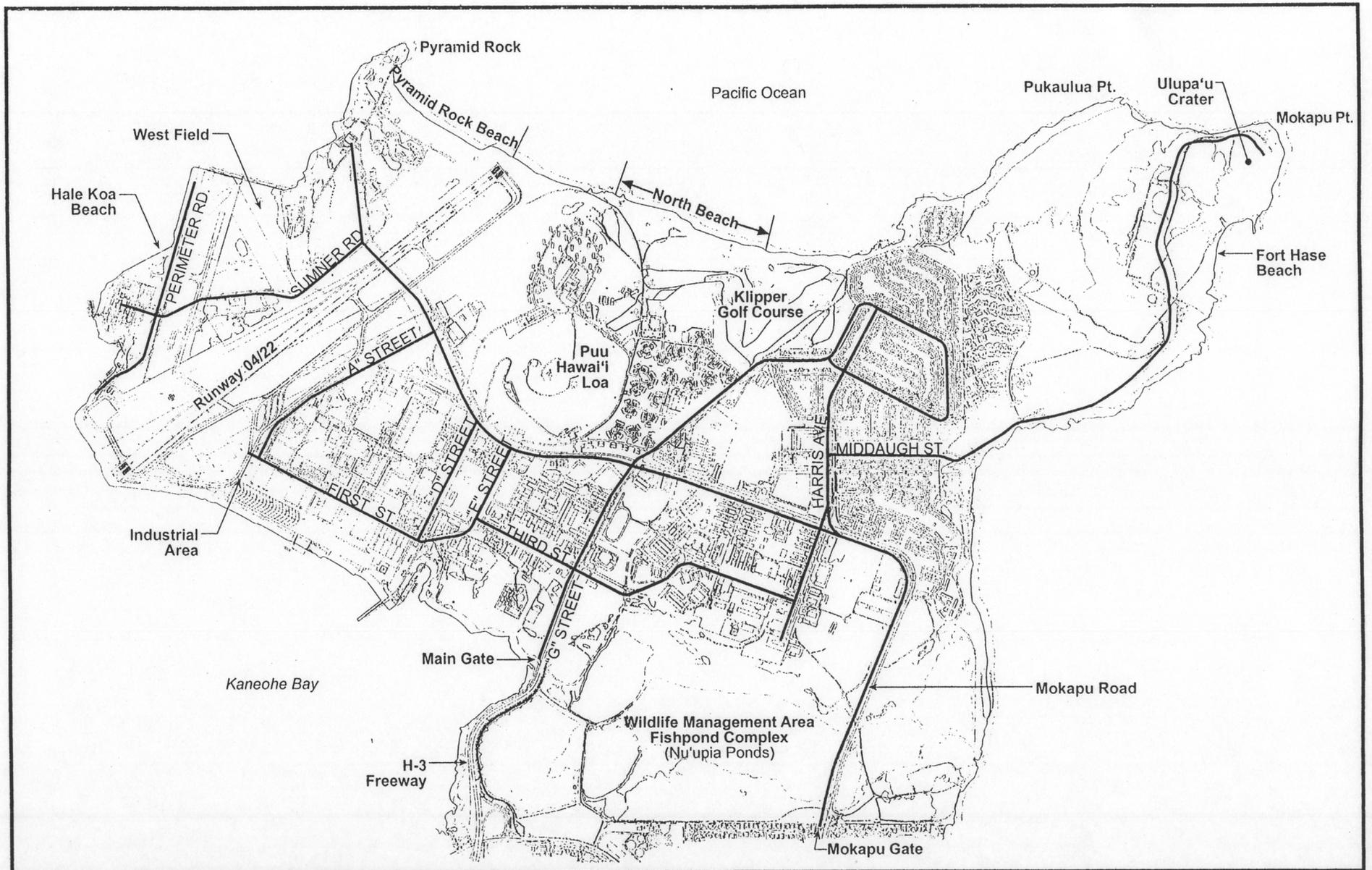


Figure 3-1
LOCATION MAP



0 250 500 1000



SCALE IN METERS

0 550 1100 2200



SCALE IN FEET



NORTH

Figure 3-2
SITE MAP

PEST MANAGEMENT PLAN
Marine Corps Base Hawaii, Kaneohe Bay
Belt Collins Hawaii (PACDIV Revised) • August 2000

3 GENERAL

3.1 MISSION STATEMENT

The underlying mission of MCBH Kaneohe Bay is to maintain and operate facilities required to provide service and material support for the air and ground units currently stationed at the Base.

3.2 INSTALLATION DESCRIPTION

3.2.1 Location and Terrain

MCBH Kaneohe Bay is located on the Mokapu Peninsula of the island of O'ahu. As illustrated in Figures 3-1 and 3-2 (Location Map and Site Map, respectively), MCBH Kaneohe Bay is bordered on the north by the Pacific Ocean, Kailua Bay on the east, residential housing on the south, and Kane'ohe Bay on the west. MCBH Kaneohe Bay occupies an area of approximately 2,951 acres (1,194 ha).

The topography of the peninsula ranges in elevation from sea level to 638 feet (196 M) above sea level. The three most prominent land features are Ulupa'u Crater, Pyramid Rock or Ku'au, and Pu'u Hawai'i Loa. (See Figure 3-2 for locations of these features.)

Ulupa'u Crater is the remnant of a volcanic event that formed most of Mokapu Peninsula. At its peak, the crater reaches an elevation of 638 feet above sea level. Pyramid Rock is a low outcropping of volcanic rocks located along the northwest shore of the peninsula. Pu'u Hawai'i Loa is a 378-foot (116 M) cinder cone located at about the center of MCBH Kaneohe Bay. Both Pyramid Rock and Pu'u Hawai'i Loa are geologically classified as post erosion lava remnants of Ulupa'u Crater.

3.2.2 Geology and Groundwater

Soil types range from dense silty clays to fine beach sand. The major soil types at MCBH Kaneohe Bay are Mamala stony silty clay loam, Makalapa clay, and fill land. The Mamala stony silty clay loam is a well-drained soil developed from coral, lava, and alluvium and provides a solid foundation for construction. The Makalapa clay is mainly found around Ulupa'u Crater. The soil is highly expansive and contractible, therefore it is undesirable for construction. The fill areas are generally in the runway and hangar areas where aircraft activity is high.

There are no potable groundwater sources located within the boundaries of the Base.

3.2.3 Climate

There are only two seasons in Hawaii, summer (May to October) and winter (November to April). The summer season is characterized by warmer temperatures and mild winds -- either mild northeasterly trade winds or southerly (Kona) winds. The winter season is

characterized by cooler temperatures, stronger trade winds, and higher levels of rainfall.

Annual rainfall at MCBH Kaneohe Bay averages about 40 inches (15.8 cm) per year. Temperatures in the area average between 72°F and 79°F (22°C and 26°C, respectively). Recorded high temperature in the Kaneohe area is 93°F (34°C).

3.2.4 Wetlands and Wildlife Management Areas

MCBH Kaneohe Bay includes two designated wildlife management areas (WMA): Nu'upia Ponds and Ulupa'u Head. Several smaller man-made wetlands also exist. They are located at a wetland complex at the Klipper Golf Course, the percolation ditch north of Nu'upia 'Ekolu Pond, the ephemeral wetland within Hale Koa Beach, and the pond complex within the former Naval Ocean System Center (NOSC) main compound. (See Figure 3-3 for location of these WMAs.)

The wetland areas provide needed habitat for endangered Hawaiian waterbirds such as the Hawaiian Stilt, or Ae'o (*Himantopus mexicanus kundenseni*); the Hawaiian Coot, or 'Alae Ke'oke'o (*Fulica americana alai*); the Hawaiian Gallinule, or 'Alae'ula (*Fallinula chloropus sanvicensis*); and the Hawaiian Duck, or Koloa (*Anas Wyvilliana*).

3.2.4.1 Nu'upia Ponds WMA

Nu'upia Ponds WMA encompasses an area of approximately 482 acres (195 ha). The area is located along the south boundary of the Base. Nu'upia Ponds are protected by Section 404 of the Clean Water Act. The area is cooperatively managed under the Federal Sikes Act by MCBH environmental staff, with technical assistance from the State Department of Land and Natural Resources, U.S. Fish and Wildlife Service, PACNAVFACENGCOM, and National Marine Fisheries Service.

3.2.4.2 Ulupa'u Head WMA

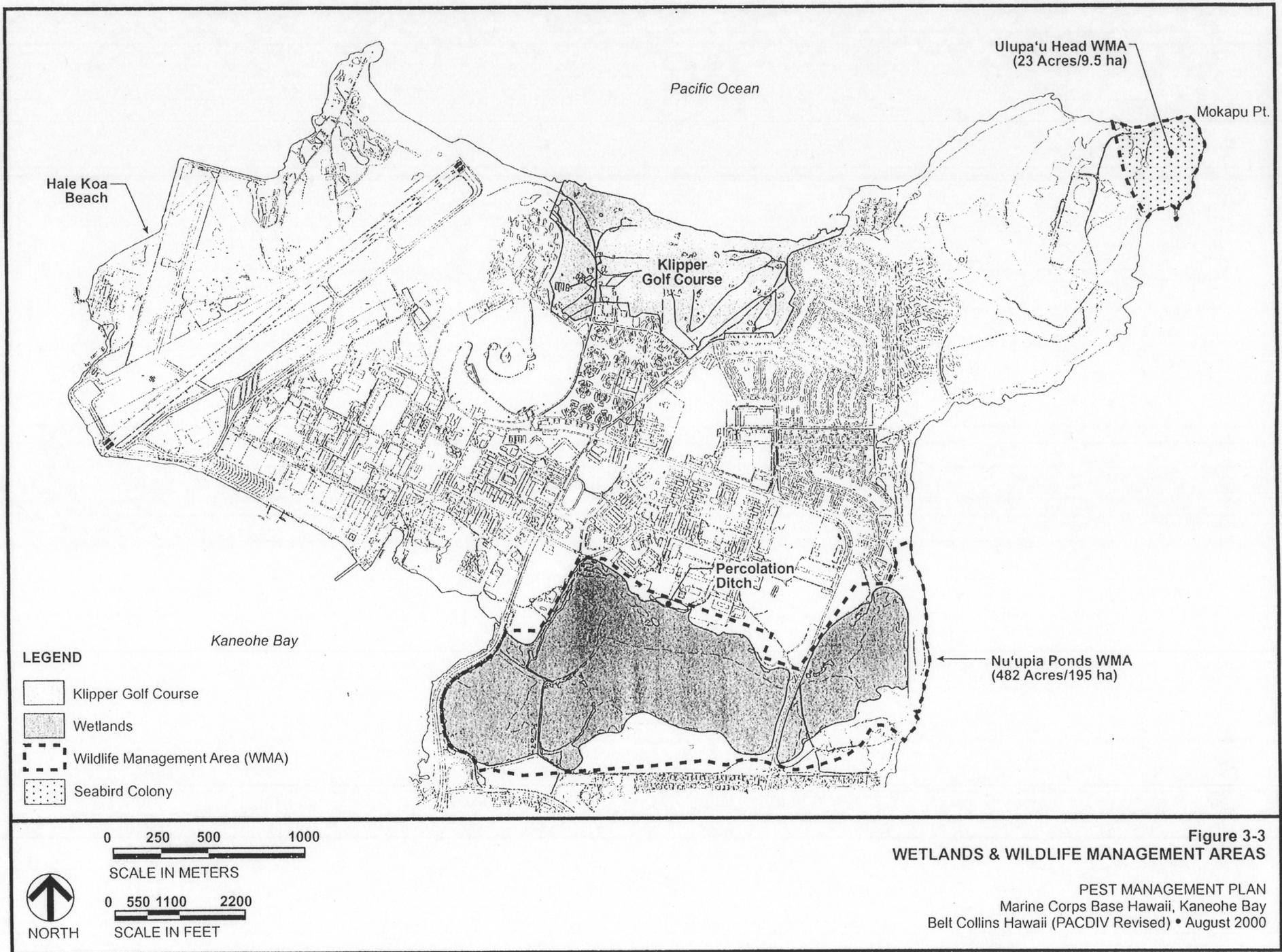
The 23 acre (9.5 ha) Ulupa'u Head WMA was established to protect the resident breeding colony of redfooted boobies (*Sula sula*) on the northeast side of Ulupa'u Crater. The booby colony is one of only two nesting colonies in the main Hawaiian Islands. The area includes hillside and rock land with koa haole, kiawe, and grass covered areas.

3.3 INVENTORY OF LAND USE AND LAYOUT OF FACILITIES

There are four main functional areas located within MCBH Kaneohe Bay. (See Figure 3-4 for location.)

3.3.1 Administrative/Personnel Support

Administration/personnel support functional areas are generally located in the south-central portion of the Base. This area includes administrative and personnel support



facilities. Buildings in the area range in height from one- to four-stories.

Other facilities and activities included in this functional group are:

Community Support Facilities: Child care, family services, Red Cross/Navy Relief, youth center, continuing education, credit union, chapel, and library.

Unaccompanied personnel housing (located in the central portion of the Base).

3.3.2 Operational/Maintenance

Operational/maintenance functional areas are generally located in the west portion of the Base, the Ulupa'u Crater and a small parcel in the southeast portion of the Base. Buildings in this functional area are typically one or two-story structures.

Facilities and activities included in this functional group are:

Aircraft Operational Facilities: Runways, taxiways, aircraft parking aprons, and other facilities that support aircraft operations.

Maintenance Facilities: Air and ground operations, aircraft maintenance, storage hangar spaces, intermediate and mobile aircraft maintenance facilities, engine test cell facilities, and a corrosion control hangar.

Supply/Storage Facilities: General warehousing, III MEF storage, cold storage, open storage, fuel storage, and magazines for ordnance. The main supply area is located near the eastside of the runway.

3.3.3 Family Housing

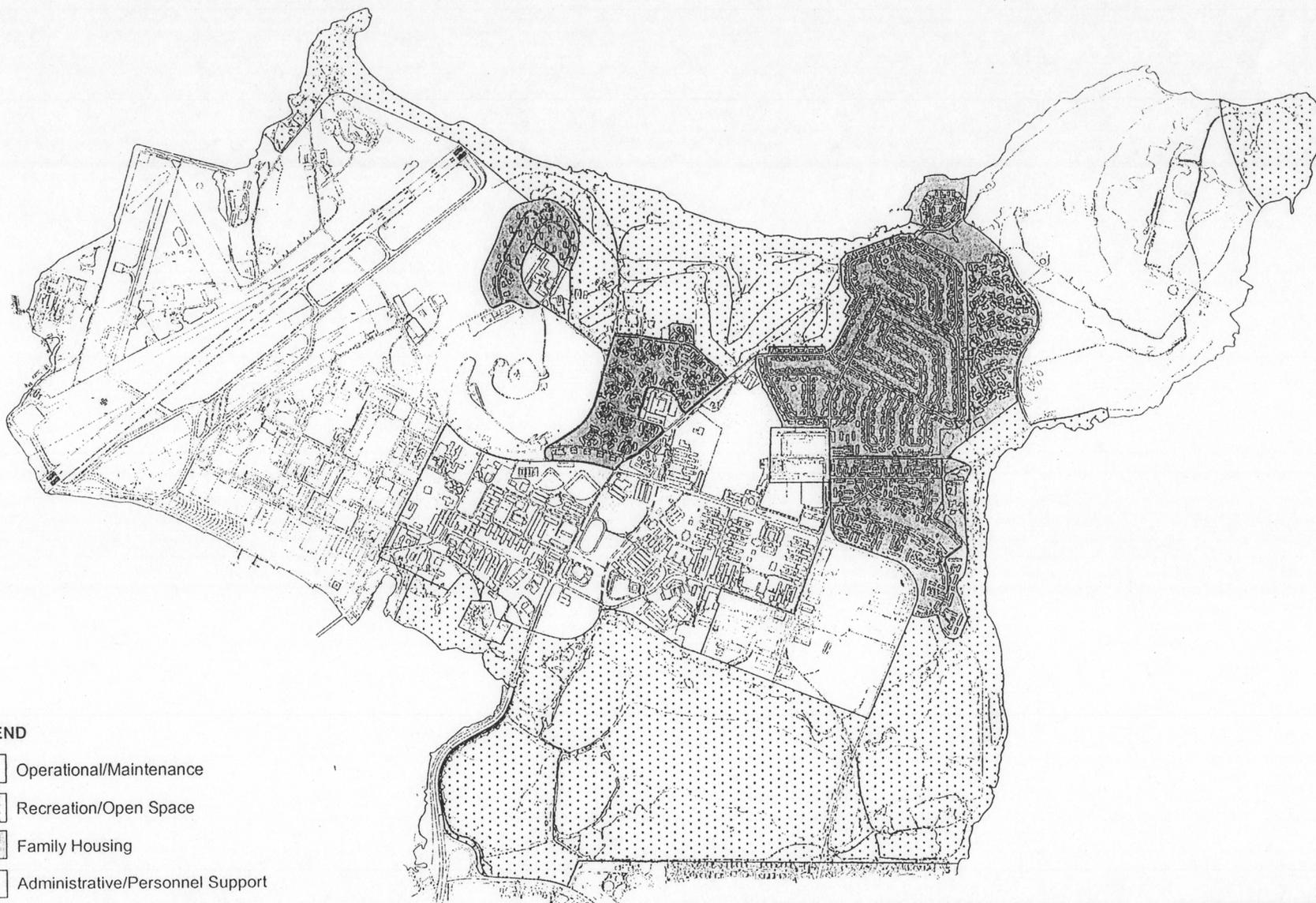
Family housing is located in the north and east portions of the Base, between Ulupa'u Crater and Pu'u Hawaii Loa. Buildings are mainly low-rise single and multi-family units ranging from one to three stories high. Family housing areas are generally located away from the high noise zones.

3.3.4 Recreation/Open Space

Recreation/open space functional areas are generally located along the perimeter of the Base and in family housing areas. Other smaller open space areas can be found throughout the Base.

Facilities/areas included in this functional area are:

Outdoor Recreational Areas: Baseball, basketball, football, tennis, volleyball, golf course, beaches, and open fields. (The golf course is classified as a specialized use area.)



LEGEND

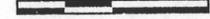
-  Operational/Maintenance
-  Recreation/Open Space
-  Family Housing
-  Administrative/Personnel Support

0 250 500 1000



SCALE IN METERS

0 550 1100 2200



SCALE IN FEET



NORTH

Figure 3-4
FUNCTIONAL AREAS

PEST MANAGEMENT PLAN
Marine Corps Base Hawaii, Kaneohe Bay
Belt Collins Hawaii (PACDIV Revised) • August 2000

Conservation Land: Nu'upia Ponds WMA and Ulupa'u Head WMA.

3.4 PEST MANAGEMENT RESOURCES

This PMP describes MCBH Kaneohe Bay current pest management requirements, outlines the resources necessary for surveillance and control, and describes the administrative, safety and environmental requirements of the program. The pest management program uses In-house, DOD-certified applicators employed at the Facilities Department Pest control shop and at the non-appropriated, MWR, Klipper Golf Course to provide the bulk of the required pest management services for the installation. The remaining pest management services are provided by State of Hawaii certified pesticide applicators under IDQ and BPA soil treatment, structural fumigation and grounds maintenance contracts.

Pests covered under this PMP include, but are not limited to, household pests such as cockroaches, ants and rodents; public health pests such as mosquitoes, flies and fleas; structural pests such as termites and wood-destroying fungi; turf and ornamental pests and diseases; weeds; and vertebrate pests such as birds and feral animals. Without control, these pests have the potential to interfere with the military mission, increase maintenance costs, expose Base personnel to disease, and damage real property. Detailed pest management protocol, including pesticide-reducing IPM alternatives, is provided in Section II of this plan.

3.5 PLAN MAINTENANCE

This document shall be reviewed annually by the Installation Pest Management Coordinator and technically reviewed by the PACNAVFACENGCOM Applied Biologist or NEPMU-6 Medical Entomologist every three years. Any changes shall be annotated during the reviews and incorporated when the plan is formally updated in five years.

The main objectives of annual reviews are:

- (1) identification of any new pest problems and recommended control measures;
- (2) determine if there are any exceptions to the standards and requirements set forth in the PMP;
- (3) evaluation of the effectiveness of control measures used by various activities;
and
- (4) incorporate updates reflecting changes in Base activities/function.

4 INTEGRATED PEST MANAGEMENT (IPM)

4.1 IPM PRINCIPLES

IPM is the method of choice for DoD pest management and disease vector control. IPM is a sustainable approach to managing pests and controlling disease vectors by combining applicable pest management tools in a way that minimizes economic, health, and environmental risks. IPM uses regular or scheduled monitoring to determine if and when treatments are needed and employs physical, mechanical, cultural, biological, genetic, regulatory, chemical, and educational tactics to keep pest numbers low enough to prevent unacceptable damage or impacts. Treatments are not made according to a predetermined schedule; they are made only when and where monitoring has indicated that the pest will cause unacceptable economic, medical, or aesthetic damage. Treatments are chosen and timed to be most effective and least disruptive to natural controls of pests. Least hazardous, but effective, pesticides are used as a last resort.

The presence of a pest species does not necessarily justify action for its control, and in fact tolerable infestations may be desirable, such as in providing food for important beneficial insects.

An example of IPM is the mowing of grass which can be utilized as animal food in lieu of massive herbicide applications for the control of vegetation. The use of mosquito fish to control mosquito breeding in sewage treatment facilities is an inexpensive, practical and safe means of biological control which is another form of IPM.

The main goal of IPM is to provide long-term management of pest. The success of the IPM is dependent on the coordinated efforts of all Base personnel. Through this process, IPM has the potential to minimize harm to human health and the environment, reduce the need for pesticides, reduce pest resistance, minimize pesticide waste and save money.

4.2 IPM PROCESS

IPM at MCBH Kaneohe shall be based on seven steps that are routine procedures for addressing each pest problem. These steps are:

- (1) Identification and assessment of pest or disease vector problems.
- (2) Development of a written management plan or strategy that emphasizes natural controls and non-chemical tactics to deal with pest and disease vector problems.
- (3) Establishment of an action threshold for each pest and disease vector problem to define when corrective action must be implemented.
- (4) Use of a monitoring procedure, such as inspection, trapping, or surveillance, for

each pest and disease vector.

(5) Application of corrective action when a threshold is reached for any pest or disease vector.

(6) Use of a documentation system to catalogue monitoring information and to document management problems.

(7) Verification and evaluation procedures to ensure that the IPM program is meeting stated risk reduction measures and that information exists to redesign the IPM plan where required.

4.3 IPM PRACTICES

Summary sheets on IPM practices for each major pest category are provided in Section II of this document.

The management of all categories of pests at MCBH Kaneohe Bay shall be executed in accordance with the integrated procedures listed above, including identification of the problem, implementing surveillance to determine the magnitude of the problem, determining thresholds for course of action, implementing control measures when necessary using alternative, non-chemical measures, when practicable, and using pesticides as the last resort. When pesticides are used, the most effective and safest pesticides shall be used. All pesticide use shall be documented and archived using the Navy NOFORMS or PMDS computer generated or equivalent programs. Besides monitoring pesticide usage, these data will also be used to determine cost/benefit evaluation of management of each major group of pests.

4.4 ANNUAL WORKLOAD FOR SURVEILLANCE, PREVENTION, AND CONTROL

The number of man-hours expended for surveillance, prevention, and control of pests at MCBH Kaneohe Bay is provided in Appendix E. The P2 plan on pesticide use reduction and pollution prevention are discussed in Section 6.7 of this plan.

5 HEALTH AND SAFETY

5.1 MEDICAL SURVEILLANCE OF PEST MANAGEMENT PERSONNEL

All personnel involved with the application of pesticides (with the exception of self-help pest management) are included in a medical surveillance program. The program consists of the following:

5.1.1 Initial Monitoring

A pre-employment physical examination is required for all new pest management personnel. The purpose of this pre-employment examination is to:

- (1) determine if the individual is physically capable of wearing a respirator; and
- (2) establish a baseline plasma or serum and red blood cell (RBC) cholinesterase level.

Failure of this initial physical examination is basis for disqualification for pest management work.

5.1.2 Annual Monitoring

An annual physical examination, of the same scope as the initial monitoring exam, is conducted once a year for all pesticide applicators. Annual examinations are processed by the Occupational Health Department. Pesticide applicators who are currently being monitored are listed in Table 7-1.

5.1.3 Cholinesterase Inhibiting Substance Use Monitoring

When cholinesterase inhibiting substances (CIS; e.g., carbamate or organophosphate pesticides) are used, the RBC cholinesterase levels are monitored at least twice a year (before and after heavy spraying periods). Examinations are done more frequently when CIS are heavily used or when an individual exhibits symptoms of CIS poisoning.

Removal from work is instituted when the RBC cholinesterase level is depressed to 75 percent, or less, of the baseline level. Return to work is permitted when the level has returned to 80 percent or higher of the baseline level. Some of the common symptoms produced by CIS are listed in Table 5-1.

TABLE 5-1: Common Symptoms Produced by Cholinesterase Inhibiting Substances

<u>MILD POISONING</u>	<u>MODERATE POISONING</u>	<u>SEVERE POISONING</u>
Anorexia	Nausea	Diarrhea
Headache	Salivation	Pinpoint, non-reactive pupils
Dizziness	Lacrimation	Respiratory difficulty
Weakness	Abdominal cramp	Pulmonary edema
Anxiety	Vomiting	Cyanosis
Tremors of tongue and eyelids	Perspiration	Loss of sphincter control
Miosis	Slow Pulse	Convulsions
Impairment of visual acuity	Muscular tremors	Coma
		Heart block

5.2 HAZARD COMMUNICATION

MCBH Kaneohe Bay pest management personnel shall be given initial hazard communication training. Training shall include discussion of hazardous materials in the workplace. Following initial hazard communication classes, additional training shall be given to new employees or when new hazardous materials are introduced into the work place.

Initial, hazard communications training is provided by the MCBH Safety Office on an as needed basis and refresher training is provided annually as required. The pest control shop foreman and golf course superintendent shall maintain records listing the names and dates of personnel receiving hazard communication training. The list shall also include the sponsoring office/group for the training class.

Hazard communication training has been provided for the pest management personnel listed in Table 7-1.

Materials safety data sheets (MSDS) for all pesticides on inventory are kept at the Pest Control Shop and the Golf Course Maintenance Shop.

5.3 PERSONAL PROTECTIVE EQUIPMENT (PPE)

5.3.1 Equipment Supply and Use

Pest management personnel shall be supplied PPE by the Government. PPE equipment provided includes, but is not limited to, half-face respirators with appropriate cartridges, safety goggles/glasses, nitrile gloves, coveralls, rubber boots, and safety shoes. PPE is to be used as indicated by pesticide labels and MSDSs. PPE shall be purchased through the federal supply system or through local vendors.

5.3.2 Care and Maintenance

Pest management personnel shall each be responsible for the care and maintenance of their own PPE. Procedures for the maintenance and care of PPE are provided in pesticide applicator certification and recertification courses and other training manuals. (Refer to Chapter 7.7 of this PMP for additional information on personnel certification). Pesticide contaminated clothing will be laundered on-site in dedicated washing machines. PPE shall be stored in the locker room or vehicles, separate from pesticides.

Pest management personnel shall be respirator fit-tested annually and also perform fit-test (negative pressure) before each use.

Further guidance in safe pesticide handling practices and the use of safety equipment is presented in Appendix A.

5.4 FIRE PROTECTION

All pesticides used by the Pest Control Shop are stored in a brand new and dedicated storage, Building 6522, constructed adjacent to the previous storage area in Building 203, at the north end of the vehicle compound (see Figure 5-1). The facility has three compartments for the separate storage of insecticides, herbicides and flammable materials. The structure is in compliance with current military design and construction criteria for pest management facilities, including a fully contained (bermed), epoxy coated, concrete floor. The previous pesticide storage is now being used to store equipment only. Location of fire extinguishers and fire escape routes for the building are shown on Figure 5-1. An inventory of pesticides stored in the new facility is provided in Appendix B.

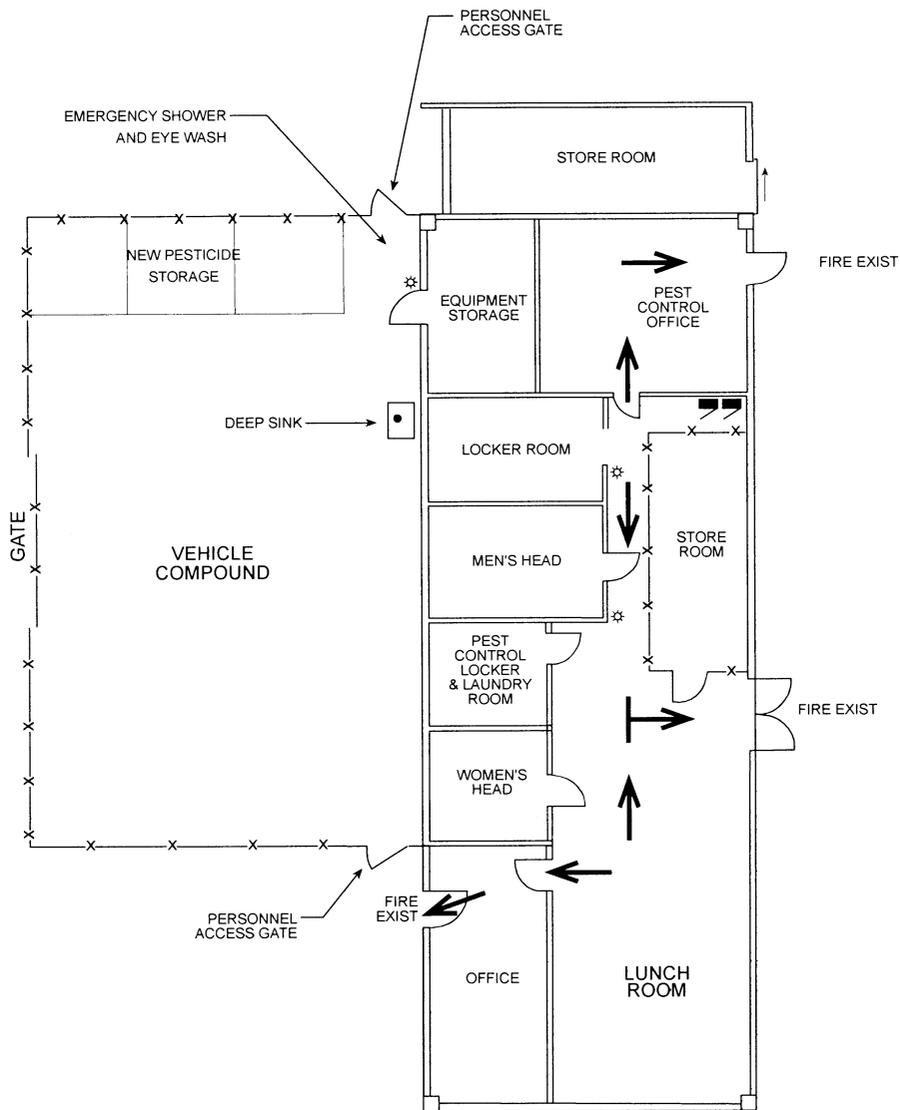
Building 4004 is in the main golf course maintenance building. Pesticides and other chemicals used by Golf Course Maintenance Department are stored in a secured storeroom in the building. The facility was designed in accordance with Military Handbook 1028/8A, Design of Pest Management Facilities, and is in compliance with current, military pesticide storage requirements.

The pesticide inventory at the golf course is provided as Appendix C.

The Base Fire Department conducts annual inspections of these facilities and is familiar with the floor plan of the storage areas. Periodic updates of the inventories maintained by these facilities are provided to the Fire Department.

5.5 PEST CONTROL EQUIPMENT AND VEHICLES

Pest management equipment purchased by the Facilities pest control shop and Golf Course Maintenance Department are kept in good repair for routine use. The inventories of the major equipment of the two programs are provided under Appendix D.



LEGEND

- * Fire Extinguisher
- x-x- Chain Link Fence
- ➔ Fire Escape Route



NORTH

0 4 8 16

SCALE IN FEET (1/16" = 1'-0")

Figure 5-1
FLOOR PLAN - BUILDING 203
 (FACILITIES MANAGEMENT PEST CONTROL SHOP)
 PEST MANAGEMENT PLAN
 Marine Corps Base Hawaii, Kaneohe Bay
 Belt Collins Hawaii • August 2000

Dedicated pest control vehicles, equipped with utility compartments for the safe transportation of pesticides on base, are assigned to the Pest Control Shop. Care shall be taken to secure pesticides -- to prevent damage to the containers and chemical spills. At no time shall pesticides be left unsecured in unattended vehicles. Pesticides or contaminated equipment shall not be transported in cabs of vehicles. A portable eye wash, spill kit, and labels and MSDSs for all pesticides transported shall be carried in each vehicle. An inventory of the vehicles is available for review from the pest control shop supervisor.

6 ENVIRONMENTAL CONSIDERATIONS

6.1 PROTECTION OF THE PUBLIC

- Proper precautions shall be taken during pesticide application to protect public health and safety, on and off Base.
- Care shall be taken during outdoor pesticide applications to ensure that spray drift is not a problem to the public, wildlife and the applicator.
- Pest management personnel shall coordinate their efforts with building occupants before and during indoor applications.
- Discretion must be used when applying in and around quarters occupied by a pregnant woman or infant a year old or younger.
- Pest management personnel shall wear appropriate PPE.
- Pest management personnel are not permitted in a pesticide application area unless they have met medical monitoring standards.

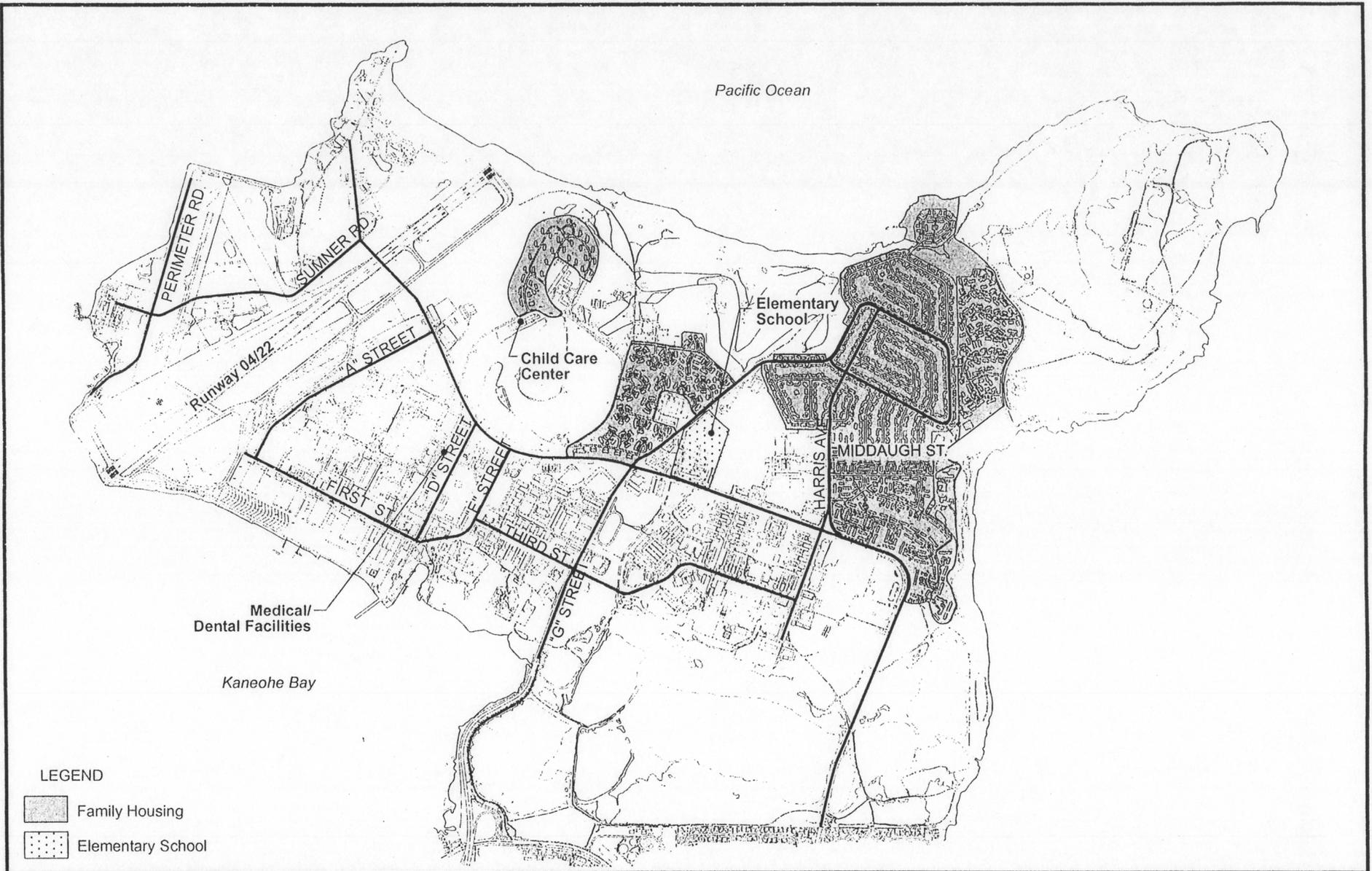
6.2 SENSITIVE RECEPTOR AREAS

- Sensitive receptor areas listed on pesticide labels shall be identified before pest control operations are undertaken.
- Application of pesticides in sensitive receptor areas shall be done in accordance with instructions listed on the label.
- Special care shall be taken when pesticides are applied in or around areas such as child-care centers, health clinics, or in family housing areas where newborn infants are present. (These locations are identified in Figure 6-1.)

6.3 ENDANGERED/PROTECTED SPECIES AND HABITATS

Pest management activities within identified endangered/protected species habitats are to be coordinated between the Base Environmental Department and Pest Control Shop personnel. Pesticides used in these areas are subject to prior approval through the Base Environmental Department. Adherence to these general procedures ensures protection of these environmentally sensitive resources.

No pesticides shall be applied directly to wetlands and other sensitive water areas unless the proposed application is covered by the label and approved by the Base Environmental Department.



LEGEND

-  Family Housing
-  Elementary School

0 250 500 1000

SCALE IN METERS



NORTH

0 550 1100 2200

SCALE IN FEET

Figure 6-1
SENSITIVE RECEPTOR AREAS

PEST MANAGEMENT PLAN
Marine Corps Base Hawaii, Kaneohe Bay
Belt Collins Hawaii (PACDIV Revised) • August 2000

6.3.1 General Summary

Endangered and protected species habitats in MCBH Kaneohe Bay are located primarily in two WMAs -- Nu'upia Ponds and Ulupa'u Head (see Figure 3-3). The 482-acre Nu'upia Ponds WMA is one of the few remaining coastal wetlands in Hawaii and is an important habitat for endangered waterbird species, such as the Hawaiian Stilt (protected under the Endangered Species Act) and a resident population of ground nesting wedge-tailed shearwaters, *Puffinus pacificus* (protected under the MBTA). Additionally, sixteen native fish species find sanctuary in the ponds, such as mullet or ama'ama, and milkfish or awa. The 23-acre Ulupa'u Head WMA is one of only two red-footed booby colonies in the main Hawaiian Islands. This seabird is not a listed endangered species but is federally protected under the MBTA. On Mokapu's Klipper Golf Course, three, one-half acre, freshwater ponds have attracted two species endangered Hawaii waterbirds ('Alae 'ula or Hawaiian gallinule and 'Alae ke'oke'o or Hawaiian coot. The migratory great frigatebird or 'Iwa and native black-crowned night herons or 'Auku'u also visit these ponds.

Threats to these environmentally sensitive resources include the following:

- Wildfires -- In the Ulupa'u Head WMA, wildfires are of particular concern. Weapons fire during training exercises, in combination with the generally arid conditions in the area, increase the potential for wild fires. A wildfire in this WMA has the potential to kill, injure and destroy/displace nesting boobies.
- Cattle Egrets and Herons -- Potential adverse impacts of cattle egrets and herons include: (1) preying on endangered birds (in particular the chicks); and (2) serving as carriers of salmonella that may spread to other protected birds.
- Predatory Mammals -- Animals that prey, to varying degrees, on birds, their eggs, and young include the polynesian and roof rats, house mice, mongooses, and feral cats.
- Invasive Plants -- Invasive plant species such as pickleweed form a vegetative mat that is often impenetrable for most species of birds. The pickleweed has overgrown portions of critical mudflat habitat in the Nu'upia Ponds WMA. Other invasive plants such as mangrove encroach on shoreline areas of Nu'upia Ponds. As these plants overgrow sensitive mudflat habitats, they deprive birds such as the Hawaiian Stilt from their natural feeding and nesting areas. In addition, these plants increase the rate of siltation of the pond.

Alien or invasive animal and plant species issues will be more fully addressed in the invasive species component of the INRMP.

6.3.2 Pest Control Measures

Pest control measures implemented to protect environmentally sensitive resources in MCBH Kaneohe Bay include the following:

- Bird Air Strike Hazard (BASH) Program – generally, includes trapping and other non-destructive removal of pest birds from areas where they pose a risk to aircraft. Lethal means, such as baiting and shooting, may be used by trained and authorized Natural Resources staff, but only as a last resort should other behavior altering actions prove ineffective. This program also includes the control of nuisance birds in the aircraft hangars.
- Wildlife Management Program - includes trapping of mongoose, dogs, and cats, and placement and monitoring of bait stations for rats and mice.
- Vegetation Management Program:
 - in Nu'upia Ponds annual assault amphibious vehicle (AAV) training exercises provide vegetation management in portions of Nu'upia Ponds. The AAVs physically break the strands of pickleweed, clearing areas for use by birds such as the Hawaiian Stilt. Heavy equipment and hand pulling are also used to eradicate the undesirable vegetation in the area.
 - in Ulupa'u Head quarterly herbicide applications along road and firebreaks are conducted by the pest control shop. In addition, a re-vegetation program has been implemented to replace the non-native grasses with more fire resistant native vegetation).
 - Other areas of concern include the Klipper Golf Course ponds that provide habitat for the endangered Hawaiian gallinule and coot. The 1992 Fish and Wildlife Management Plan recommended testing the ponds for herbicide build-up from golf course chemicals.

6.4 ENVIRONMENTAL DOCUMENTATION

An Environmental Assessment for the pesticide use program at MCBH Kaneohe Bay was conducted and determined not to be required by Navy regulations.

6.5 PESTICIDE SPILL AND REMEDIATION

6.5.1 Requirements

MCO 5090.2A, Chapters 13 & 14, establish procedures for response, clean up, and reporting of hazardous substance spills. Detailed guidance on spill management is included in the Spill Response and Prevention Plan for MCBH Kaneohe Bay.

For any spill over two gallons of a hazardous material (including most concentrated pesticides) the Fire Department shall be notified immediately by calling 911.

For any spill of a dilute pesticide of more than 10 gallons or when there is a potential for environmental or property contamination, the Fire Department will also be notified.

Chapter 13, Section 5.3b of OPNAVINST 5090.1B CH-2, requires that pesticides be included in the MCBH Kaneohe Bay Hazardous Substance Spill Contingency Plan.

6.5.2 Preparation

Facilities and Golf Course pesticide applicators need to be familiar with emergency spill management procedures and prepared to respond to any pesticide spill in accordance with the installation Hazardous Substance Spill Contingency Plan and the Armed Forces Pest Management Board Technical Information Memorandum No. 15, Pesticide Spill Prevention and Management.

6.5.2.1 Pest Control Shop (Building 203)

The Shop Foreman shall maintain appropriate pesticide spill kit(s) in appropriate locations where pesticides are stored and handled (mixed) and on each vehicle used to transport pesticides.

The Foreman shall also post spill management procedures in the pesticide facility and all vehicles that transport pesticides.

6.5.2.2 Golf Course Maintenance (Building 4004)

The course Superintendent shall maintain appropriate spill kit(s) in pesticide storage and handling areas of the facility. The Superintendent shall also post spill management procedures in the facility.

6.6 POLLUTION CONTROL/ABATEMENT PROJECTS

No ongoing pollution control/abatement projects related to pesticides have been identified at MCBH Kaneohe Bay as indicated below.

6.6.1 Pest Control Shop

- None.

6.6.2 Golf Course Maintenance

- None.

6.7 POLLUTION PREVENTION (P2)

The pest management program at MCBH Kaneohe Bay, as outlined in the P2 plan, complies with Executive Order 12856 (3 August 1993), Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements. The control of pests with pesticides is considered only after non-chemical methods have been exhausted. Therefore, IPM strategies, emphasizing alternative non-chemical control methodology, form the basic framework for the pest management program.

6.7.1 Pest Management Programs

A P2 plan was implemented at MCBH in December 1995. The plan did not include any process-specific recommendations for the pest management programs. However, the pest control shop and golf course pest management personnel have been required, since 1994, to exercise three pesticide pollution prevention initiatives or Measures of Merit (MOMs) issued by the Deputy Undersecretary of Defense (Environmental Security). The MOMs include:

- Implementation of Pest Management Plans for all installations by FY97,
- 100% certification of installation pesticide applicators within 2 years of employment, and
- 50% pesticide use reduction by FY00 based on FY93 baseline year.

MCBH Kaneohe Bay has achieved MOMs 1 and 2 within the prescribed timeframe by updating its Pest Management Plan in November 1997 and achieving 100% certification of pesticide applicators by ensuring that all Facilities Department and MWR Golf Course pesticide applicators were certified and recertified before the close of FY98. The installation has also implemented integrated pest management in its Facilities Department and MWR Golf Course daily pest management programs to reduce pesticide use and is on line of achieving 50% pesticide use by the close of FY00.

6.8 PROHIBITED ACTIVITIES

- Pesticides, other than those approved for use in wetlands and cleared through the Base Environmental Department, shall not be allowed in Nu'upia Ponds WMA.

7 ADMINISTRATION

7.1 CONTRACTS

Proposed contracts, involving pesticide applications, shall be submitted to PACNAVFACENGCOM, Applied Biology, Code ENV1813, for review and approval prior to advertising. DOD certified personnel shall inspect all pest control services contracts. All contract usage of pesticides shall be reported to PACNAVFACENGCOM as discussed in Section 7.6 of this plan.

7.2 JOB ORDERS

Pest management at MCBH Kaneohe Bay is conducted under several standing job orders (SJOs). The standing job orders are provided for managing cockroaches, ants, flies, rodents and stored products pests in the galleys, service clubs, snack-bars, Commissary and Exchange facilities. Additionally, SJOs are provided for managing mosquitoes in and around family housing areas, undesirable vegetation in rights-of-way and the WMA, and termites in bachelor and family housing quarters. All pest management services, performed under SJOs or otherwise, must be preceded by inspection or surveillance to evaluate the problem first before any pesticides can be used. When pesticide use is warranted, the least toxic but effective available product should be used. Current regulations and pesticide labels prohibit routine or preventative applications of pesticides. In ant and cockroach management, baits are generally preferred over conventional pesticide applications. Current pest control shop standing job orders are provided in Appendix E.

Other Job requests not included in the standing job order are performed under emergency service authorization (ESA, limited to 16 hours of service). All job requests requiring over 16 hours shall be submitted under specific work authorization.

Emergency service tickets are recorded on computers by the trouble desk throughout the day. All jobs are monitored through completion.

7.3 INTERSERVICE SUPPORT AGREEMENT AND OFF-BASE SERVICES

Although MCBH Camp Smith is under the jurisdiction of MCBH Kaneohe Bay, pest management operations there are provided on an inter-service support agreement (ISSA) by the Navy Public Works Center, Pearl Harbor (see Volume 2, MCBH Camp Smith Pest Management Plan revision). MCBH Kaneohe Bay pest control shop provides pest management services for off-base MCBH buildings and family housing units located on Oahu on an as needed basis.

7.4 AGRICULTURAL OUTLEASES

Not Applicable.

than a three-month supply, in stock. Current inventories of pesticides and pesticide application equipment are maintained by the respective pest management shops. Standard pesticides available to DOD components and federal agencies are listed in Appendix F.

7.5.3 Facilities (Mixing and Storage Sites)

Pesticide mixing and storage are located at the following sites:

- Building 6522 Pesticide Storage
- Buildings 203 Pest Control and Janitorial Services Building
- Building 4004 Golf Course Maintenance

7.6 REPORTS AND RECORDS

DOD 4150.7, OPNAVINST 6250.4B, and MCO 5090.2A (Chapter 14) require that daily records of pest management operations be recorded using DD Form 1532-1 or a computer-generated equivalent and kept at the Pest Control and Golf Course Maintenance shops. If restricted-use pesticides are used, a separate log must be kept. Monthly summaries, using DD Form 1532 or computer-generated equivalent shall be produced and forwarded to COMNAVFACENGCOM Facilities Systems Office (FACSO) via PACNAVFACENGCOM Code ENV1813. The purpose is to generate data for regulatory, DOD, Federal, or state data calls; for Marine Corps program review and oversight; and for the DOD Measures of Merit on pesticide pollution prevention. Installation commanders must ensure that these records are archived after two years for permanent retention.

Presently, the Pest Control and Golf Course Maintenance shops are using the Navy PMDS (Version 1.0), computer software program for maintaining daily records and generating monthly reports.

The Defense Environmental Security Corporate Information Management (DESCIM) Office developed a new record keeping and reporting software, Integrated Pest Management Information System (IPMIS), for the DOD that is designed to track pest management plans, pesticide applicator certification and pesticide use records for installations DOD wide. These requirements coincide with the three DOD Measures of Merit on pesticide pollution prevention issued by the Deputy Undersecretary of Defense for Environmental Security in 1994. The software is available on the internet via the Defense Environmental Network Information Exchange (DENIX). All users, however, must first apply and obtain a password from DENIX to enable access into the DOD menu and the IPMIS program. All DOD installations with reporting responsibilities must eventually convert to this reporting system. Tentative conversion date is 1 October 2000. However, installation pest management supervisors need to coordinate this effort with their installation pest management coordinators, MACOM pest management consultants and Headquarters pest management consultant.

Termite inspection reports (Form DD 1070) are recorded for all termite inspections and treatments. Copies of the termite inspection reports are filed in Building 203 - Pest Control Shop office.

7.7 TRAINING

All pesticide applicators who are assigned to the Pest Control and the Golf Course Maintenance shops will be required to attend pesticide applicator training to ensure pesticides are applied properly and safely in accordance with DODINST 4150.7. Personnel who have not been trained and do not possess a valid Certificate of Competency (DD Form 1826) will not be allowed to handle, mix or apply pesticides. However, when working under the direct supervision of or when working with a certified pesticide applicator, the noncertified person may be allowed to handle, mix and apply pesticides. Uncertified personnel hired as pesticide applicator trainees, must receive applicable training, including formal DOD certification training, within two years of employment.

7.7.1 On-the-Job Training (OJT)

(1) Any new employee who has been assigned to the pest control shop will be trained on pest management activities by the shop foreman with assistance from staff certified, pesticide applicators. The employee will be assigned to the work leader or to the most qualified pesticide applicator for hands on training on the proper and safe application of pesticides as well as the proper use of pesticide dispersal equipment to attain the required field experience. Classroom training conducted by the foreman includes pesticide applicator responsibilities, biology and identification of common pests, proper application and safe use of pesticides, storage, mixing and disposal procedures, and other pertinent information that is required to deliver pest management services effectively.

(2) The OJT will continue until the new employee exhibits adequate proficiency in his performance. A written examination is considered a good tool to determine how much he has learned and verification of his performance and practices at the job sites can be determined through field observations.

(3) The OJT will continue for 6 to 12 months depending on the capabilities of the new employee. After the OJT has been completed and performance evaluated by the foreman as satisfactory, the new employee will be eligible for the pesticide applicator certification course.

7.7.2 Pesticide Applicator Certification Training

Initial certification training is available through the Navy Disease Vector Ecology and Control Center (NDVECC) Bangor or NDVECC Jacksonville or U.S. Army Academy of Health Sciences, Fort Sam Houston. The same training by the above training schools may also be arranged on site in Pearl Harbor or Ft. Shafter with the assistance and

support of PACNAVFACENGCOM or USARPAC. Uncertified pest controllers will be required to attend this training after completing OJT. Personnel who fail to obtain a passing grade on the examination will be allowed to continue their OJT until they are ready to re-take the examination. Pest controllers who fail to attain a passing grade the second time around will be considered unqualified and personnel action will be taken to remove them from performing pest management functions.

7.7.3 Applicator Pesticide Recertification Training

Each pesticide applicator possessing a Certificate of Competency must be recertified every 3 years. This recertification training will be provided by PACNAVFACENGCOM with support from the other services. Personnel who fail to attain a satisfactory grade on the recertification examination or personnel who are not able to attend the training will be given an opportunity to take a follow-up examination within 120 days. Pesticide applicators who fail to attain a satisfactory grade on the follow-up examination will be subject to personnel action for transfer to appropriate work within the command.

7.8 QUALITY ASSURANCE/QUALITY CONTROL

All pest management contracts executed at MCBH Kaneohe Bay will be subject to oversight by a DOD-certified pest management representative or quality assurance evaluator (PMQAE).

7.9 DESIGN/REVIEW OF NEW CONSTRUCTION

As a part of the IPM effort, design and renovation of new and old facilities, such as in family housing, shall be reviewed by PACNAVFACENGCOM Applied Biology, Code ENV 1813. The intent of this review is to ensure that the building plans incorporate features that exclude or minimize pest access into structures. For example, in Hawaii, where termites are a serious problem, it is essential that new and revitalization construction incorporate the necessary physical and chemical barriers, pressure treated lumber, and positive sloping for good drainage for the long term management of termite problems.

7.10 THREE YEAR PLAN

This plan shall be reviewed annually (as described in Section 3.5). The plan shall be revised to incorporate information provided from annual review memoranda and the triennial (on-site) technical review conducted by the PACNAVFACENGCOM or NEPMU-6 pest management consultant. In addition, the three-year revision is performed to reflect current laws and regulations, practices, technology and compatibility with the Base INRMP and ISMP documents.

8 COORDINATION - FEDERAL, STATE AND LOCAL AGENCIES

On-Base coordination of activities is discussed in Section II of this plan. As required, pest management activities at MCBH Kaneohe Bay shall be coordinated with appropriate State, County, and other Federal regulatory agencies.

9 SALE AND DISTRIBUTION OF PESTICIDES

9.1 FAMILY HOUSING SELF-HELP

Pest management products are available to family housing residents through the self-help shop (Building 406). The self-help shop is open 8:30 a.m. to 3:30 p.m. Tuesday through Saturday.

The objective of this program is to encourage housing occupants to implement self-help pest control before requesting services from the Pest Control Shop. This procedure has facilitated an effective pest management program for cockroaches and other household pests in MCBH Kaneohe Bay housing. When carefully implemented, self-help control will eliminate scheduled pest control services. This helps to reduce pest management costs and pesticide usage.

The self-help shop issues only Navy approved and selected, non-restricted products and supplies that include:

- Combat (cockroach bait stations)
- Mouse Traps (spring/snap type)
- Allethrin or Resmethrin Aerosol Insecticide
- Fly Swatters

Other non-standard stock items (available under local purchase authorization) include:

- Aero-silica-Gel (with or without pyrethrum)
- Boric Acid Powder (98% minimum)
- Sticky Trap for Mice

Records of distribution of all stock pesticides and pesticides procured under local purchase authorization shall be maintained by the Housing Office Manager. Instructions for the control of cockroaches and related pests in military housing shall be provided to housing residents at the time of occupancy.

Technical Information Memorandum No. 42 (Self-Help Management) provides guidance on self-help pest control for Military Family Housing and Bachelor Quarters occupants.

9.2 BASE COMMISSARY AND EXCHANGE STORES

The Base commissary and Exchange stores stock and sell ready-to-use, EPA registered pesticides for family housing residents. The inventories are subject to periodic inspection by the area command entomologist and certified medical personnel to ensure that restricted-use and dangerous products are not sold.

10 REGULATED PESTS

10.1 QUARANTINE PESTS

Transportation of plants and animals to Hawaii from foreign and domestic sources is prohibited without the expressed approval of appropriate federal, military or state authorities. Federal laws and regulation prohibit the movement of propagative materials and animals from foreign origins without prior written approval.

Approved articles shall be subject to inspection, treatment, and, in some cases, quarantine upon arrival in Hawaii. Similarly, State laws and regulation require that all plant material be declared for inspection upon arrival from domestic origins, although prior approval for the entry is not normally required except for certain restricted plant groups. However, the entry of most non-domestic animals is prohibited except for certain caged birds, tropical fishes and mammals that are allowed entry by permit.

Examples of prohibited non-domestic animals include snakes and other exotic reptiles. Domestic animals such as cats and dogs are permitted entry through prior arrangements with the Animal Quarantine Station (AQS), Department of Agriculture, State of Hawaii, with proper health certificates and a mandatory 30-120 day quarantine at the States Animal Care Facility for rabies control. All other domestic animals such as livestock animals are permitted entry by prior arrangement with AQS.

Any questions pertaining to the introduction of plants and animals should be directed to PACNAVFACENGCOMs applied biologist or to the regional or local offices of U.S. Department of Agriculture (Plant Protection and Quarantine) or the Hawaii Department of Agriculture.

10.2 RETROGRADE CARGO

Retrograde cargo received at MCBH Kaneohe Bay is inspected inside the common carrier (i.e., aircraft) used for transport. If any signs of live animal, plant or soil material is found, the shipping container is sealed and impounded to prevent discharge of the contents. The local United States Department of Agriculture inspector shall be notified, and further disposition of the material is made following inspection and analysis.

11 PUBLIC LAWS AND REGULATIONS

The following laws, regulations, and military instructions and memoranda are applicable in governing operations, usage, and proper disposal of pesticides and their containers and ensuring the health and safety of personnel and the protection of natural resources at MCBH Kaneohe Bay.

11.1 FEDERAL LAWS

(a) Federal Insecticide, Fungicide and Rodenticide Act of 1972 as amended, Public Law 92-516. Regulates pesticide use in the United States by specifically requiring: registration of pesticide products, specific labeling criteria, minimum standards for applicator competency, and certification in specific categories of pest management when certain pesticides are used.

(b) Federal Facility Compliance Act of 1992, 42 U.S.C. 6901 note, 6908. Waives immunity for Federal facilities under solid and hazardous waste laws (CERCLA & RCRA) by allowing States to assess fines and penalties for violations.

(c) Federal Water Pollution Control Act as amended by the Clean Water Act of 1977 33 U.S.C. 1251. Provides for protection of surface waters from contamination by pesticides in wastewater and in surface runoff waters.

(d) Federal Noxious Weed Act of 1974, 7 U.S.C. 2801 et. Seq. Provides for the control of noxious plants on land under the control or jurisdiction of the Federal government.

(e) Resource Conservation and Recovery Act of 1976 (RCRA) as amended, Public Law 94-580. Broadly covers solid waste disposal and hazardous waste management that includes pesticides. The intention is to involve strict controls of every aspect of hazardous waste management, from cradle to grave.

(f) Endangered Species Act of 1973 as amended, Public Law 93-205. Provides for the protection of threatened and endangered species and their habitats. Under the Act, EPA is required to ensure that pesticide use is not likely to jeopardize endangered species or adversely modify critical habitats. This protection is implemented through pesticide labels and the labeling process.

(g) Occupational Safety and Health Act of 1970 (OSHA) as amended, Public Law 91-596. Established to assure safe and healthful working conditions. It requires employers to establish and maintain effective and comprehensive occupational safety and health programs consistent with standards promulgated by the Secretary of Labor.

(h) Plant Quarantine Act of 1912 as amended, 7 U.S.C.151 et seq. Provides the basis authority from which all plant quarantine regulations are derived.

(i) Migratory Bird Treaty Act, 16 U.S.C. 703. Protects migratory birds and parts thereof, their nests and eggs from being hunted, captured, purchased, or traded.

11.2 FEDERAL REGULATIONS

(a) 29 CFR 1910, Occupational Safety and Health Standards.

(b) 40 CFR 150-189, Regulations for the Acceptance of Certain Pesticides and Recommended Procedures for the Disposal and Storage of Pesticides and Pesticides Containers.

(c) 40 CFR 262, EPA Regulations for Hazardous Waste Generators.

(d) 50 CFR 17.11 and 17.12, Fish and Wildlife Service List of Endangered and Threatened Wildlife and Plants.

11.3 EXECUTIVE ORDERS

(a) Executive Order 12088, 13 October 1978. Federal Compliance with Pollution Control Standards. Provides that the head of each federal agency is responsible for compliance with applicable pollution control standards, defined as the same substantive, procedural and other requirements that would apply to a private person.

11.4 HAWAII REVISED STATUTES

(a) Chapter 142, Animals, Brands, and Fences. Includes establishing authority for promulgating rules and regulations for the importation, transportation, inspection, quarantine, disinfection, and destruction of animals, property and effects associated with such animals.

(b) Chapter 149A, Hawaii Pesticides Law. Includes establishing authority for promulgating rules for the registration and licensing of all pesticides sold and used in Hawaii, establishing procedures for the disposition of pesticides, certification for the use of restricted use pesticides, establishing limitations and conditions for the application of pesticides, and establishing record keeping and use guidelines.

(c) Chapter 150A, Plant and Non-Domestic Animal Quarantine. Regulates the importation of plants and non-domestic animals into Hawaii, including granting authority to establish rules and regulations.

(d) Chapter 152, Noxious Weed Control. Establishes the authority to establish rules and regulations necessary to control or eradicate noxious weeds.

(e) Chapter 183D, Wildlife. Establishes authority for promulgating appropriate administrative rules for protecting wildlife in Hawaii

(f) Chapter 195D, Conservation of Aquatic Life, Wildlife, and Land Plants. Establishes authority for promulgating appropriate administrative rules for managing and protecting aquatic life, wildlife, and plants in Hawaii.

(g) Chapter 460J, Pest Control Operators. Establishes authority for promulgating appropriate administrative rules regulating pest control operations. Licensing requirements for pest control operators are also established.

11.5 HAWAII ADMINISTRATIVE RULES

(a) Title 13, Chapter 124, Administrative Rules of the Department of Land and Natural Resources.

(b) Title 4, Subtitle 6, Chapter 66, Pesticides. Administrative rules to implement Hawaii Revised Statutes Chapter 149A, which provides for the registration, licensing, certification.

11.6 MILITARY DIRECTIVES, MILITARY STANDARDS, AND HANDBOOKS

(a) DOD Instructions 4150.7, April 22, 1996. DOD Pest Management Program. Establishes the DOD policy and overall guidance for DOD pest management programs. Provisions govern DOD pest management and control operations performed worldwide, both for DOD and contractor personnel for all appropriated and non-appropriated fund activities.

(b) DOD Instruction 4150.7-P, September 1996. Plan for Certification of Pesticide Applicators. This document is the agency plan for the DOD and applies to all DOD employees applying any restricted use pesticides on DOD property. Policies also apply to contractors for commercial pest control services. Minimum competency standards for pesticide applicator training are set forth.

(c) DOD Instruction 4150.7-M, April 1997. Pest Management Training and Certification. This manual describes the DOD Pest Management Training Program. It is designed to establish training goals, provide a uniform training process, training standards, and procedures to prepare DOD pest management personnel to meet DOD pest management policy objectives, as stated in DOD Instruction 4150.7.

(d) MIL-STD-904-A, January 13, 1984. Guidelines for Detection, Evaluation, and Prevention of Pest Infestation of Subsistence. This standard is intended to furnish guidance in detection, evaluation, and prevention of infestation/contamination of subsistence from insects, rodents, birds, and other animals.

(e) MIL-HDBK-1028/8A, November 1, 1991. Contains basic criteria to design military installation pest management facilities and includes operational information for certain design features. A facility so designed will support operations and provide for safe storage of pesticides, safeguard the health and safety of employees, and prevent

environmental contamination, contain spillage and be secure against theft and vandalism.

(f) TIM No. 29, July 1994. Integrated pest Management In and Around Buildings. Provides guidelines for the implementation of IPM practices. Provides general guidelines for commonly found pest problems.

(g) TIM No. 42, September 1999. Self-Help Pest Management. A guide for installation personnel who wish to establish and maintain a self-help pest management program.

(h) NAVFACINST 6250.4B, February 18, 1982. Preservative-Treated Wood. Discusses the different procurement methods available to users for obtaining treated wood products, and provides guidance in the selection of the correct product for the intended use. Also offers guidance for handling and use of treated wood products.

(i) NAVFAC Notice 6250 June 10, 1993. Quality Assurance of Treated Wood Products. To emphasize quality assurance by an accredited oversight inspection agency in the procurement of treated wood products.

(j) NAVFACINST 6250.14A, December 19, 1990. Self-Help Pest Control. Provides information on self-help pest control for Navy Family Housing, Bachelor Officer Quarters, and Bachelor Enlisted Quarters residents.

(k) NAVMED P-5010-8, September 1987. Manual of Naval Preventive Medicine. Describes the specific activity responsibilities of Navy medical departments and medical entomologists.

(l) SECNAVINST 6210.2A, January 24, 1992. Medical Service Quarantine Regulations of the Armed Services. Implements current quarantine policies and procedures of the U.S. Public Health Service and the U.S. Department of Agriculture in military programs. It also outlines compliance requirements for foreign quarantine regulations. The regulations are intended to prevent the introductions and dissemination, domestically or elsewhere, of diseases of humans, plants and animals, prohibited or illegally taken wildlife, arthropod vectors, and pests of health and agricultural importance.

(m) OPNAVINST 5090.1B, CH-2 September 1999. Environmental and Natural Resources Program Manual. Provides requirements applicable to the prevention and abatement of pollution from pesticides. Chapter 7, prevention of pollution in wastewater. Chapter 10, spill prevention and management. Chapter 12, management of hazardous waste. Chapter 13, pesticide compliance ashore.

(n) OPNAVINST 5100.23D, October 1994. Navy Occupational Safety and Health Program Manual. Covers respiratory protection devices for pest control operations, including guidance on the proper selection, fitting, and maintenance of respirators and

training required for their use.

(o) NAVFAC P-930, March 19, 1995. Family Housing Manual. Along with DOD Directive 4150.7 and OPNAVINST 6250.4A, establishes requirements for self-help programs for household pests by residences of military housing.

(p) Marine Corps Order P5090.2A. The Environmental Compliance and Protection Manual, Chapters 13 & 14, Pesticide Pollution Prevention.

11.7 MISCELLANEOUS REFERENCES

(a) Final Fish and Wildlife Management Plan for MCAS, Kaneohe Bay, Hawaii, Mark J. Rauzon, December 1992, Volumes I & II.

(b) Pollution Prevention Plan, Marine Corps Base Hawaii, Ken Kaempffe, Barbara Levins, and Aviva Speceal, December 1995.

(c) Final Environmental Assessment for the Implementation of Fire Management Actions at Ulupa'u Head Wildlife Management Area, U.S. Marine Corps, Marine Corps Base Hawaii Kaneohe Bay, May 1994.

(d) Final Report Environmental Study of Nu'upia Ponds Wildlife Management Area, Marine Corps Base Hawaii, Kaneohe Bay, R.M. Towill Corporation, April 24, 1995.

(e) Final report Endangered Hawaiian Stilt Survey & Assessment for Improved Management Options, Marine Corps Base Hawaii, Marine Endeavors, August 1995.

SECTION II

SECTION II includes procedures for the control of pests that commonly occur at MCBH Kaneohe Bay. Additional sheets should be added as needed.

The pest management programs described in this section are based on integrated pest management principles.

The primary tasks and pest groups that require control at MCBH Kaneohe Bay are:

1. Surveillance (22%)
2. Monitor Contracts (QAE) (4%)
3. Subterranean termites (5%)
4. Cockroaches (18%*) * Percent of operations based on FY99 reports.
5. Ants (14%)
6. Other nuisance arthropods(10%)
7. Rodents (7%)
8. Bees and wasps (1%)
9. Drywood termites (5%)
10. Vertebrate pests (2%)
11. Mosquitoes (1%)
12. Stored products pests (1%)
13. Weeds (10%)

PART A: SCHEDULES

Describes:

locations where routine surveillance shall be performed and frequency that surveillance shall be performed.

NOTE: Buildings may be added or deleted from this list as required

I Cockroach, Rodent, and Miscellaneous Arthropod Surveillance

Buildings which require inspections at least monthly. Control operations should be based on survey results.

1. Food Handling

1089	MESS HALL
6088	COMMISSARY & WAREHOUSE
1404	EXCHANGE WAREHOUSE
3071	SUBWAY/PACKAGE STORE
1666	BOWLING ALLEY
455	7-DAY STORE
1090	DAVE'S ICE CREAM/WOODY'S HOT DOG
1255	CHINESE GARDEN
1298	NINTH PUKA SNACK BAR
144	HANGAR SNACK BAR
219	THEATRE SNACK BAR
502	OFFICERS CLUB
3088	SNCO CLUB
1629	EM CLUB

2. Institutions

6111-6115	CHILD DEVELOPMENT CENTER
1391	PRE-SCHOOL
579	YWCA

3. Other buildings

3038	TEMPORARY LODGING FACILITY
1601-1614	BEACH COTTAGES
20	SUBSISTENCE WAREHOUSE

4. Family Housing and Bachelor Quarters

Unscheduled. Services provided during change of occupancy and on emergency calls.

II Termite Surveillance

1. Buildings that require annual inspection:

<u>LOCATION</u>	<u>HOUSING UNITS</u>
HILLTOP	23
HILLSIDE	10
NCO ROW	8
MOKAPU CRATER	9
MANNING CRATER	36
CAPEHART	645
63 HOUSING	150
64 HOUSING	100
65 HOUSING	230
RAINBOW	320
ULUPAU	350
NANI ULUPAU	40
HAWAII LOA	237
TOTAL	2158

III Stored Product Pest Surveillance (also includes surveillance for cockroach, rodent, and miscellaneous arthropod pests)

1. Buildings which require surveys at least weekly

208	SUBSISTENCE WAREHOUSE
6088	COMMISSARY AND WAREHOUSE
1404	EXCHANGE WAREHOUSE

Part B. PEST MANAGEMENT PROJECT SHEETS

Describes:

what pest management functions shall be performed,
 who is responsible for the work and results,
 surveillance techniques to be used,
 non-chemical management strategies, and
 comments regarding overall pest management operations.

NOTE: The project sheets include Action Thresholds for most pests. The action or economic thresholds, included here are those recommended for ordering work

I COCKROACH CONTROL

TARGET PESTS:	Cockroaches, including German, American and brownbanded
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A. SURVEILLANCE:

RESPONSIBLE PARTY: The Base Pest Control Shop shall respond to trouble calls and perform routine surveys for cockroaches. Branch Medical Clinic, Kaneohe Bay shall monitor sanitation and report conditions conducive to cockroach infestations.

TECHNIQUES: Visual inspections using flashlights and flushing agents
 Sticky trap surveys
 Customer complaints

ACTION THRESHOLD: 2 or more of any stage or 1 or more egg capsules (either loose or attached to a female) per survey per room

NOTE: The Action Thresholds included here are those that are recommended to use in ordering work.

SURVEILLANCE SCHEDULE

Building/Facility	Frequency
Mess hall and service clubs (see Part A)	Weekly
Snack bars, Child Development Center, YWCA	Biweekly
Food service and storage facilities	Monthly
TLF, Beach cottages	Quarterly
Family housing, Bachelor quarters	change of occupancy and trouble calls
All other buildings	Trouble call

B. NON-CHEMICAL STRATEGIES: Non-chemical methods shall be used in all control programs.

TYPE	SITES	SCHEDULE	RESPONSIBLE PARTY
Sanitation: Food Handling	Kitchens, dishwashing areas, service lines, eating areas, bars, heads, food storage areas	Thorough cleaning should be performed at the end of each business day	Galley and building managers
Sanitation: other	Heads, storage closets, near coffee messes, tunnels, utility rooms, crawl spaces, kitchens	General cleaning: daily. Thorough cleaning: weekly. Clean trashcans and dumpsters weekly.	Building managers or residents
Pest Proofing	All areas as noted above	Pest proofing performed as designated by pest control personnel and building managers	Base Facilities Department initiated: Base pest control personnel performed
Pest pickup by specially designed vacuum cleaners	Office spaces	Specially designed vacuum cleaners can be successful to control pests.	pest control personnel

C. PESTICIDE USE: All pesticide use should be based on surveys

METHOD OF DISPERSAL:	Bait stations and bait gels should be used to the maximum extent possible. Emphasis should be paid to known or suspected harborage, feeding sites, or passageways such as utility lines, pipe chases, drain line accessways, under and behind baseboards, and behind cabinets. For persistent infestations, small amounts of a residual pesticide spray (or dust) may be used. Non residual flushing agents may be used during surveys.
SITES:	Pesticides shall be applied as required based on survey information to areas where pests harbor.
SENSITIVE AREAS:	Residual treatment will not be made to exposed food products, food containers, on counter tops, or on any surface where food may be stored or processed. Liquid pesticides will not be applied in occupied spaces.

D. AUTHORIZED PESTICIDES: (Additional approved materials may be listed in the inventory provided in Appendix B)

CHEMICAL	TRADE NAME	EPA No.
Hydramethylnon	Maxforce Insect Granules	64248-6
Chlorpyrifos	Dursban PT-270	499-1472A
Chlorpyrifos	Dursban Pro	62719-166
Hydramethylnon	Maxforce Insect Control System	64248-1
Hydramethylnon	Maxforce Roach Gel	64248-5
Fipronil	Maxforce Roach Bait Stations	64248-11
Fipronil	Maxforce Roach FC Gel	64248-14
Bendiocarb	Ficam W	45639-1
Propoxur	Baygon 2% Bait	31250-121
Pyrethrins	CB 40 Extra	9444-189

E. REMARKS AND COMMENTS:

Food service facility managers should generate service requests for caulking, grouting, or other roach proofing procedures. Pest control personnel should also initiate these efforts. Food service personnel will be responsible for preparing spaces for treatment and cleanup after treatment.

Self-help pest control programs should be used in all family housing. Self-help products for nuisance pest control should be limited to Combat or Maxforce™ cockroach and ant bait stations and sticky traps.

II ANTS AND OTHER NUISANCE ARTHROPOD CONTROL

TARGET PESTS:	Ants and other nuisance arthropods including spiders, centipedes, fleas, millipedes, silverfish, scorpions, filth flies, and brown dog ticks
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A. SURVEILLANCE:

RESPONSIBLE PARTY: Pest Control Personnel shall respond to trouble calls. Infestations will also be noted while performing scheduled cockroach, rodent, and stored product pest surveys.

TECHNIQUES: Visual inspections
Sticky trap surveys
Customer complaints

ACTION THRESHOLD: ants: 3 or more per area
centipedes: 1 or more per building
fleas: any evidence of biting reported
filth flies (food handling bldgs): 1 or more per building
filth flies (other bldgs): 4 or more per building
spiders: 1 or more per building depending on species

SURVEILLANCE SCHEDULE

Building/Facility	Frequency
Family housing	change of occupancy and trouble calls
All other buildings	trouble calls

B. NON-CHEMICAL STRATEGIES: Non-chemical methods shall be used in all control programs.

PEST	METHOD	SITES	RESPONSIBLE PARTY
All pests, esp. ants and filth flies	Sanitation	Food facilities, restrooms, cellars, tunnels, utility rooms	Mess and building managers
All pests, esp. ants and filth flies	Pest Proofing	All areas as noted above	Facilities Maintenance initiated: Facilities Maintenance or contract pest control personnel performed

PEST	METHOD	SITES	RESPONSIBLE PARTY
Ants	Remove plants attractive to ants and/or aphids, trim trees and shrubs touching buildings, reduce moisture, replace outside hollow core doors with solid doors.	All buildings	Building occupants, building managers,, maintenance personnel
Filth flies	Electrified grids (filth flies) (indoors only)	Galleys and other areas where food is prepared	Under direct guidance of PMDs
Filth flies	Air doors and/or hanging plastic strips (filth flies)	Can be effective in buildings where doors are kept open such as warehouses	At discretion of PWO
Centipedes	Remove debris around buildings such as boards, rocks, wood piles; building proofing	All buildings esp. family housing	Building occupants, family housing residents and maintenance personnel
Scorpions	Remove debris around buildings such as boards, rocks, stacked wood	All buildings	Housing residents or maintenance personnel
Spiders, scorpions	Pest pickup by specially designed vacuum cleaners (spiders, scorpions, solitary pests)	Office spaces	Facilities Maintenance pest control personnel option
Fleas	Thoroughly cleaning carpets daily during flea infestations; vacuum cleaner bags should be disposed of immediately	All carpeting, basements, areas where pets frequent	Resident or building managers
Fleas	Pest proof areas where vertebrate hosts may gain entry to buildings	All buildings	Facilities Maintenance

PEST	METHOD	SITES	RESPONSIBLE PARTY
Fleas	Take house pets to veterinarian at first sign of flea infestation; treat animals at same time residence is treated	Housing	Pet owners
Ticks (indoors)	Caulk cracks and crevices to remove possible habitats for tick which may reproduce indoors (brown dog tick)	All buildings	Facilities Maintenance
Ticks (outdoors)	Cut grass close to buildings, remove leaf litter and debris near perimeter of structures	All buildings	Facilities Maintenance and housing occupants

C. PESTICIDE USE: All pesticide use should be based on surveys

METHOD OF DISPERSAL:

Ant Control: Bait stations and bait gels should be used to the maximum extent possible. Emphasis should be paid to trails and feeding sites. For persistent infestations, small amounts of a residual pesticide spray (or dust) may be used.

Pharaoh Ant Control: Only baits will be used for pharaoh ant control. Liquids may not be used.

Fly Control: Residual insecticides may be applied to dumpsters as required to obtain control.

Chemical control measures indoors should be used only as a remedial action. Pesticide application for fly control should be followed up by a Medical Department survey with recommended actions to exclude flies from food service areas.

Centipede Control: Residual insecticide may be applied to outdoor harborage sites and around foundation of buildings/quarters.

Scorpion Control: Scorpions should be removed manually. Outdoor areas can be treated with residual pesticides.

Spider Control: Spiders, webs, and egg cases should be removed manually, primarily by vacuuming.

Flea Control: Residual pesticides and insect growth regulator sprays may be applied to all known or suspected areas. Pest control personnel must never apply pesticides to pets. The Housing Office should advise pet owners to treat their animal(s) at the same time the flea control program is carried out or their pets will be a source of reinfestation. Repeated treatments will probably be required. Tank mixes of an insect growth regulator with a "knockdown" agent are recommended. Treatment of outdoor sites may be required.

Tick Control: Personnel working in tick infested areas should be provided with insect repellents containing DEET and Permanone. Medical Department should instruct personnel in the proper application of these chemicals and other personal protection procedures. Residual insecticides may be applied to outdoor areas where surveys have determined the presence of ticks. Chemical control measures indoors should be used only as a remedial action. Ticks are usually brought indoors, except the brown dog tick, by the family pet or children returning from the woods. Veterinarians should be consulted for ticks on the family pet.

SITES:	Pesticides shall be applied as required based on survey information to areas where pests harbor.
SENSITIVE AREAS:	Residual treatment will not be made to exposed food products, food containers, on counter tops, or on any surface where food may be stored. Liquid pesticides will not be applied while unprotected personnel occupy spaces. Discretion shall be used when applying pesticides in or around quarters occupied by a pregnant woman or infant less than a year old.

D. AUTHORIZED PESTICIDES:

Additional approved materials are listed in Appendix B (Shop pesticide inventory)

CHEMICAL	TRADE NAME	EPA No.
Sulfluramid	Advance Dual Choice	499-459
Abamectin/Avermectin	Advance Granular Ant Bait	499-370
Hydramethlynon	Maxforce Insect Granules	64248-6
Fipronil	Maxforce Ant Bait Stations	64248-10
Pyrethrin	CB Invader HPX	9444-186
DeltaGard T&O	AgrEvo	432-836
Cypermethrin	Demon WP	10182-71
Bendiocarb	Ficam W	45639-1
Permethrin	Permethrin Pro	51036-287
Cyfluthrin	Tempo 20 WP	3125-380
Methomyl	Flytek	2724-274-50809
Methomyl	Apache Fly Bait	270-255

E. REMARKS AND COMMENTS:

Facility managers and pest control personnel should generate service requests for caulking, grouting, or other pest exclusion procedures.

Filth fly infestations in food handling establishments observed during Medical Department sanitation inspections will be documented. Copies of the sanitation report and recommended corrective actions will be provided to the food service manager and Facilities Department. Control of fly populations within buildings can be obtained through exclusion. Screens on windows and doors will be utilized to exclude flies from buildings. Satisfactory control through exclusion requires inspections to ensure that windows, doors, and other potential entrances are properly sealed.

Fly control is best achieved through the maintenance of a high level of sanitation. Garbage cans will be lined with plastic liners, covered when not in actual use, and cleaned regularly to prevent the buildup of fly breeding media. All garbage placed in dumpsters will be in plastic bags. All doors on the dumpsters will remain closed to prevent the entry of adult flies. Dumpsters should be emptied at least once a week and should be steam cleaned every week during the summer.

The use of outdoor flying insect electrocuting devices is prohibited. Indoor devices for electrocuting flying insects can be effective and can be used when selected, purchased, located, and used in accordance with Armed Forces Pest Management Board guidelines.

Flea infestations are normally associated with the presence of a vertebrate host. Identification of the host animal and the source of the infestation are essential. Good housekeeping practices and vacuuming carpets and furniture will help reduce organic material on which flea larvae feed.

Flea infestations may require pesticide applications to significant portions of office and living areas. Precautions must be taken to reduce pesticide exposure particularly to children, elderly, or pets. Occupant(s) must be made aware of post treatment re-entry times (if called for by the pesticide label). Building occupant's cooperation in preparing spaces for treatment and completing post treatment cleanup is essential.

Properly screening houses usually keeps centipedes out. Doors and window screens should fit tightly and BE kept in good service. Area sanitation to reduce their normal prey is helpful. Residual applications of pesticides labeled for outdoor use (e.g., carbaryl, bendiocarb, cypermethrin) are effective for their control.

III RODENT CONTROL

TARGET PESTS:	Norway rat, roof rat and house mouse
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A. SURVEILLANCE:

RESPONSIBLE PARTY: Pest Control Personnel shall respond to trouble calls and shall perform surveys for rodents.
Medical personnel shall monitor sanitation in food handling facilities and record sightings or signs of rodent infestations.

TECHNIQUES: Visual inspections using flashlights; Signs include burrows, rub marks, fecal droppings, runways, gnaw marks, commodity destruction, or tracks
 Traps
 Glue boards
 Customer complaints

ACTION THRESHOLD: Sighting of any sign of rodents is cause for control efforts.

NOTE: Rodent surveillance should be performed simultaneously with surveys for cockroaches.

SURVEILLANCE SCHEDULE

Building/Facility	Frequency
Mess and Service Clubs (see Part A)	Weekly
Snack Bars, Child Development Center, YWCA	Biweekly
Food service and storage facilities	Monthly
TLF, Beach Cottages	Quarterly
Family Housing and all other buildings	Trouble call

B. NON-CHEMICAL STRATEGIES: Non-chemical methods shall be used in all control programs.

TYPE	SITES	SCHEDULE	RESPONSIBLE PARTY
Sanitation	Kitchens, dishwashing areas, service lines, eating areas, bars, heads, food storage areas, trash areas, dumpsters	Thorough cleaning should be performed at the end of each business day	Mess, service clubs and building managers

TYPE	SITES	SCHEDULE	RESPONSIBLE PARTY
Pest Proofing	All areas as noted above	As required	Pest control and Maintenance Department
Water Source Reduction	All areas as required	As required	Maintenance Department
Trapping: Snap traps, glue boards, mechanical traps	All areas as required	As needed	Pest control personnel and housing occupants
Food Source Reduction	Pack all foods in rodent-proof containers	As needed	Resident or building manager

C. PESTICIDE USE: All pesticide use should be based on surveys

METHOD OF DISPERSAL:	Rodent bait will be placed only in distinctively marked, tamper-proof bait stations inaccessible to children, pets, and wildlife, or in burrows. Bait will not be placed in areas where food is served or in vending machine areas, coffee messes, or other like areas. Moldy or otherwise unacceptable or spilled baits shall be removed and disposed of in accordance the pesticide label. Treated burrows shall be sealed immediately after treatment. Reopened burrows shall be retreated and resealed until all rodent activity ceases.
SENSITIVE AREAS:	Baits shall not be used in any food service areas where food is stored, prepared, or served. Special care shall be taken where children, domestic animals or other non-target organisms may gain access. Additionally, the use of rodent baits in the WMA is prohibited.

D. AUTHORIZED PESTICIDES: (The pesticides inventory listed in Appendix B provides additional approved materials)

COMMON NAME	TRADE NAME	EPA REG. #
Brodifacoum	Talon G Pellets	10182-41
Brodifacoum	Talon Weather Bloks	10182-339

E. REMARKS AND COMMENTS:

Proper sanitation and rodent proofing are the primary control measures to be used; use of snap traps and glue boards are secondary. Rodenticides should only be used after non-chemical techniques have been performed.

Rodent proofing should be accomplished whenever feasible. Twenty-four gauge galvanized sheet steel should be installed around doors to eliminate openings larger than 1/4 inch thus excluding rodents. Wood, rubber, aluminum, or lead should not be used because rodents can gnaw through these materials.

Trashcans should be covered tightly and emptied daily. All garbage placed in dumpsters should be secured in plastic bags. Dumpsters should be kept closed at all times and the drains should be rodent-proofed.

Traps should be serviced daily in areas of known rodent activity. Once the rodent population has been reduced, traps should be serviced at least twice a week. Migration of rodents from neighboring areas may necessitate perimeter-baiting programs.

Rodenticide use should be avoided in buildings as poisoned rodents often die in inaccessible areas. If rodenticides are required, they will only be placed in marked tamper-proof bait stations or rodent burrows in accordance with the product label. Only anticoagulant rodenticide baits will be used outdoors.

IV STORED PRODUCTS PEST MANAGEMENT

TARGET PESTS:	Indian meal moth, confused flour beetle, red flour beetle, cigarette beetle and other stored products pest.
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A. SURVEILLANCE:

RESPONSIBLE PARTY: Army Veterinarian: Army food inspectors perform random inspection of incoming food and surveys of food products stored in warehouses.
Branch Medical Clinic shall monitor sanitation, conduct periodic joint inspection with Army food inspectors and report conditions conducive to pest infestations.
Pest Control Personnel should perform general surveillance with food inspectors and/or Branch Medical Clinic technicians and treat for insect problems when problems arise.

TECHNIQUES:

- Visual inspections using flashlights looking for dead insects, droppings, silken webbing, cast insect skins, or holes bored into packaging
- Use of pheromone traps
- Use of light traps/suction light traps
- Sticky traps
- Customer complaints

ACTION THRESHOLD: Based on thresholds established by MIL-STD 904 for different pests ranging from 1-7 individual of a species in a pound of infested packaged commodity. Action levels can be altered at the discretion of the Army Veterinarian.

SURVEILLANCE SCHEDULES

Building/Facility	Frequency
Subsistence warehouse (#208), Commissary warehouse (#6088) and Exchange warehouse (#1404)	As scheduled

B. NON-CHEMICAL STRATEGIES: Non-chemical methods shall be used in all control programs.

TYPE	SITES	SCHEDULE	RESPONSIBLE PARTY
Sanitation	All food storage areas	General cleaning shall be performed routinely	Warehouse managers

TYPE	SITES	SCHEDULE	RESPONSIBLE PARTY
Commodity Inspection	All food storage areas	Samples of lots of commodities should be inspected as they are received	Army food inspectors
Pheromone Traps	All food storage areas	As required	Army food inspectors Pest control personnel
Commodity destruction	Infested goods	As required	Food storage managers under direction of Army Veterinarian
Proper storage practices: store off deck with wide aisles between stacks	All	All	Building managers

C. PESTICIDE USE:

METHOD OF DISPERSAL:	<p><u>Residual Pesticides:</u> Monthly residual treatments are scheduled to control exposed adult and immature stages of active infestations of stored product pests.</p> <p><u>Fumigation:</u> Aluminum phosphide fumigation may be required to control large infestations or pests inside product containers if the commodity is consumable and worth the price of saving it.</p>
SITES:	Pesticides can be applied as a preventative and as required based on survey information to areas where pests have been noted.
SENSITIVE AREAS:	Residual pesticides must never be applied directly to any foods. Extreme care shall be taken with any fumigation process. The Army Veterinarian or food inspectors shall be involved. The MCBH Fire Department is to be notified prior to any fumigation.

D. AUTHORIZED PESTICIDES: (Also listed in Appendix B, Inventory of Pesticides)

COMMON NAME	TRADE NAME	EPA REG. #
Cyfluthrin	Tempo WP	3125-380
Cyfluthrin	Tempo 20 WP	3125-380
Bendiocarb	Ficam W	45639-1

E. REMARKS AND COMMENTS:

The Food Inspection Office, Army Veterinary Detachment is responsible for the initial inspection for stored product pests at MCBH Kaneohe Bay. Food Inspectors randomly inspect incoming food items. Insects found are forwarded to NAVENPVNTMEDU No. 6 Pearl Harbor via the Branch Medical Clinic for identification. Infested materials that can be salvaged are either frozen or fumigated to kill the insects.

Buildings 208 (Subsistence Warehouse) and 6088 (Commissary Store and Warehouse) are used to store highly infestable products (flour, cereals, cookies, snack foods, pet food, etc.). For food storage facilities, pheromone traps should be used to supplement visual inspections. Pheromone traps are very effective in trapping Indian meal moths and cigarette beetles, and moderately effective for confused and red flour beetles. (Indian meal moths are usually attracted within a few hours of trap placement.) Pheromone traps are ineffective for saw-toothed grain beetles. TIM 27 includes information on stored-product pest monitoring methods.

Fumigation is usually effective in killing insects in salvageable food products. Using aluminum phosphide, materials held under fumigation for 96 hours, 99+% control can be achieved.

All fumigation operations shall be conducted by or under the supervision of a certified pest controller.

V VENOMOUS ARTHROPOD CONTROL

TARGET PESTS:	Venomous arthropods: bees and wasps
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A. SURVEILLANCE:

RESPONSIBLE PARTY: Pest Control Personnel shall respond to trouble calls.
 TECHNIQUES: Visual inspections
 Customer complaints
 ACTION THRESHOLD: Any bee or wasp infestation (nests) in work areas or quarters

SURVEILLANCE SCHEDULE

All areas	Priority item: Response should be as quickly as possible. Regularly scheduled service: 8 hours Emergency Service: within 2 hours
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B. NON-CHEMICAL STRATEGIES: Non-chemical methods shall be used in all control programs.

TYPE	SITES	SCHEDULE	RESPONSIBLE PARTY
Nest and swarm Removal	All honey bee hives.	When honey bee nests are located	Pest control personnel
Screens and other pest exclusion devices	All areas where bees and wasps may gain entry to structures	As required	Pest control personnel should initiate process for Maintenance Department to install devices
Trapping	Outdoor sites where people congregate i.e. picnic grounds, playgrounds, etc.	Prior to events when people congregate	As designated by medical or pest control personnel
Sanitation	Food source removal (cover trash cans, put lids on soda cups, eliminate food sources)	As needed	Building managers

C. PESTICIDE USE: All pesticide use should be based on surveys

METHOD OF DISPERSAL:	For bees and wasps, control efforts should be scheduled in the early morning or evening hours when they are least active. Personnel without protective clothing should not be present during treatments. Personnel involved in the control effort will wear appropriate protective clothing.
SITES:	As designated by pest control or medical personnel.
SENSITIVE AREAS:	Pesticide application at nests may agitate bees and wasps into a stinging frenzy. Unprotected personnel should be distanced from the site prior to initiation of control efforts. Outside entrances to bee and wasp nests in walls should not be sealed off until they have been killed or flushed out of the wall.

D. AUTHORIZED PESTICIDES:

COMMON NAME	TRADE NAME	EPA REG. #
Pyrethrins	CB Stinger Wasp Spray	9444-181
Pyrethrins/carbaryl	CB Wasp/Hornet Jet Freeze	9444-98
Pyrethrins	Drione	4168-1769
Tetramethrin	Sure Shot	11623-36-64073
Carbaryl	Sevin 5% Dust	

E. REMARKS AND COMMENTS:

Wasps and bees nesting on or entering buildings present a hazard to personnel. Paper wasps that nest in trees, shrubbery, and utility sheds in remote service areas are a threat to Facilities Maintenance Department personnel that service these areas.

Certain construction features found in buildings are conducive to wasp infestations. Buildings with corrugated roofs often have gaps between the roof and walls. Improperly installed or insufficiently caulked drip caps, window and door frames, or ventilators may allow the entry of wasps or bees into buildings or wall voids. Permanent closure of all openings after elimination of the infestation is the only permanent method to prevent reinfestation.

VI TERMITE CONTROL

TARGET PESTS:	Formosan subterranean termite and West Indian drywood termite
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A. SURVEILLANCE:

RESPONSIBLE PARTY: Pest Control Personnel shall perform annual inspections of family housing units and other installation structures. IDQ termite contractor also performs some inspection of structures prior to termite control work.

TECHNIQUES:

- Visual inspection using flashlight, an awl, and a sounding tool for detecting mud tubes, infested wood, cast wings and droppings.
- Moisture meter will help to detect moisture problems that may be related to paint peeling, discoloration and warping.
- Borescope inspection in double wall construction.
- Customer complaints (swarmers)

Inspector(s) must have access to a ladder to get to high places like ceilings and attics and must be able to get into crawl spaces to do inspection.

Inspector(s) need to be aware also of fungi, powder post beetles, and other wood destroying organisms during termite inspection.

ACTION THRESHOLD: Detection of any active termite infestation in a building is cause for treatment.

SURVEILLANCE SCHEDULE

SITE DESCRIPTION	SCHEDULE
All wood frame structures	Annually
All other structures which have a record of termite infestation within the last 5 years.	Annually
All other structures	Trouble calls

B. NON-CHEMICAL STRATEGIES: Non-chemical methods shall be used in all control programs.

PEST	METHOD	SITES	RESPONSIBLE PARTY
Formosan subterranean termite	Reduce moisture content of wood. Fix rain gutters, ensure adequate ventilation in crawlspaces, install moisture barriers between soil and foundation of building.	All buildings	Moisture control shall be included in all new and revitalization Marine Corps building construction projects. Pest control shall report deficiencies to housing office or property manager.
Formosan subterranean termite	Termite-proof barriers (basaltic termite barrier/Termi-Mesh) installed at time of construction; Termite shields between foundation and wood components.	When buildings are constructed or repaired.	Architect and design engineers. New construction plans and specs shall be reviewed for termite management options by the NAVFAC/PACDIV entomologist.
Formosan subterranean termite	Eliminate soil-wood contact. Erect concrete barriers or permanent polymer barriers between soil and wood.	Whenever there is soil-wood contact.	Pest Control shall record/report deficiencies during inspections.
West Indian drywood termite	Inspect all lumber, esp. second hand lumber, prior to construction. Use of acceptable alternative to wood construction materials.	New construction, renovations, and repairs.	Building contractors with oversight by ROICC office.

PEST	METHOD	SITES	RESPONSIBLE PARTY
West Indian Drywood termite	Screen windows to prevent winged termites from entering buildings and establishing colonies.	All buildings	Building managers, Facilities Department and maintenance contractors.

C. PESTICIDE USE: All pesticide use for remedial operations should be based on surveys

METHOD OF DISPERSAL:

New Construction Pre-Treatment: Pretreatment of the entire surface of soil/substrate to be covered by the slab or along the inside and outside of foundation walls, around piers, plumbing and utility services in conventional construction, during the construction of all new structures or additions to existing structures shall be a standard operating procedure. Use of properly calibrated dispersal equipment essential. Concrete, hollow masonry tile, and other non-wooden buildings are susceptible to damage of interior contents containing wood (cellulose) components such as furniture, cabinetry, paper, storage crates etc. and disruption of operations due to swarming.

Existing Structures Post-Treatment: For slab-on-ground apply per label directions by sub-slab drilling/injection along interior walls, especially load bearing walls and walls containing utility (plumbing) chases, plumbing penetrations in baths, kitchen and laundry rooms, and outside foundation perimeter trenching/rodding. For conventional structures, protocol above applies.

HOLLOW BLOCK FOUNDATIONS

Hollow block foundations or voids in masonry resting on footing shall be treated per label to provide a continuous chemical barrier in the voids at the footing.

BATH TRAPS AND INACCESSIBLE CRAWL SPACES

Treat per label directions.

TREATED WOOD	<u>Treated Wood</u> : All wood used in construction will be pressure treated lumber to prevent termite infestations. Existing unpainted wood inside structures can be treated with a boric acid product labeled (Timbor, Boracare) for wood protection.
BAITING SYSTEMS	An integrated management approach that utilizes (1) monitoring for the presence of termite activity in and around the target site; (2) delivery of a slow acting toxicant (e.g., sulfluramid) or IGR (e.g., hexaflumaron) termite bait when the presence of subterranean termites has been detected; and (3) resumption of monitoring for the presence of termite activity after control/elimination has been achieved.
DRYWOOD TERMITE TREATMENTS	Spot treatment with ready to use aerosols (e.g., Air-Devil HPX, PT-279) or compressed-air sprayer equipped with injector nozzle for dispensing the various EC and WP formulations of termiticides that are approved for spot treatment of voids, galleries and other localized areas of infestation. Structural fumigation: Performed by licensed contractors using Vikane (Sulfuryl fluoride).
SENSITIVE AREAS:	Buildings with sub-slab or intra slab ductwork. Any area near surface water. Any below-grade plumbing, electrical, phone, or cable lines.

D. AUTHORIZED PESTICIDES: (See Pesticide Inventory in Appendix B for additional approved termiticides)

COMMON NAME	TRADE NAME	EPA REG. #
Chlorpyrifos	Equity	62719-167
Cypermethrin	Demon TC	10182-107
Permethrin	Dragnet FT	279-3062
Sulfluramid	FirstLine Termite Bait Station	279-3153
Disodium Octaborate Tetrahydrate	Tim-Bor	1624-39
Disodium Octaborate Tetrahydrate	Bora-Care	59905-3

E. REMARKS AND COMMENTS:

Because of the extremely high incidence of termites at MCBH Kaneohe Bay, it is imperative that all new buildings and building renovations include termite pretreatment. In addition, all lumber used shall be pressure treated by an approved treatment plant bearing a third party inspection seal in accordance with current American Wood-

Preservers' Association Standards. Non-wooden construction materials such as steel framing and synthetic composites meeting Federal guide specifications are acceptable.

A. Subterranean Termites:

Termiticides used for ground treatments in and around buildings shall be a water-based emulsion of a product containing one of the active ingredients noted above. Diluent shall not include any other pesticide residues or rinse water. The application shall establish a continuous soil treatment barrier. At the time of soil treatment application, the soil shall be in a condition with low moisture content to allow uniform distribution of the treatment solution throughout the soil. Termiticides shall not be applied during or immediately following heavy rains, or when conditions will cause runoff and create an environmental hazard. In conjunction with soil treatment, physical barriers such as basaltic termite barrier (BTB) and Termi-mesh, a stainless steel mesh, are available by contract, for preventing subterranean termite access into structures in new construction and retrofitting existing structures. Baiting systems also provide another alternative tool for the elimination or control of ground dwelling termites in an area.

B. Drywood Termites:

Treatment for drywood termites includes spot treatment using an approved termiticide per label direction, in localized areas of a structure, or structural or tent fumigation available by a licensed contractor. The chemical used for fumigation is Vikane or sulfuryl fluoride. When any fumigation is scheduled, the ROICC Contracting Office shall notify the pest control shop ahead of time so the required QAE can be performed. Appropriate emergency services such as the Base Safety and Fire Departments also need to be properly informed. All chemical applications shall be warranted by inspection.

VII MOSQUITO CONTROL

TARGET PESTS:	All mosquitoes Primary pest mosquitoes at MCBH Kaneohe Bay are the forest day mosquito, <u>Aedes albopictus</u> , and the southern house mosquito (night biting), <u>Culex quinquefasciatus</u>
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A. SURVEILLANCE:

RESPONSIBLE PARTY: The installation Branch Medical Clinic has primary responsibility for mosquito surveillance and providing guidance to the pest control shop on control operations.

TECHNIQUES: Mosquito larval surveys (dipping techniques)
Mosquito adult surveys (light traps)
Mosquito adult surveys (landing counts)
Customer complaints

ACTION THRESHOLD: Adults: light traps: 10 females per trap per night
Landing counts: 5 per minute
Larvae: dipping: 3 per dip (based on averaging 10 dips)

SURVEILLANCE SCHEDULE

Adult mosquito light traps - NJ light traps not routinely deployed by the Branch Medical Clinic. See Appendix G (Emergency Vector Control Plan) in case of natural disaster or contingency leading to a vector-borne disease outbreak.	Source surveillance - Facilities pesticide applicators survey for larval breeding sources following heavy rains or in response to complaints. Sources include: storm drains, ponding water, tree holes and artificial breeding containers. See action threshold above for larviciding
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B. NON-CHEMICAL STRATEGIES: Non-chemical methods shall be used in all control programs.

TYPE	SITES	SCHEDULE	RESPONSIBLE PARTY
Exclusion from buildings	Screen doors/windows, door sweeps	As required	Facilities Maintenance

TYPE	SITES	SCHEDULE	RESPONSIBLE PARTY
Water Management	Ditches, storm drains, artificial containers, tidal flats, etc.	As needed, education program, newsletter	Environmental Department, Facilities Maintenance, Housing Office
Biological Control (Mosquito eating fish as source reduction measure; e.g., Gambusia, guppies)	Sewage treatment ponds, fish tanks, landscape ponds.	Where appropriate	Facilities Maintenance, Environmental Department

C. PESTICIDE USE:

METHOD OF DISPERSAL:	<p><u>Adult Mosquitoes:</u> Ultra Low Volume (ULV) application using an EPA registered pesticide (e.g., ULD BP 300) shall be the primary response to mosquito problems. ULV applications shall not be performed when wind is in excess of 15 mph or during rain. It may be necessary to perform barrier applications or resting site applications.</p> <p><u>Larval Mosquitoes:</u> Larval mosquito management shall be performed at common breeding sites near transient water such as storm drains, lowland stagnant pools, building roof tops, stored tires, and rain gutters using approved products such as altosid briquets.</p>
SITES:	Pesticides shall be applied as required based on survey information only.
SENSITIVE AREAS:	Wetlands, people, animals, non-target organisms, and paint finishes

D. AUTHORIZED PESTICIDES:

COMMON NAME	TRADE NAME	TARGET STAGE	EPA REG #
Pyrethrum (synthetic)	Biomist	adult	
Resmethrin	Scourge 4+12	adult	
Methoprene	Altosid	larvae	Various
Isostearate alcohol	Arosurf MSF	larvae	
Bacillus sphaericus B. thuringiensis 10%	VectoLex CG Bactunis briquets	larvae (esp. culex sp. which breed in highly organic waters)	275-77

E. MCBH MOSQUITO MANAGEMENT PLAN:

1. Responsibilities:

A. Branch Medical Clinic (Preventive Medicine):

- installing, operating, and maintaining adult light traps
- collection of adult mosquitoes
- identification of adult mosquitoes to species
- performing adult landing count surveys (last resort)
- determining when and in which zones ULV pesticide applications are required
- spot check using larval dips
- performing periodic Aedes sp. breeding surveys (as required)

B. Pest Control Personnel:

- ULV pesticide applications
- calibration and droplet size testing of ULV equipment every 50 hours of usage
- larval mosquito surveys
- larval mosquito pesticide applications

C. Environmental Department:

- recommendations and approval for land modifications to eliminate breeding sources

VIII PEST VEGETATION AND NOXIOUS WEED CONTROL

TARGET PESTS:	Undesirable vegetation; noxious weeds, aquatic weeds, grasses, broadleaf weeds, and poisonous weeds
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A. SURVEILLANCE:

RESPONSIBLE PARTY:	Pest Control Personnel
TECHNIQUES:	Visual inspections Customer complaints
ACTION THRESHOLD:	Action thresholds vary according to species of weed and site.

SURVEILLANCE SCHEDULE

Perimeter fence line; security fence line	Quarterly
Other Rights-of-Way (including interior fence lines, sidewalks, roadsides, electrical substations)	Semi-annually
Runway	Quarterly
Family Housing areas, parking lots, curbing, etc.	Per job request
Clear Areas (parking lots, gravel lots, around fire hydrants, light standards, power poles and canal banks)	Quarterly
Areas known to be infested with noxious weeds	Semi-annually

B. NON-CHEMICAL STRATEGIES: Non-chemical methods shall be used in all control programs.

TYPE	SITES	SCHEDULE	RESPONSIBLE PARTY
Land Management: Seeding with desirable low growing grasses	Semi-improved sites: canal banks, fencelines, other rights-of-way	As needed	Facilities Maintenance

TYPE	SITES	SCHEDULE	RESPONSIBLE PARTY
Mechanical removal including hand pulling and mechanical removal	Ornamental planting beds	As required	Facilities Maintenance
Mulching	Ornamental planting beds	Remulch annually	Facilities Maintenance

C. PESTICIDE USE: All pesticide use should be based on surveys

METHOD OF DISPERSAL:	Pesticide use shall be based on surveys. Method of dispersal shall be as appropriate for the pest species and site involved.
SITES:	Based on survey information to areas where weeds have been noted.
SENSITIVE AREAS:	Non-target organisms, humans, animals, WMA (including wetland areas).

D. AUTHORIZED PESTICIDES:

USE	COMMON NAME	TRADE NAME	EPA #
All vegetation, residual, non-cropland use	Bromacil+Diuron	Krovar 1DF	352-505
All vegetation, residual, non-cropland, right-of-way use	Tebuthiuron	Spike*	1471-123
All vegetation, non-residual terrestrial including WMA	Glyphosate	Roundup Pro	524-475
All vegetation near or in water, contact, no residual, canal banks and WMA with discretion	Glyphosate	Rodeo	524-343

* Low active ingredient herbicide.

E. REMARKS AND COMMENTS:

Treatment of the soil adjacent to the perimeter fence shall be a priority. Soil residual and non-residual herbicides shall be used as needed to provide total vegetation control along fencelines. For the majority of the fencelines, a soil residual herbicide can be used. For fenceline areas in or adjacent to wetlands, streams, and tidal flats, a herbicide registered for aquatic sites shall be used.

Turf weeds at MCBH Kaneohe Bay are primarily a concern at the Klipper Golf Course where golf course certified pesticide applicators schedule periodic applications for their control.

Vegetation growing along interior fencelines, around road signs, poles and other obstructions may be controlled with herbicides to facilitate mechanical control (weedwacking) efforts by labor personnel.

Control of vegetation on paved and graveled parking areas, transformer vaults, storage areas, and sidewalks is required to prevent damage to paved areas, reduce fire hazards, and maintain aesthetic values. Residual herbicides will provide season long control of vegetation on paved and graveled areas. Care must be taken to prevent damage to valuable ornamental plants. For chemical control operations near any water site, only herbicides labeled for aquatic use may be used.

IX VERTEBRATE PESTS

TARGET PESTS:	Mongoose, feral cats and dogs, birds
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A. SURVEILLANCE:

RESPONSIBLE PARTY: Base Military Police; MCBH Natural Resources Personnel; base pest control

TECHNIQUES: Sightings by base personnel; Customer complaints

ACTION THRESHOLD: Any confirmed damages or nuisance activity of these target vertebrate pests

SURVEILLANCE SCHEDULE

All areas	Priority item: Response should be as quickly as possible. Military police have general purview over feral animals and mongoose on the installation; Natural Resources personnel have purview on managing all wildlife in the WMAs and the BASH program in the airfield; base pest control is responsible for controlling non-migratory, pest birds in all other areas.
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B. NON-CHEMICAL STRATEGIES: Non-chemical methods shall be used in all control programs.

TYPE	SITES	SCHEDULE	RESPONSIBLE PARTY
Sanitation	All office, institutional, industrial, recreational and housing areas. Limit accessibility to food and water	Basewide policy or SOP	Facilities Maintenance, base personnel and residents
Screens and other pest exclusion devices (bird barriers)	All administrative, institutional, industrial and housing structures	Basewide policy or SOP	Facilities maintenance, pest control personnel; commercial pest control contract

TYPE	SITES	SCHEDULE	RESPONSIBLE PARTY
Trapping	All outdoor sites - around workplaces, recreational and housing areas; WMAs, airfield; use of bird and animal traps	As needed	Military Police; MCBH Natural Resources personnel; pest control
Noise and other deterrent devices (firecrackers, recorded sound, reflectors, scarecrow)	Selective outdoor areas, WMAs, airfield	As needed	Military police; Natural Resources personnel
Physical removal of animal or nesting areas	Where birds nest such as trees, in and around buildings	As needed	Pest control personnel; MCBH Natural Resources personnel
Shooting (As permitted by USFWS and/or DLNR)	Outdoor selected sites (WMAs, airfield)	As needed	Military police; Natural Resources personnel

C. PESTICIDE USE: All pesticide use should be based on surveys

METHOD OF DISPERSAL:	Limited to birds
SITES:	On and around buildings where people work or reside; not for use in WMAs or airfield
SENSITIVE AREAS:	N/A

D. AUTHORIZED PESTICIDES:

COMMON NAME	TRADE NAME	EPA REG. #
Polybutene	Bird Repellent "4 The Birds"	8254-1-56

E. REMARKS AND COMMENTS:

The management of vertebrate pests and wildlife at MCBH Kaneohe Bay is more than a pest control function and requires the involvement of several in-house agencies to ensure the safe and sound control of these animals. The provost marshal or military police have base wide responsibilities over stray and wild animals but recognize the responsibilities of other agencies in managing wildlife in specific areas of the base. The Environmental Department's natural resources staff has inherited the task of managing mongoose, feral cats, and migratory protected birds in the WMAs. The natural resources staff also assumes a bird air-strike hazard (BASH) program at the airfield to

minimize bird collision with landing and taking-off aircraft. The staff, furthermore, assumes the responsibility of controlling wild pigs in a section of Bellows Field that belongs to the Marine Corps. Various techniques, including erecting physical barriers, trapping and using loud sounds (e.g., firecrackers) are used in the control effort. As a last resort measure, natural resources personnel, involved with these projects, are permitted by the U.S. Fish and Wildlife Service and Hawaii Department of Land and Natural Resources to carry and use rifles to shoot pestiferous and predatory animals and wildlife.

Introduced, non-migratory birds such as pigeons, sparrows and mynahs can become a nuisance if given the opportunity to nest in and around occupied buildings. Birds carry mites and other ectoparasites on their bodies and in their nests that will migrate and attack building occupants after the birds abandon their nest. The droppings left behind provide media for the growth of harmful spores that can cause respiratory related illnesses such as histoplasmosis and psittacosis in humans. Facilities maintenance and pest control personnel perform non-recurring services to control birds in the urban areas of base using traps, repellents (e.g., Roost-No-More, 4-the-Birds) and making building repairs. Bird barriers such as bird netting and other physical barriers should be installed by licensed contractors specializing in bird control.

Alien or invasive plant and animal species will be fully addressed in an Integrated Natural Resources Management Plan (INRMP) and an Invasive Species Management Plan (ISMP), in compliance with the Sikes Act Improvement Act (SAIA) and Executive Order 13112 on Invasive Control which are being developed by contract. The plans will cover invasive species control issues as well as how the various components of pest management may be integrated with other natural resource-related plan components at MCBH.

SAFETY PRECAUTIONS AND FIRST AID
FOR
PEST MANAGEMENT PERSONNEL

1. SAFETY PRECAUTIONS:

- a. Do not eat, drink, or smoke while handling pesticides and pesticide containers.
- b. Wear rubber/nitrile gloves and protective clothing when handling pesticide packages.
- c. Check the label for all precautions and safety equipment before handling pesticides.
- d. All pesticides should be handled in well-ventilated areas.
- e. All pesticide containers must be plainly labeled and kept closed.
- f. Never use empty food or drink containers to mix, pour, or measure.
- g. Always keep pesticides away from food and water and away from sources of heat and fire.
- h. Never allow paper pesticide containers to get wet.
- i. Any contamination of the skin by pesticide must be immediately washed off with detergent and water.
- j. Clothing contaminated by pesticide spillage should be immediately removed and wrapped in newspaper and placed in a plastic bag for laundering or disposal.
- k. National Institute of Occupational Safety and Health approved respirators should be worn while pesticides are being handled and applied.
- l. Special gas masks, specifically designed and approved for given fumigants (Self-Contained Breathing Apparatus), must be worn when handling or applying those fumigants.
- m. Respirators must always be kept clean to prevent any contamination. Filters should be changed whenever breathing becomes difficult, and respirator cartridges should also be changed after 8 hours of actual use.

n. Pesticides should be transported in lockable pesticide storage of vehicles. Pesticides should not be transported in cabs of vehicles.

2. EMERGENCY ASSISTANCE: When an accident occurs while pesticides are being handled or applied, the following actions must be immediately performed, depending upon the situation:

a. Remove the victim from the toxic atmosphere or from other types of continued exposure.

b. Notify nearest medical facility for treatment. Provide CPR if the victim is unconscious and not breathing.

c. Render aid by removing contaminated clothing and douse or wash contaminated skin areas with water. A person with knowledge of the accident should accompany the victim to the medical facility to inform medical personnel about the nature of the accident and the material being used.

HAZARDOUS CHEMICAL STORAGE INVENTORY - MONTHLY REPORT

Kaneohe Marine Corp Base Hawaii

Facilities Department - Work Center 76 (Pest Control)

Building 6522

CHEMICAL	MANUFACTURER	EPA REG NO	UNIT OF		Storage			
			ISSUE	Index	Location	Sep-00	Oct-00	Nov-00
Absorbent	Can-Am Absorbent Co.		Bg (50 lb)			4.5	4.5	4.5
Advance Dual Choice	Whitmire Micro-gen	499-459	Bg (36 ea)	B	5			17
Advance Dual Choice	Whitmire Research Laboratories	499-459	Bg (36 ea)	B		8	6	0
Advance Granular Ant Bait	Whitmire Research Laboratories	499-370	Pl(6 lb)	B	25	12	12	6
Altosid	Sandoz Agro Inc.	2724-375-64833	Briquets (ea)	I	10	1100	1100	1060
Apache Fly Bait	Farnum Co. Inc.	270-255	Cn (5 lb)	B	9	2.5	2.5	2.5
Avert Roach Gel	Whitmire-Micro Gen	499-410	Resrvr (1.05oz)	B	3			36
Baygon 2% Bait	Bayer Corporation	3125-121	Jg (5 lb)	B	8	7	5	5
Bird Repellent-"4-the-Birds"	J.T. Eaton		Cartridge	O		3	3	3
CB 40 Extra	Waterbury Companies, Inc.	9444-189	Cn	A	4	211	144	115
CB Invader HPX	Waterbury Companies, Inc.	9444-186	Cn	A	5	0	21	12
CB Invader HPX-20	Waterbury Companies	9444-204	Cn	A		0	0	0
CB Stinger Wasp Spray	Waterbury Companies, Inc.	9444-181	Cn	A	8	33	23	12
CB Wasp/Hornet Jet Freeze	Waterbury Companies, Inc.	9444-98	Cn	A		0	0	0
DeltaGard G	AgreVo	432-836	Bg (20 lb)	I		0	0	0
DeltaGard T&O	AgrEvo	432-836-45639	Bg-(40 lb)		19/20	5.5	1	0
Demon WP	Zeneca Proffesional Products	10182-71	Lb	I	18	10	4	10
Dragnet SFR	FMC	279-3062	JG (1.25 gl)	I		0	0	0
Drax Liquidator	Waterbury Companies	9444-206	Ea	B	24	42	42	40
Drione	Roussel UCLAF	4168-1769	Lb	I	15	2	2	2
Drione	AgrEvo	4816-353	Lb	I	15	7	7	7
Excel 90 NF	Brewer		Gl	O	21	4.5	4	2
Ficam W	AgrEvo USA Co.	45639-1	Lb	I		0	0	0
Firstline Termite Bait Station	FMC Corp	279-3153	Ea	B		6	6	6
Flytek	Zoecon	2724-274-50809	Cn (1 lb)	B		3	1	0
Glueboards-Eaton	JT Eaton & Company Inc.		Pk (2ea/pk)	O	11	0	0	0

Glueboards-Mouse, Eaton	JT Eaton & Company, Inc.		Pk (4ea/pk)	O		0	0	0
Glueboards-Trappers	Bell Laboratories		Pk (2 ea/Pk)	O		84	43	14
Krovar 1DF	Dupont	352-505	Bg (6 lb)	H	5	33.5	30.5	17.5
Maxforce Ant Bait Stations	Maxforce Ins Contl Sys	64248-10	Bg (24 ea)	B	4	17	15	10
Maxforce Ant Bait Stations	Maxforce Ins Contl Sys	64248-2	Bg(24 ea)	B				
Maxforce Fine Gran Insect Bait	Maxforce Ins Contl Sys	64248-19	Jg (6 Lb)	B	7	0	0	8
Maxforce Insect Granules	Maxforce Ins Contl Sys	64248-6	Jg (6 Lb)	B		0	0	0
Maxforce Roach Bait Stations	Maxforce Ins Contl Sys	64248-1	Bg (72 ea)	B	1	0	0	0
Maxforce Roach Bait Stations	Maxforce Ins Contl Sys	64248-11	Bg (72 ea)	B		15	13	9
Maxforce Roach FC Gel	Maxforce Ins Cntl Sys	64248-14	Resrvr (1.05oz)	B		40	24	16
Maxforce Roach Gel	Maxforce Ins Contl Sys	64248-5	Resrvr (1.05oz)	B	2	0	0	40
Mouse Traps	McGill Metal Products		Ea	O		0	0	0
Mouse Traps	ABC Paper & Groceries		Ea	O		0	0	0
Mouse Traps-Victor	Victor		Ea		14	29	7	65
Odor Free Deodorant	Breese Corporation		Gl	D		0	0	0
OutSmart-ant gel	BioSmart Ideas, Inc.	69900-1	Ea-(1.5 oz)		6	82	63	24
Permethrin Pro	Micro Flo Company	51036-287	Jg(1.25gl)	I	15/16	8	3	14
Rat Traps- Victor	ABC Paper & Groceries, Inc.		Ea	O	13	108	78	72
Rodeo	Monsanto	524-343	Jg (2.5 gl)	H	3	6	6	6
Roundup Pro	Monsanto	524-475	Jg (2.5 gl)	H	4	9.25	9.25	8
Safe Tee Boxes	JT Eaton & Co. Inc.		Ea	O		23	23	23
Spike 20 P	Elanco	1471-123	Lb	H	2	6	6	6
Super IQ	Farmland Industries, Inc.	59920-1-1990	Qt	I	16	5	5	5
Supr Odor Neutralizer	Susan Products		Gl	D	18	1	0	1
Sure Shot	Testron International	11623-36-64073	Cn(11 oz)	A		0	0	0
Surveillance Traps	Catchmaster		Ea	O	12			
Suspend SC	AgrEvo	432-763	Btl-(16 oz)		21	3	0	9
Talon G Pellets	Zeneca Professional Products	10182-41	PI (10 lb)	B		4	2	2
Talon Weather Blok XT	Zeneca Professional Products	10182-339	PL (11 Lbs)	B	26/27			
Talon Weather Bloks	Zeneca Professional Products	10182-339	PL(12 Lbs)	B		8	8	7
Talstar PL Granular	FMC Corp	279-3168	Bg (25 lb)	I		0	0	0
Tamper Proof Boxes	JT Eaton & Co. Inc.		Ea	O		5	5	2
Tempo 20 WP	Bayer Corporation	3125-380	Jr (420 gm)	I	17	15	14	11
Uld BP 300 -Btl	Whitmire Micri Gen	499-450	Btl (34 oz)	I	23	24	23	20

Uld BP 300 -GI	Whitmire Micro Gen	499-450	GI	I	22	3	3	3
Whitmire PT 240	Whitmire Research Laboratories	499-220-AA	Cn	A	6	16	16	16

PEST CONTROL EQUIPMENT INVENTORY

ITEM	SER. NO.	NO.
1 APPLICATOR, W/ COMPRESSOR, ACTISOL	CPT13631	2 EA
2	CPT13766	
3 BORESCOPE	PC-BS-01	1 EA
4 DETECTOR, TERMITE SNIFFER	NK510024	1 EA
5 DISPENSER, CHEMICAL-MICRO GEN	11066	7 EA
6	12494	
7	16159	
8	16167	
9	12289	
10	12290	
11	12495	
12 DRILL, HAMMER/PORTABLE, SKIL	I514617	1 EA
13 DRILL, HAMMER/PORTABLE, BOSCH	6690443	1 EA
14 DRILL, HAMMER, 5/8", DEWALT	53947	1 EA
15 DRILL, JOIST & STUD, 1/2", DEWALT	3316	1 EA
16 DRYER, CLOTHES	MA4517537	1 EA
17 FLOWMETER	90-000152	2 EA
18	90-000154	
19 FUMISCOPE	E-200	1 EA
20 HEAT VEGETATION CONTROL, AQUA-HEAT	PC-AH150	1 EA
21 MACROSCOPE 25	PC-MS-01	1 EA
22 MASK, GAS, SCOTT	801450-40	2 EA
23	801450-40A	
24 MICROSCOPE, SWIFT	911218	1 EA
25 SPRAYER, POWER, 100 GL, NAMCO	KB0000016006	3 EA
26	KB0000016007	
27	PC-NAMCO-01	
28 SPRAYER, POWER, 100 GL, SDI	PC-SDI-01	1 EA
29 SPRAYER, POWER, 50 GL, JOHN BEAN	A288328	1 EA
30 SPRAYER, POWER, 200 GL, SDI	50374	1 EA
31 WASHER, CLOTHES	CA4121283	1 EA

WORK AUTHORIZATION/ESTIMATE (MAINTENANCE MANAGEMENT)

FACILITIES DEPT., MCAS KANEOHE BAY JOB ORDER NO: L21696

FACILITY: STATION JOB TITLE: LARVE CONTROL

DATE: 09/04/98 BY: SC

LEAD SHOP: 76

GENERAL JOB DESCRIPTION:

ESJO - MOSQUITO CONTROL, FLY CONTROL, ROACH CONTROL

FY99

REMARKS: YEARLY

ACCOUNTING DATA:

FUND ADMIN: L2 SUB FUNCT: COST ACCT. CODE: 9220 OBJECT CLASS: 2720
 ACTIVITY CODE: 00318 APPROP. SYMBOL: 1701106 LABOR CLASS CODE: 04

ESTIMATE

WC	HOURS	LABOR	MATL	TOTAL	WC	HOURS	LABOR	MATL	TOTAL
41	0	0	0	0	73	0	0	0	0
43	0	0	0	0	74	0	0	0	0
51	0	0	0	0	76	468	13133	11500	24633
53	0	0	0	0	81	0	0	0	0
61	0	0	0	0	82	0	0	0	0
62	0	0	0	0	83	0	0	0	0
63	0	0	0	0	84	0	0	0	0
71	0	0	0	0	95	0	0	0	0
EPS HRS 468					TOTALS 468 13133 11500 24633				
NON-EPS HRS 0									
					CONTRACT COST 0				
					CONTINGENCY 0				
					GRAND TOTAL 24633				

DISTRIBUTION

SHOPS	DEPARTMENT	WORK REQ. FILE	TOTAL COPIES
PRODUCTION CONTROL	4	1	

ENCLOSURES: 1 & 2

G. J. Hasegawa

OCT 09 1998

AUTHORIZED WORK (Signature)

MAINTENANCE OFFICER

TITLE

DATE

SHEET 1 OF 4

CONTINUATION SHEET

DESCRIPTION

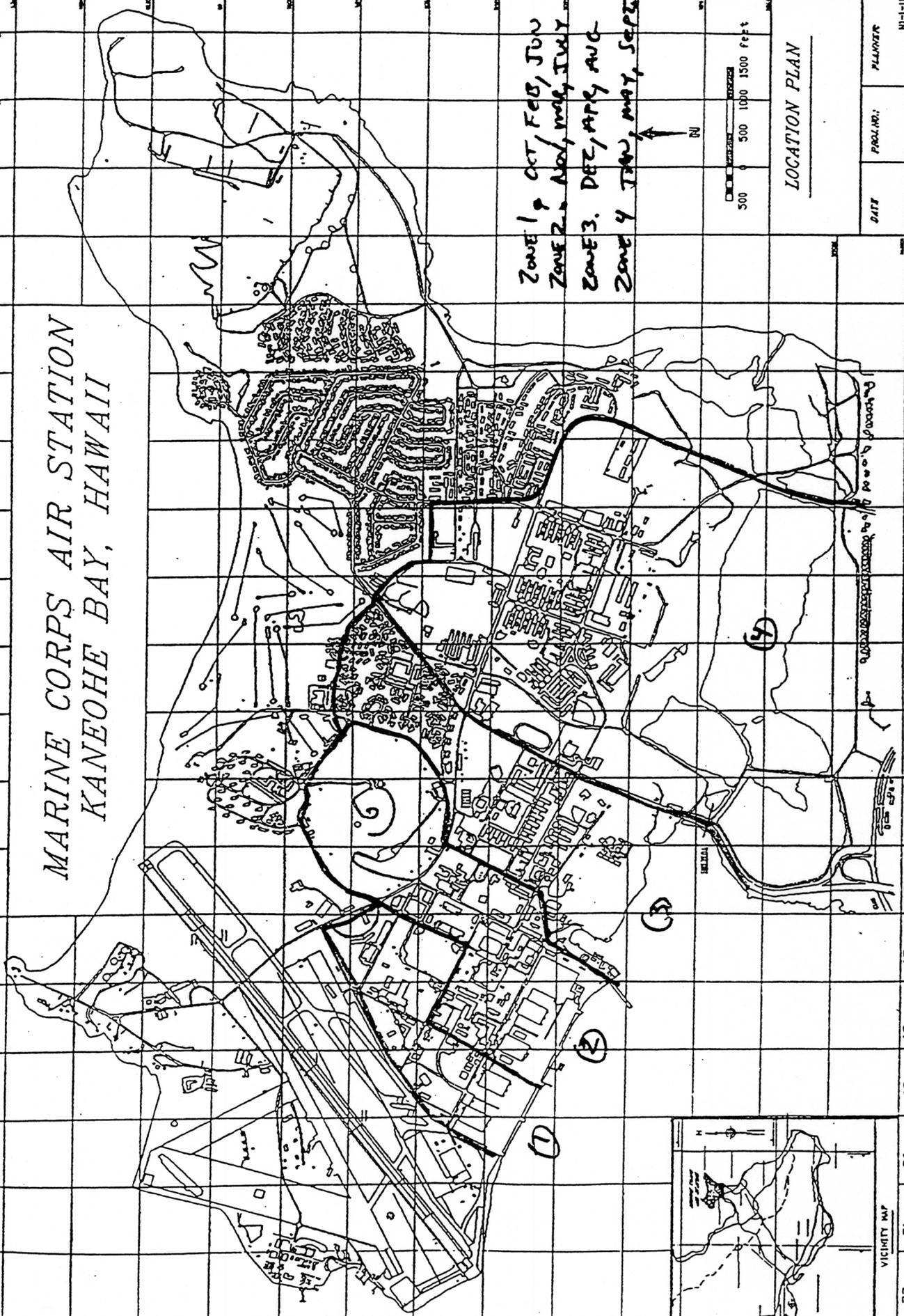
LARVICIDE CONTROL

I. FREQUENCY

- WC76 1X PER MONTH - STORM DRAINS, PITS, IMPOUNDMENTS & TEMPORARY POOLS.
A. INSPECT FOR MOSQUITO LARVE AND TREAT AS NESSESARY.
- 1X PER MONTH . - SEWER MANHOLES (AROUND FOOD HANDLING AREAS)
A. INSPECT FOR ROACHES AND TREAT AS REQUIRED.
- 1X PER MONTH - TRASH DUMPSTERS (AROUND FOOD HANDLING AREAS) INSPECT FOR FLIES AND TREAT AS REQUIRED

- NOTE: 1. SEE ENCL. #1 & #2 FOR LOCATION OF AREAS TO BE INSPECTED.
2. LOCATION OF MANHOLES & STORM DRAINS ON ENCL. #1 & #2 THAT IS TO BE TREATED WILL BE THE JUDGEMENT OF THE SHOP FOREMAN.

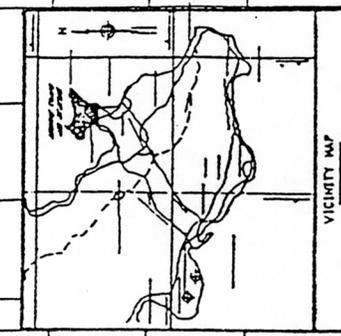
MARINE CORPS AIR STATION KANEHOE BAY, HAWAII



ZONE 1 OCT, FEB, JUN
 ZONE 2 APR, MAY, JULY
 ZONE 3 DEC, APR, AUG
 ZONE 4 JAN, MAR, SEPT.



LOCATION PLAN



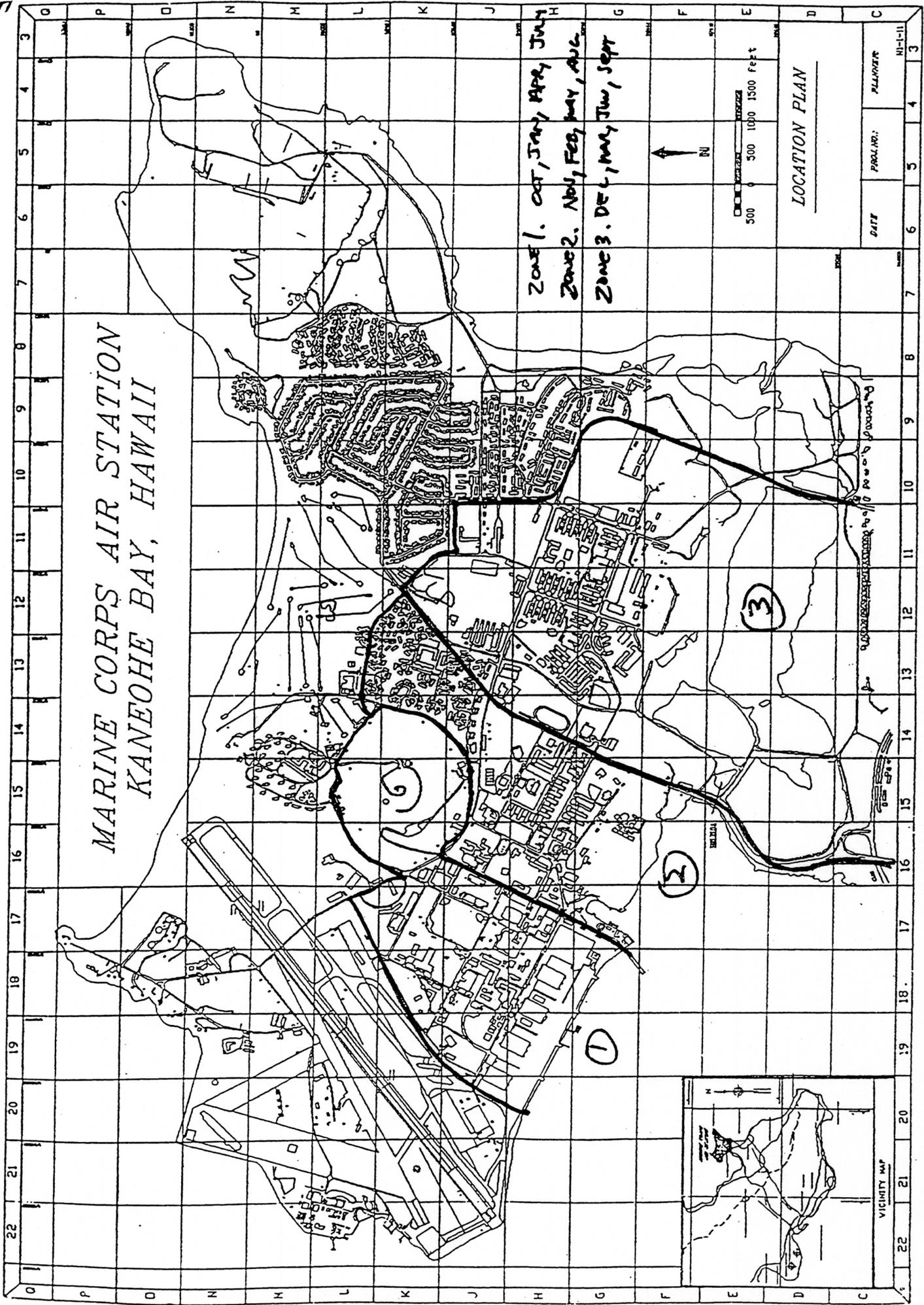
DATE	PROJ. NO.	PLANNED

NO-1-11 3

VICINITY MAP

NO-1-11 3

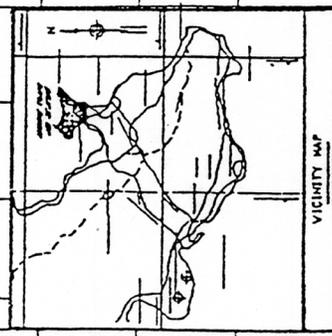
MARINE CORPS AIR STATION KANEHOE BAY, HAWAII



- Zone 1. Oct, Jan, Apr, July
- Zone 2. Nov, Feb, May, Aug
- Zone 3. Dec, Mar, Jun, Sept

LOCATION PLAN

DATE	PARALIN:	PLANNER



221696

WORK AUTHORIZATION/ESTIMATE (MAINTENANCE MANAGEMENT)

FACILITIES DEPT., MCAS KANEOHE BAY JOB ORDER NO: L21699 ;

FACILITY: STATION JOB TITLE: VECTOR CONTROL SERV. ;

DATE: 09/04/98 BY: SC

LEAD SHOP: 76

GENERAL JOB DESCRIPTION:

ESJO - VECTOR CONTROL SERVICES TO ALL FOOD SERVING BLDGS.
 BLDG. 3038, 1601, 1602, 1603, 1605, 1606, 1608, 1609, 1610
 1611, 1612, 1613, 1614, 6111-6115 FY99

REMARKS: YEARLY

ACCOUNTING DATA:

FUND ADMIN: L2 SUB FUNCT: COST ACCT. CODE: 9290 OBJECT CLASS: 2720
 ACTIVITY CODE: 00318 APPROP. SYMBOL: 1701106 LABOR CLASS CODE: 04

ESTIMATE

WC	HOURS	LABOR	MATL	TOTAL	WC	HOURS	LABOR	MATL	TOTAL			
41	0	0	0	0	73	0	0	0	0			
43	0	0	0	0	74	0	0	0	0			
51	0	0	0	0	76	2218	62238	11500	73738			
53	0	0	0	0	81	0	0	0	0			
61	0	0	0	0	82	0	0	0	0			
62	0	0	0	0	83	0	0	0	0			
63	0	0	0	0	84	0	0	0	0			
71	0	0	0	0	95	0	0	0	0			
EPS HRS				0	TOTALS				2218	62238	11500	73738
NON-EPS HRS				2218								
									CONTRACT COST	0		
									CONTINGENCY	0		
									GRAND TOTAL	73738		

DISTRIBUTION

SHOPS	PRODUCTION CONTROL	SUPPLY DEPARTMENT	FDMC FILE	WORK REQ. FILE	TOTAL COPIES
1	4	1	1		

C. J. Hasegawa

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AUTHORIZED WORK (Signature)

MAINTENANCE OFFICER
 TITLE

DATE

CONTINUATION SHEET

DESCRIPTION

VECTOR CONTROL SERVICES

I. BLDGS. ~~212~~ & 1089 GALLEY, ³⁰¹~~301~~, 6088 COMMISSARY, 6111, 6112, 6113, 6114, 6115, 3071 SUBWAY/ PACKAGE STORE, NCO CLUB, 1629 EM CLUB, 3038 TLF BLDG. AND SNACK BARS 1638, 1666, 1404, 455, 1090 (BASKIN ROBINS, WIKI WIKI, DELI) 3088, 1255 (DOMINO'S PIZZA) 1298, 579, 1391, ~~1641~~, 144, 219, 502 AND BEACH COTTAGES 1601, 1602, 1603 1605, 1606, 1608, 1609, 1610, 1611, 1612, 1613 & 1614
~~208~~ - SUBSISTANCE WKS

WC76 INSPECT, SPRAY, BRUSH OR DUST INSECTICIDES TO CONTROL ROACH AND INSECT INFESTATION. INSTALL TRAPS FOR RODENT CONTROL.

FOOD PREPARATION SPACES: USE BRUSH ON OR DUST RESIDUAL INSECTICIDES SO AS NOT TO CONTAMINATE FOOD.

NO SPRAYING TO BE DONE WHEN FOOD IS BEING PREPARED.

FOR SCHEDULING OF BLDGS. SEE SHOP FOREMAN

THE QUARTERLY VECTOR CONTROL OF BLDG 3038 WILL BE COORDINATED INBETWEEN TLF OFFICE AND SHOP FOREMAN.

5X PER MONTH--BLDGS. 1089

4X PER MONTH--BLDGS. 3088, 1629, 1255, 6088, AND 502

2X PER MONTH--BLDGS. 3071, 1666, 1090, 579, 144, 1391
6111, 6112, 6113, 6114 AND 6115.

1X PER MONTH--BLDGS. 1638, 455, 1298, 1641 AND 219, ~~208~~

4X PER YEAR-- BLDG 3038, 1601, 1602, 1603, 1605, 1606, 1608
1609, 1610, 1611, 1612, 1613 AND 1614

NOTE: SHOP PERSONAL PERFORM NIGHT SHIFT SPRAYING ON THESE BLDGS. 144, 1089, 1629, 3088, 1090, 1255, 1666 & 3071 SHOP FOREMAN WILL SCHEDULE ALL WORK WITH ACTIVITIES.

NOTE: BLDG. 1404 WILL BE COMPLETED ON CALL ONLY. AS PER THE MEETING WITH RAY RIPPLE. MWR WILL PAY O.T. TO PERFORM THESE TASKS AFTER NORMAL WORK HOURS.

WORK AUTHORIZATION/ESTIMATE (MAINTENANCE MANAGEMENT)

FACILITIES DEPT., MCAS KANEOHE BAY JOB ORDER NO.: L20702 ;

FACILITY: WEAPONS RANGE JOB TITLE: HERBICIDE VEGETATION ;

DATE: 09/04/98 BY: SC

LEAD SHOP: 76

GENERAL JOB DESCRIPTION:

ESJO- HERBICIDE VEGETATION ALONG FIREBREAK ROAD, CURBING AND SHOULDERS AT ULUPA'U WEAPONS RANGE.

FY 99

REF #1: WR9306079

REMARKS: W/C 76 INFORM LANCE BOOKLESS BEFORE SPRAYING

ACCOUNTING DATA:

FUND ADMIN: L2 SUB FUNCT: COST ACCT. CODE: 920 OBJECT CLASS: 2720
 ACTIVITY CODE: 00318 APPROP. SYMBOL: 1701106 LABOR CLASS CODE: 04

ESTIMATE

WC	HOURS	LABOR	MATL	TOTAL	WC	HOURS	LABOR	MATL	TOTAL
41	0	0	0	0	73	0	0	0	0
43	0	0	0	0	74	0	0	0	0
51	0	0	0	0	76	400	11224	13500	24724
53	0	0	0	0	81	0	0	0	0
61	0	0	0	0	82	0	0	0	0
62	0	0	0	0	83	0	0	0	0
63	0	0	0	0	84	0	0	0	0
71	0	0	0	0	95	0	0	0	0
EPS HRS 0					TOTALS 400 11224 13500 24724				
NON-EPS HRS 400									
					CONTRACT COST 0				
					CONTINGENCY 0				
					GRAND TOTAL 24724				

DISTRIBUTION

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ENCLOSURES: SEE ENCL. 1

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MAINTENANCE OFFICER
TITLE

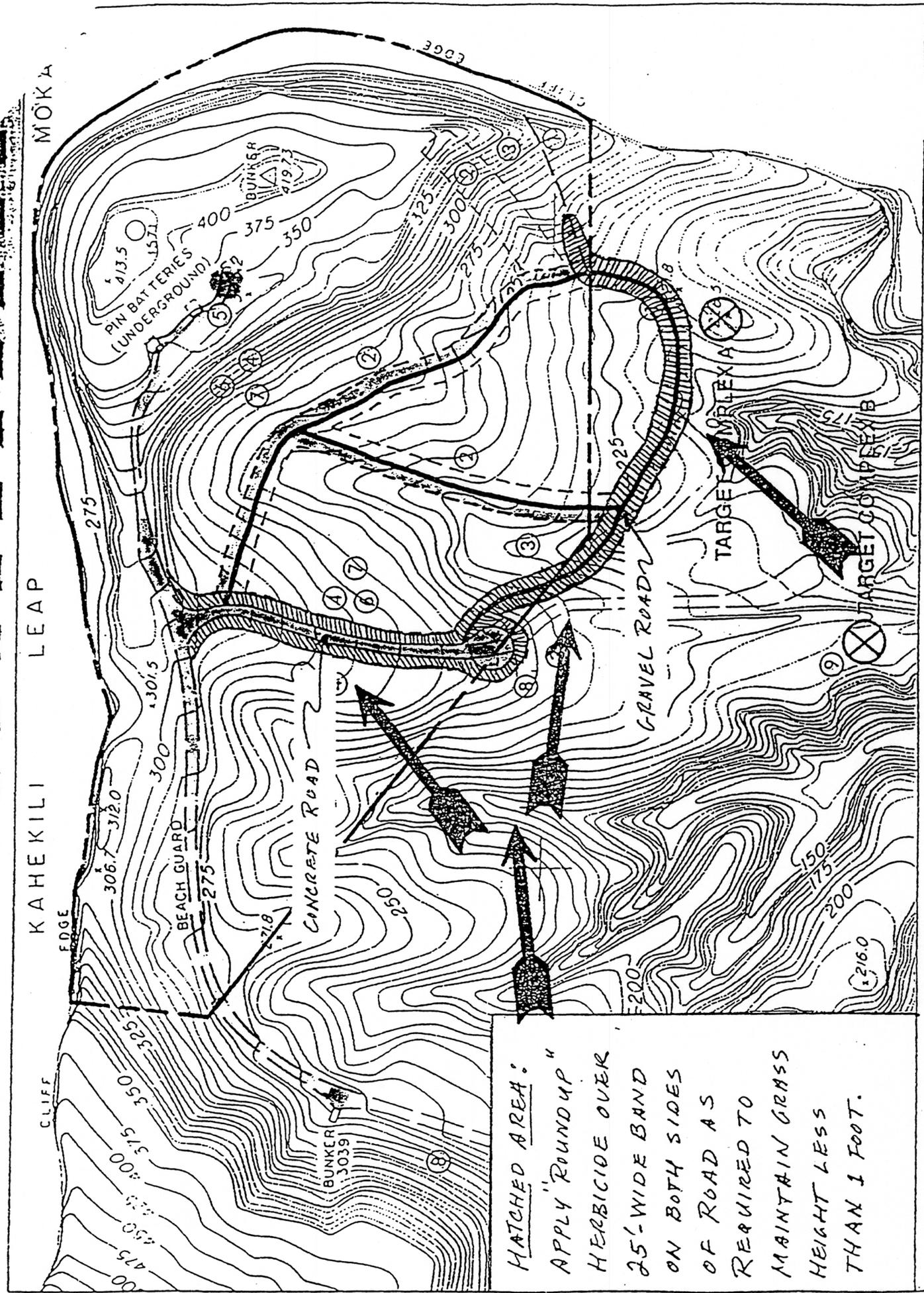
DATE

CONTINUATION SHEET

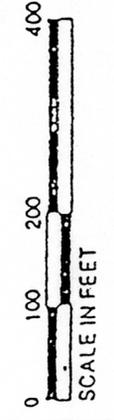
DESCRIPTION

HERBICIDE TREATMENT OF FIREBREAK ROAD CURBING AND SHOULDERS AT ULUPA'U WEAPONS RANGE

- W/C 76
1. FREQUENCY: QUARTERLY
 2. APPLY (ROUND UP) HERBICIDE (APROX. 2,700 LF) ALONG BOTH SIDES OF FIRE BREAK ROAD SHOULDERS AT ULUPAU WEAPONS RANGE.
 3. SPRAY HERBICIDE OVER 25' WIDE BAND ON BOTH SIDES OF ROAD. (APPROX. 135,000 SF)
 4. PEST CONTROLER (W/C 76)
 - A. POC LANCE BOOKLESS WILL CONTACT YOU WHEN SPRAYING IS REQUIRED. HE WILL INSPECT ALL AREA'S PRIOR TO SPRAYING AND COORDINATE ALL PHASES INBETWEEN SHOPS AND THE NCOIC OF THE WEAPONS RANGE.
 - B. LANCE BOOKLESS WILL PROVIDE TIMES AND DATES WHEN SPRAYING IS POSSIBLE. CONTACT LANCE FOR ANY QUESTIONS AT 7-6920 X 255.
 - C. BEFORE SPRAYING W/C 76 SHOP FOREMAN WILL VERIFY OPENING IN RANGE SCHEDULE. PH# 7-2067.
 5. HIGH WINDS PRESENT AT ULUPAU AREA, USE PROTECTIVE EQUIPMENT AT ALL TIMES.



HATCHED AREA:
 APPLY "ROUNDUP"
 HERBICIDE OVER
 25'-WIDE BAND
 ON BOTH SIDES
 OF ROAD AS
 REQUIRED TO
 MAINTAIN GRASS
 HEIGHT LESS
 THAN 1 FOOT.



WORK REQUEST # 93.06.079
 Hango Training Facility Fire Management Plan

* FINAL #1
 777707

WORK AUTHORIZATION/ESTIMATE (MAINTENANCE MANAGEMENT)

FACILITIES DEPT., MCAS KANEOHE BAY JOB ORDER NO.: L21717 ;

FACILITY: STATION JOB TITLE: HERBICIDE VEGETATION ;

DATE: 09/04/98 BY: SC

LEAD SHOP: 76

GENERAL JOB DESCRIPTION:

ESJO - HERBICIDE ALL VEGETATION GROWING ON AND AROUND SIDEWALKS, PAVED AREAS, UNDER FENCES, POWERPOLES, GUY WIRES, CURBS DITCHES AND ALL AREAS REQ. TRIMMING. WEST FIELD FY99

REMARKS: YEARLY

ACCOUNTING DATA:

FUND ADMIN: L2 SUB FUNCT: COST ACCT. CODE: 9290 OBJECT CLASS: 2720
 ACTIVITY CODE: 00318 APPROP. SYMBOL: 1701106 LABOR CLASS CODE: 04

ESTIMATE

WC	HOURS	LABOR	MATL	TOTAL	WC	HOURS	LABOR	MATL	TOTAL				
41	0	0	0	0	73	0	0	0	0				
43	0	0	0	0	74	0	0	0	0				
51	0	0	0	0	76	3036	85191	34000	119191				
53	0	0	0	0	81	0	0	0	0				
61	0	0	0	0	82	0	0	0	0				
62	0	0	0	0	83	0	0	0	0				
63	0	0	0	0	84	0	0	0	0				
71	0	0	0	0	95	0	0	0	0				
EPS HRS 2181					TOTALS					3036	85191	34000	119191
NON-EPS HRS 855													
										CONTRACT COST		0	
										CONTINGENCY		0	
										GRAND TOTAL		119191	

DISTRIBUTION

SHOPS	PRODUCTION	CONTROL	SUPPLY DEPARTMENT	WORK REQ. FILE	TOTAL COPIES
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G. J. Hasegawa

OCT 09 1998

AUTHORIZED WORK (Signature)

MAINTENANCE OFFICER
 TITLE

DATE

CONTINUATION SHEET

DESCRIPTION

HERBICIDE VEGETATION

FREQUENCY SPRAYING TOTAL 3X PER YEAR

WC76 TWO MAN - (1) DRIVER & (1) SPRAYER TO SPRAY
HERBICIDE 1X DURING THE MONTHS OF :

SEPTEMBER, JANUARY AND MAY - ZONE # 1

FEBRUARY, JUNE AND OCTOBER - ZONE # 2

MARCH, JULY AND NOVEMBER - ZONE # 3

DECEMBER, APRIL AND AUGUST - ZONE # 4

NOTE: SEE SHOPS COPY OF THE MAPS FOR ALL LOCATIONS OF
SPRAYING.

ZONE # 1

ROADS

- | | |
|------------------------|---------------|
| 1. MOFFIT ROAD | 8. 5TH STREET |
| 2. KANSAS TOWER ROAD | 9. A STREET |
| 3. MOKAPU / RADAR ROAD | 10. B STREET |
| 4. 1ST. STREET | 11. C STREET |
| 5. 2ND. STREET | 12. D STREET |
| 6. 3RD. STREET | 13. E STREET |
| 7. 4TH. STREET | |

BURMS

1. AROUND FUEL TANKS BLDGS. 1254 AND 1252
2. AROUND FUEL TANK BLDG 125

DITCHES

1. ALONG 1ST. STREET NEAR BLDG 3097
2. OFF REED ROAD, BEHIND BLDG. 4005

FENCES

1. ALONG ALL FENCE LINES AROUND FUEL FARM
2. ALONG ALL FLIGHT LINE SECURITY FENCES.

CONTINUATION SHEET

DESCRIPTION

PARKING LOTS

1. BLDGS. 213, 238, 240, 835, 208, 209, 5033, 201, 202, 203, 300, 377, 399, 351, 278, 217, 374, 386, 503, AND 502.

ZONE 2

ROADS

1. MOKAPU ROAD
2. G STREET
3. CRAIG STREET
4. SHELDON STREET
5. 3RD STREET
6. HARRIS AVE.

DITCHES

1. ALL DITCHES FROM H-3 GATE TO MOKAPU ROAD
2. DITCH BEHIND BLDG 1629
3. DITCH BEHIND BLDG 1021

FENCES

1. ALL FENCES AROUND BLDG. 5000, 5001, 5011 AND 6030 M198 GUN FAC AND COMBAT VEHICLE MAINT. SHOPS COMPOUND
2. PERIMETER FENCING : K-BAY DRIVE BEHIND SEWAGE TREATMENT PLANT TO H-3 GATE. NOTE: NO SPRAYING WILL BE DONE NEAR CIVILIAN HOUSING AREAS.

PARKING LOTS

- BLDGS. 1065, 1063, 1062, 1061, 1060, 1059, 1058, 1057, 1056, 1053, 1052, 1051, 1050, 1049, 1048, 1047, 1046, 1031, 1030, 1029, 1028, 1069, 1122, 1074, 1139, 1138, AND 1137

ZONE 3

DESCRIPTION

ROADS

1. MOKAPU ROAD
2. LAWRENCE ROAD

DITCHES

1. BEHIND BLDG. 4071
2. ALONG DALY ROAD

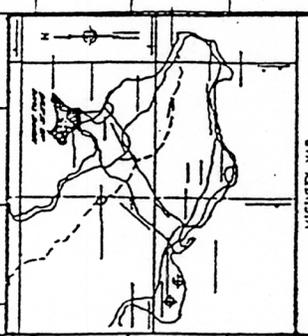
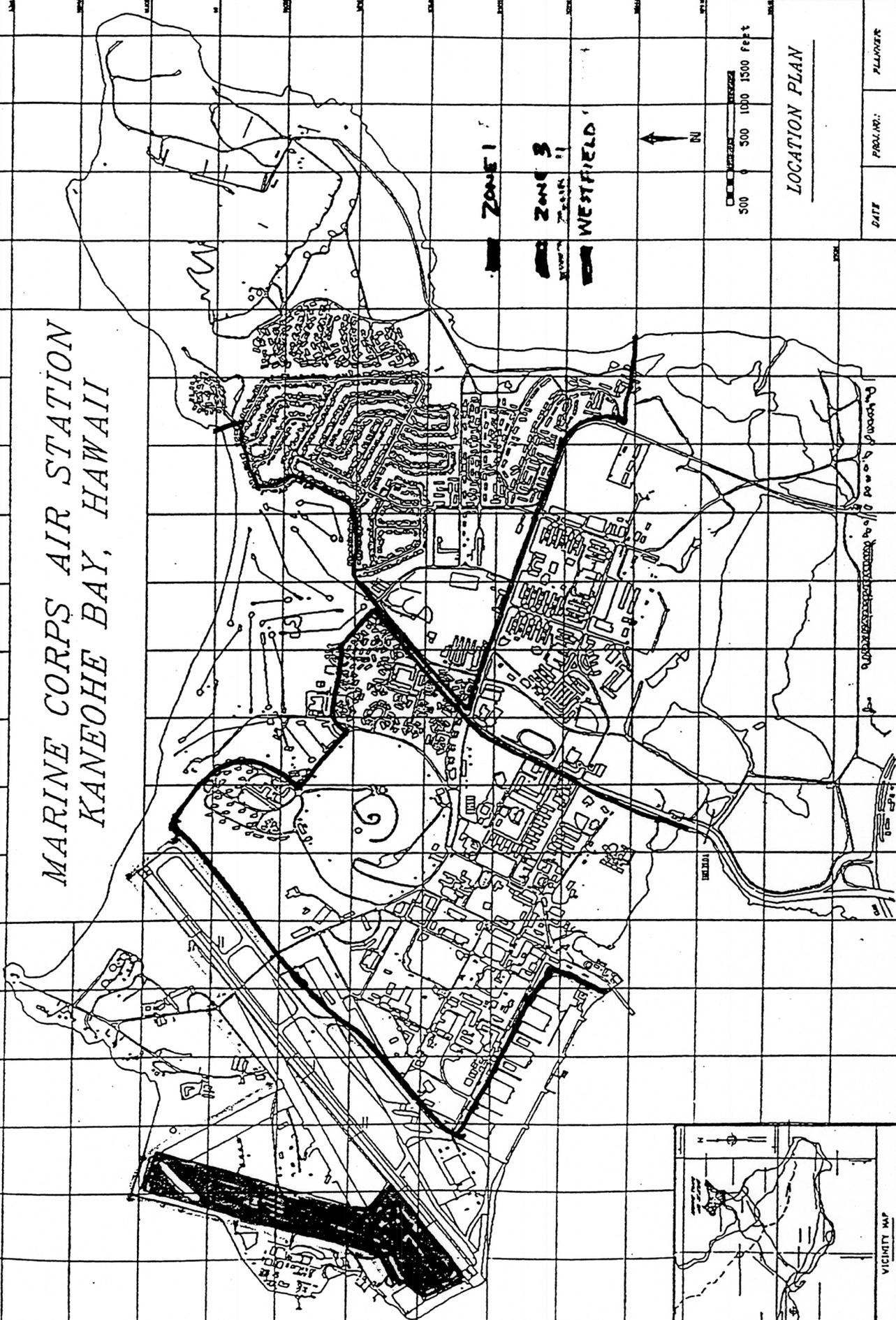
FENCES

1. ALONG DALY ROAD

ZONE 4 (RUNWAY)

1. ALL TAXIWAYS
2. ALL RUNWAY EDGES
3. RUNWAY AND TAXIWAY LIGHTS
4. HELICOPTER PAD
5. ALL SIGNS
6. ALL FENCE LINES
7. WEST FIELD (SEE SKETCH)

MARINE CORPS AIR STATION
KANEHOE BAY, HAWAII



LOCATION PLAN

DATE	PROJ. NO.	PLANNER

NI-1-11
3

WORK AUTHORIZATION/ESTIMATE (MAINTENANCE MANAGEMENT)

FACILITIES DEPT., MCAS KANEOHE BAY JOB ORDER NO: L21751

FACILITY: STATION JOB TITLE: TERM, INSP. & TREATMENT

DATE: 09/03/98 BY: SC LEAD SHOP: 76

GENERAL JOB DESCRIPTION:

ESJO - TERMITE INSPECTION AND SPOT TREATMENT OF ALL STATION BLDGS.
 TERMITE INSP. REPORT FORM DD1070 TO BE COMPLETED AND I COPY SUBMIT-
 TED TO MCD INSP. BRANCH FY 99

REMARKS:

ACCOUNTING DATA:

FUND ADMIN: L2 SUB FUNCT: COST ACCT. CODE: 9220 OBJECT CLASS: 2720
 ACTIVITY CODE: 00318 APPROP. SYMBOL: 1701106 LABOR CLASS CODE: 04

ESTIMATE

WC	HOURS	LABOR	MATL	TOTAL	WC	HOURS	LABOR	MATL	TOTAL
41	0	0	0	0	73	0	0	0	0
43	0	0	0	0	74	0	0	0	0
51	0	0	0	0	76	1888	52978	5500	58478
53	0	0	0	0	81	0	0	0	0
61	0	0	0	0	82	0	0	0	0
62	0	0	0	0	83	0	0	0	0
63	0	0	0	0	84	0	0	0	0
71	0	0	0	0	95	0	0	0	0
EPS HRS 0					TOTALS				
NON-EPS HRS 1888					1888	52978	5500	58478	
					CONTRACT COST 0				
					CONTINGENCY 0				
					GRAND TOTAL 58478				

DISTRIBUTION

SHOPS	SUPPLY DEPARTMENT	WORK REQ. FILE	TOTAL COPIES
1	1		
4	FDMC FILE	1	

G. J. Hasegawa

OCT 09 1998

AUTHORIZED WORK (Signature)

MAINTENANCE OFFICER
 TITLE

DATE

CONTINUATION SHEET

DESCRIPTION

INSPECTION OF TERMITE INFESTATION
AND SPOT TREAT TO STATION BLDGS.

WC76 INSPECT AND SPOT TREAT ALL TERMITE INFESTATION AREAS
TO STATION BLDGS.

A. FIRST QUARTER (OCT., NOV. & DEC.)

BLDGS. 30, 101, 102, 103, 104, 105, 106, 116,
128, 129, 130, 132, 135, 139, 140, 146, 149, 151,
159, 160, 162, 163, 166, 167, 168,
170, 175, 176, 177, 185, 186, 187,
190, 192, 193, 194, 195, 196, 201, 202, 203, 204,
206, 207, 208, 209, 211, 212, 213, 215, 216, 217,
218, 219, 220, 221, 222, 223, 224, 225, 226, 227,
228, 229, 230, 238, 240, 241, 242, 243, 245, 250,
267, 268, 269, 270, 271, 272, 274, 279, 283,
298, 301, 302, 313, 314, 320, 330, 331, 351,
352, 367, 370, 373, 374, 375, 385, 386, 388,
399, 401, 454, 455, 456, 460, 475, 476, 477, 487,

501 AND 502.

B. SECOND QUARTER(JAN., FEB. & MAR.)

BLDGS. 503, 504, 505, 536, 540, 544, 545, 546, 547,
548, 566, 579, 602, 603, 605, 612, 615, 616, 620,
622, 674, 681, 697, 714, 735, 817, 820, 835, 886,
1020, 1027, 1028, 1029, 1030, 1031, 1032, 1033,
1034, 1035, 1036, 1037, 1043, 1044, 1045, 1046, 1047,
1048, 1049, 1050, 1051, 1052, 1053, 1056, 1057, 1058,
1059, 1060, 1061, 1062, 1063, 1064, 1066, 1067, 1068,
1069, 1070, 1071, 1074, 1075, 1076, 1077, 1078, 1079,
1080, 1082, 1083, 1084, 1086, 1087, 1088, 1089, 1090,
1091, 1092, 1094, 1095, 1096, 1097, 1098, 1099, 1166,
1167, 1168, 1169, 1170, 1171, 1175, 1177,
1178, 1180, 1181, 1188, 1196,
1197, 1198, 1199, 1228, 1229, 1230, 1236, 1239, 1255,
1267, 1270, AND 1278

C. THIRD QUARTER(APL., MAY & JUN)

BLDG. 1279, 1296, 1298, 1299, 1303, 1304, 1306,
1307, 1359, 1360, 1361, 1362, 1391, 1416, 1417, 1505
1511, 1538, 1544, 1545,
1546, 1551, 1565, 1584, 1587, 1588, 1589, 1600,
1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609,
1610, 1611, 1612, 1613, 1614, 1615, 1636, 1637,
1650, 1654, 1655, 1656, 1664, 1672, 1675, 1676,
1677, 1678, 1682, 1683, 1684, 1685, 1686, 1687.

CONTINUATION SHEET

DESCRIPTION

1686, 1687, 1688, 1691, 1693, 1696, 1698, 3000, 3001,
3002, 3003, 3004, 3005, 3006, 3007, 3009, 3010, 3011,
3012, 3013, 3014, 3015, 3016, 3017, 3018, 3019, 3020,
3022, 3025, 3026, 3027, 3036, 3037, 3038, 3089, 3047,
3051, 3056, 3062, 3063, 3064, 3065, 3071, 3074, 3080,
3082, 3083, 3084, 3086, 3088, 3089, 3090, 3091, 3092,
3093, 3094, 3095

D. FORTH QUARTER(JUL., AUG. & SEPT.)

BLDG. 3096, 3097, 3098, 4000, 4001, 4002, 4004, 4005,
4008, 4009, 4010, 4011, 4012, 4013, 4014, 4015, 4016,
4017, 4019, 4020, 4021, 4022, 4023, 4024, 4025, 4026,
4027, 4028, 4029, 4030, 4031, 4032, 4033, 4034, 4035,
4036, 4040, 4041, 4045, 4046, 4047, 4048, 4049, 4050,
4058, 4070, 4074, 4075, 4076, 4077, 4078, 4079, 4085,
4086, 4088, 4091, 4093, 4094, 4095, 4096, 4097, 4098,
4099, 5000, 5001, 5008, 5009, 5011, 5015, 5016, 5017,
5019, 5020, 5022, 5025, 5030, 5031, 5033, 5034, 5036,
5047, 5049, 5050, 5056, 5057, 5059, 5061, 5062, 5064,
5066, 5069, 5070, 5071, 5082, 5084, 5090, 5093, 6002,
6003, 6006, 6026, 6027, 6032, 6037, 6038, 6041, 6042,
6059, 6064, 6075, 6076, 6078, 6079, 6081, 6082, 6084,
6088, 6096, 6100, 6109, 6111, 6112, 6113, 6114, 6115,
6168, 6169 AND 6170.

NOTE: SEE ATTACHED LIST OF BLDGS. FOR DEMOLITION SET FOR BY THE
BRAC. DO NOT INSPECT THESE BLDGS.

MCBH DEMOLITION PROGRAM

Status as of 11 Dec 96

<u>FAC</u>	<u>AREA</u> <u>(SF)</u>	<u>USE</u>	<u>PROJ #</u>	<u>FY</u>	<u>CWE</u> <u>(\$000)</u>	<u>STATUS</u>
<u>Kaneohe Bay</u>						
888	60	Rifle range house	TBD	99	TBD	in planning
127	5620	Water front opns MWR	KB9753M	97	101	on '96 straddle list
256	10420	Old legal service center	KB9753M	97	348	on '96 straddle list
713	4992	Old general stg fac	KB9753M	97	89	on '96 straddle list
792	250	Old gas chamber fac	KB9753M	97	5	on '96 straddle list
1392	40	Old guard shack	KB9753M	97	1	on '96 straddle list
1630	400	Old NCCOSC env lab fac	KB9753M	97	7	on '96 straddle list
3021	256	Gun/trap bldg	KB9753M	97	5	on '96 straddle list
3067	2245	NCCOSC marine pen H-102	KB9753M	97	40	on '96 straddle list
4059	1000	NCCOSC marine pen old loc	KB9753M	97	18	on '96 straddle list
4060	1000	NCCOSC marine pen old loc	KB9753M	97	43	on '96 straddle list
1021	5000	Old handball courts	P-438	97		in design
3065	576	Outdoor training fac	P-438	97		in design
3075	2028	Outdoor classroom (relocated per P-438)	P-438	97		in design
1028	22,516	BEQ	P-438	97		in design
1029	22,516	BEQ	P-438	97		in design
1030	13,888	BEQ	P-438	97		in design
310	1309	Vacant inert stg (SOMS)	BRAC	97		part of BRACON
350	NA	Transformer	BRAC	97		part of BRACON
368	6910	Tac afd fuel sys opns	BRAC	97		part of BRACON
1176	463	Jet fuel fac base supply	BRAC	97		part of BRACON
1183	884	Liquid oxygen/nitrogen fac	BRAC	97		part of BRACON
1186	NA	Transformer	BRAC	97		part of BRACON
1414	600	Helo engine test fac	BRAC	97		part of BRACON
3032	2470	Liq oxygen fac	BRAC	97		part of BRACON
3052	5000	Liq oxygen concrete slab	BRAC	97		part of BRACON
3070	6950	Meteorological van conc slab	BRAC	97		part of BRACON
4061	600	Engine shaft test fac	BRAC	97		part of BRACON
5018	NA	Sentry station	BRAC	97		part of BRACON
5079	NA	Transfer shed (env)	BRAC	97		part of BRACON
5080	NA	Transfer shed (env)	BRAC	97		part of BRACON
5081	NA	Transfer shed (env)	BRAC	97		part of BRACON
6005	600	Fuel Div admin/living fac	BRAC	97		part of BRACON
6104	NA	Haz mat fac (env)	BRAC	97		part of BRACON

178	270	General stg fac	BRAC	97		part of BRACON
179	192	Ordnance shop	BRAC	97		part of BRACON
180	112	Ordnance magazine	BRAC	97		part of BRACON
181	112	Ordnance magazine	BRAC	97		part of BRACON

Camp Smith

10	6903	Vacant "O" club off	KB9752M	97	108	on '96 straddle list
40	22220	Vacant "O" club	KB9752M	97	348	on '96 straddle list
35	28326	Vacant admin fac	KB9780M	97	443	on '96 straddle list

Camp Smith Training Facility (Puuloa)

32	3279	Rec/weight room	KB9847M	98	52	approved for design
36	3572	Applied instruction bldg	KB9847M	98	57	approved for design
38	3572	Storage	KB9847M	98	57	approved for design
45	3136	NCO Club	KB9847M	98	50	approved for design

filed on LY2, lfpp18.sam

ADD. ON AT PER Cecil HAYEGANS

- 1) B-1644 OLD BEER GARDEN . .
- 2) B-1190 OLD CON ELECTRIC MAINTENANCE SHED
- 3) B-3059-3060-3061, 3062 AND 1239 OLD NACS-2 BUDGS

WORK AUTHORIZATION/ESTIMATE (MAINTENANCE MANAGEMENT)

FACILITIES DEPT., MCAS KANEOHE BAY JOB ORDER NO.: M01109 AMEND. #0

FACILITY: STATION JOB TITLE: MAINT. TO TRANSFORMERS (STA).

DATE: 10/16/98 BY: W.U. LEAD SHOP: 82

GENERAL JOB DESCRIPTION:

ESJO - MAINTENANCE TO TRANSFORMERS THROUGH-OUT MARINE CORPS. BASE
 HAWAII, KANEOHE BAY (EXCLUDE HOUSING).
 * FY-99 *

REF #1: CECIL H.

REMARKS: * FREQUENCY: ANNUALLY.

ACCOUNTING DATA:

FUND ADMIN: M0 SUB FUNCT: M1 COST ACCT. CODE: EHA0 OBJECT CLASS: 2720
 ACTIVITY CODE: 00318 APPROP. SYMBOL: 1701106 LABOR CLASS CODE: 04

ESTIMATE

WC	HOURS	LABOR	MATL	TOTAL	WC	HOURS	LABOR	MATL	TOTAL
41	0	0	0	0	73	42	1299	0	1299
43	302	8475	9135	17610	74	0	0	0	0
51	172	5078	0	5078	76	224	6286	7514	13800
53	0	0	0	0	81	0	0	0	0
61	0	0	0	0	82	1870	55204	120066	0
62	0	0	0	0	83	0	0	0	0
63	452	13344	2758	16102	84	0	0	0	0
71	0	0	0	0	95	0	0	0	0
EPS HRS 301					TOTALS 3062 89686 139473 229159				
NON-EPS HRS 2761					CONTRACT COST 0				
					CONTINGENCY 0				
					GRAND TOTAL 229159				

DISTRIBUTION

SHOPS	SUPPLY DEPARTMENT	WORK REQ. FILE	TOTAL COPIES
PRODUCTION CONTROL	4	1	

ENCLOSURES: NONE.

G. J. Hasegawa

OCT 27 1998 MAINTENANCE OFFICER
 AUTHORIZED WORK (Signature) TITLE DATE

CONTINUATION SHEET

DESCRIPTION

MAINT. TO TRANSFORMERS THROUGH-OUT (STATION)
MCBH KANEOHE BAY, EXCLUDE HOUSING.

*FREQUENCY:(ANNUALLY)

- WC/82
1. TRANSFORMERS ON POLES.
 2. TRANSFORMERS IN PADS/VAULTS.
 3. PRIMARY SWITCHGEARS.
 4. MISC. OTHER PRIMARY DEVICES & HARDWARES.
(BUSHINGS, INSULATORS, FENCING, ETC.).
 5. MAINTENANCE TO TRANSFORMERS ITEM #1 THRU #4 (ABOVE)
THROUGH-OUT STATION, EXCLUDE HOUSING.
 - A. INSPECT/P.M. ACCORDING TO NAVFAC MAINT. MANUAL -
M0322 VOL. 2.
 - B. INSPECT/P.M. ACCORDING TO MANUFACTURERS -
SPECIFICATIONS AND RECOMMENDATIONS.
- WC/51
6. ASSIST WC/82, WITH MAINTENANCE TO PAD & POLE MOUNT
TRANSFORMERS ON STATION, WHEN REQUESTED.
- WC/76
7. TREAT AREA TO CONTROL VEGETATION GROWTH WHEN
REQUESTED.
- WC/63
8. TRANSFORMERS AND SWITCHGEARS.
 - A. PATCH/REPAIR CORROSION DAMAGE ON TRANSFORMERS
AND PRIMARY/SECONDARY SHEET-METAL ENCLOSURES.
(AVERAGE - 4 M/HRS. PER SITE, APROX. 112 SITES,
50% ANNUALLY).

*NOTE: WC/82, WILL NOTIFY WC/63 FOR SHEET-METAL/
WELDER ASSISTANCE.
- WC/82
9. UPON COMPLETION OF INSPECTION/PREVENTIVE MAINT. &
REPAIRS TO TRANSFORMERS, PRIME/PAINT INTERIOR OF
TRANSFORMERS.

*NOTE: RE-STENCIL ALL IDENTIFICATIONS PRINTED ON
TRANSFORMERS.
*BRUSH AND ROLL INTERIOR OF ENCLOSURES WITH
ALUMINATION.
- WC/43
10. PAINTING: (BRUSH AND ROLL W/ALUMINATION - EXTERIOR
ONLY).
 - A. PREPARE SURFACE, (CHIP, WIRE-BRUSH, ETC.) PRIME
AND PAINT EXTERIOR OF TRANSFORMERS, SWITCHGEARS,
AND JUNCTION BOXES WITH ALUMINATION.

CONTINUATION SHEET

DESCRIPTION

WC/43
CONT.-

- B. RE-PAINT SIGNS AND STENCIL TRANSFORMERS/SWITCH NUMBERS ACCORDING TO PRINT.
*NOTE: WC/82: TO PAINT EXTERIOR OF TRANSFORMERS IN BUILDING'S #820, & #1125.

WC/73

- 11. ASSIST WORK CENTER - 82 (LINE CREW) AS REQUESTED.

- 12. INFORMATION ONLY:(FOR CONCERNED SHOPS)

- 1) SEE DISTRIBUTION MAP FOR LOCATIONS, UP-DATE PLAN AS NECESSARY.
- 2) * NOTE: CHECK ALL ITEMS ON (ABOVE) CONTINUATION SHEET, AND REPAIR ON SWA IF MINOR IN SCOPE, OR REPORT TO FDMC, FOR 05 JOB. (CHECK APPROX. 224 SITES - ANNUALLY)
* 8 MANHOURS PER SITE (PAD MOUNTED),
* 3 MANHOURS PER SITE (POLE MOUNTED),
- 3) * FREQUENCY: ANNUALLY.

- 13. INFORMATION ONLY:

	QUANTITY:	SITES:
a) PAD MOUNT TRANSFORMERS ---	180 EA.	170
b) SWITCH STATIONS ---	28 EA.	26
c) MAIN SUB STATIONS ---	6 EA.	6
d) POLE MOUNT TRANSFORMERS --	34 EA.	22

*TOTAL -----	244 EA.	224 SITES

WORK AUTHORIZATION/ESTIMATE (MAINTENANCE MANAGEMENT)

FACILITIES DEPT., MCAS KANEOHE BAY JOB ORDER NO.: M01111 ;

FACILITY: HOUSING JOB TITLE: MAINT. TO HANA LIKE HSG. XFMRS ;

DATE: 09/08/98 BY: W.U.

LEAD SHOP: 82

GENERAL JOB DESCRIPTION:

MAINTENANCE TO TRANSFORMERS THROUGH-OUT HANA LIKE HOUSING (802 HSG. PROJECT), ON MCBH KANEOHE BAY.

* FY-99 *

REF #1: CECIL H.

REMARKS: WC/82; TO SCHEDULE ALL HANA LIKE HOUSING POWER OUTAGES.

ACCOUNTING DATA:

FUND ADMIN: MD SUB FUNCT: M1 COST ACCT. CODE: EHA0 OBJECT CLASS: 2720
 ACTIVITY CODE: 00318 APPROP. SYMBOL: 1701106 LABOR CLASS CODE: 04

ESTIMATE

WC	HOURS	LABOR	MATL	TOTAL	WC	HOURS	LABOR	MATL	TOTAL				
41	0	0	0	0	73	18	557	0	557				
43	31	870	930	1800	74	0	0	0	0				
51	40	1181	0	1181	76	34	955	3223	4178				
53	0	0	0	0	81	0	0	0	0				
61	0	0	0	0	82	136	4015	18505	0				
62	0	0	0	0	83	0	0	0	0				
63	36	1063	431	1494	84	0	0	0	0				
71	0	0	0	0	95	0	0	0	0				
EPS HRS 31					TOTALS					295	8641	23089	31730
NON-EPS HRS 264													
										CONTRACT COST		0	
										CONTINGENCY		0	
										GRAND TOTAL		31730	

DISTRIBUTION

SHOPS	PRODUCTION CONTROL	SUPPLY DEPARTMENT	WORK REQ. FILE	TOTAL COPIES
1	4	1	1	

ENCLOSURES: ENCL. #1.

G. J. Hasegawa

OCT 13 1998

AUTHORIZED WORK (Signature) TITLE DATE

CONTINUATION SHEET

DESCRIPTION

MAINTENANCE TO TRANSFORMERS THROUGH-OUT
HANA LIKE HOUSING (802 HSG PROJECT).
*FREQUENCY: (ANNUALLY)

- WC/82 1. TRANSFORMERS MOUNTED ON CONCRETE PADS.
2. PRIMARY SWITCHGEARS.
3. MAINTENANCE TO TRANSFORMERS & SWITCHGEARS ITEM #1
AND #2 (ABOVE) THROUGH-OUT HANA LIKE HOUSING.
A. INSPECT/P.M. ACCORDING TO NAVFAC MAINT. MANUAL -
M0322 VOL. 2.
B. INSPECT/P.M. ACCORDING TO MANUFACTURERS -
SPECIFICATIONS AND RECOMMENDATIONS.
- WC/51 4. ASSIST WC/82, WITH MAINTENANCE TO PAD-MOUNT
TRANSFORMERS IN HANA LIKE HOUSING, WHEN ---
REQUESTED.
- WC/76 5. TREAT AREA TO CONTROL VEGETATION GROWTH WHEN
REQUESTED.
- WC/63 6. TRANSFORMERS & SWITCHGEARS.
A. PATCH/REPAIR CORROSION DAMAGE ON TRANSFORMERS AND
PRIMARY/SECONDARY SHEET-METAL ENCLOSURES.
(AVERAGE - 4 MANHOURS PER SITE, APPROX. 9 SITES,
50% ANNUALLY).
B. NOTE: WC/82, WILL NOTIFY WC/63 FOR SHEET-METAL/
WELDER ASSISTANCE.
- WC/82 7. UPON COMPLETION OF INSPECTION/PREVENTIVE MAINT. AND
REPAIRS TO TRANSFORMERS, PRIME/PAINT INTERIOR OF --
TRANSFORMER ENCLOSURES.
A. RE-STENCIL ALL IDENTIFICATIONS PRINTED ON
TRANSFORMERS.
B. BRUSH AND ROLL INTERIOR OF ENCLOSURES WITH
ALUMINATION.
- WC/43 8. PAINTING: (BRUSH AND ROLL W/ALUMINATION - EXTERIOR
ONLY).
A. PREPARE SURFACE, (CHIP, WIRE-BRUSH, ETC.) PRIME
AND PAINT EXTERIOR OF TRANSFORMERS, SWITCHGEARS,
AND JUNCTION BOXES WITH ALUMINATION.
B. RE-PAINT SIGNS AND STENCIL TRANSFORMERS/SWITCH
NUMBERS ACCORDING TO PRINT.

7 2 7

CONTINUATION SHEET

DESCRIPTION

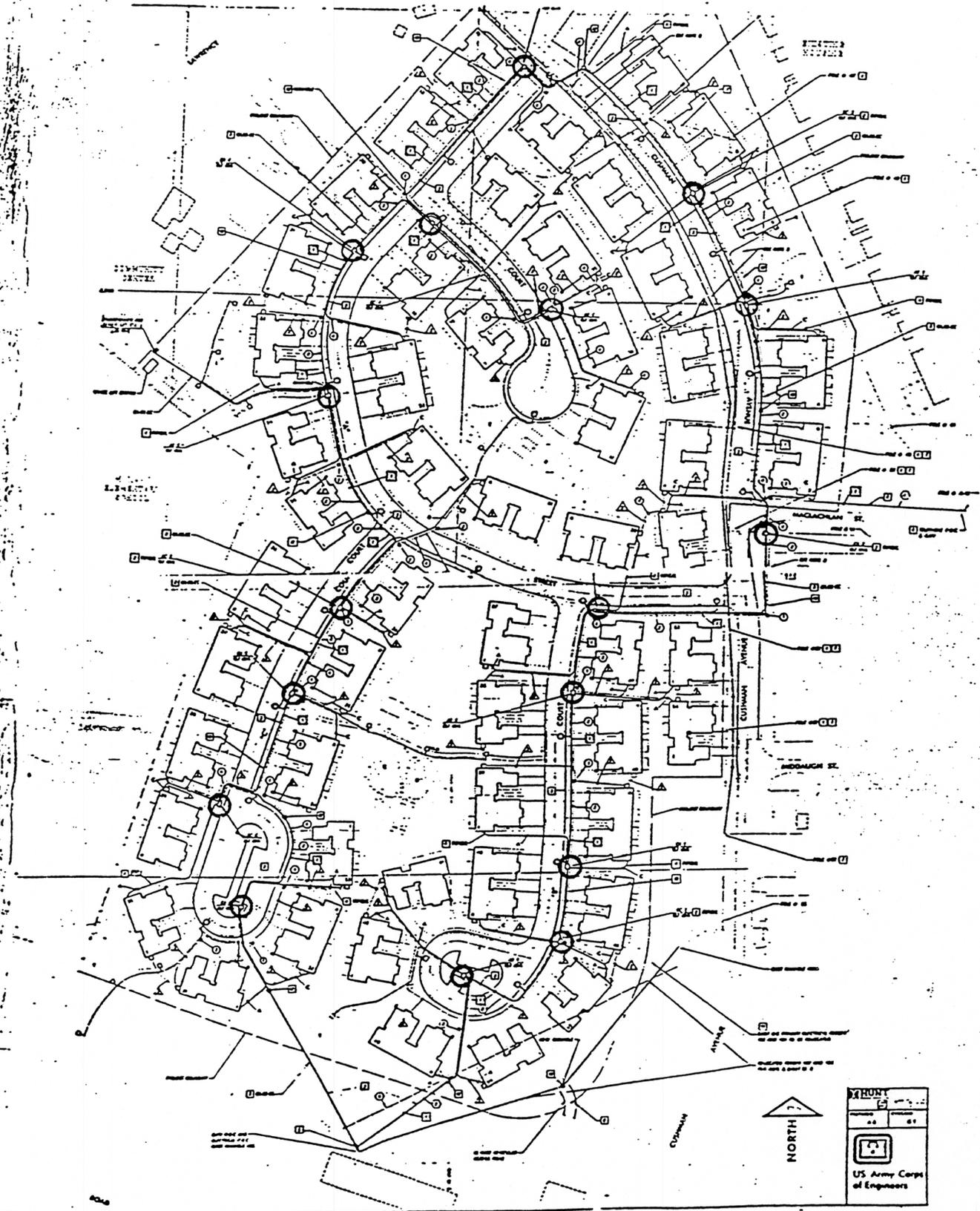
WC/73 9. ASSIST WORK CENTER - 82 (LINE CREW) AS REQUESTED.

WC/82 10. INFORMATION ONLY:

- A. HANA LIKE HOUSING (802 HSG. PROJECT) HAS 17 EACH TYPICAL 167 KVA PADMOUNT TRANSFORMERS.
- B. DATE APPROVED FOR CONSTRUCTION: NOV. 26, 1991.

"INFORMATION ONLY"

- C. ESJO STARTED: DEC. 12, 1992 AND CONTINUED FOR FUTURE ESJO'S FOR HANA LIKE 802 HOUSING.



WORK AUTHORIZATION/ESTIMATE (MAINTENANCE MANAGEMENT)

H5E022

FACILITIES DEPT., MCAS KANEOHE BAY JOB ORDER NO.: ~~H59FZD~~

FACILITY: HOUSING JOB TITLE: HSG.TERM.INSP.CHANGE OF OCC.

DATE: 09/08/98 BY: SC

LEAD SHOP: 76

GENERAL JOB DESCRIPTION:

ESJO - FAMILY HOUSING CHANGE OF OCCUPANCY PESTICIDES SPRAYING,
FUMIGATION MONITORING, MANHOLE TREATMENT AND TERMITE INSPECTION
FY99

REF #1: D.BUFFUM

REMARKS: YEARLY

ACCOUNTING DATA:

9220

FUND ADMIN: H5 SUB FUNCT: COST ACCT. CODE: ~~422~~ OBJECT CLASS: 2720
ACTIVITY CODE: 00318 APPROP. SYMBOL: 1701106 LABOR CLASS CODE: 04

ESTIMATE

WC	HOURS	LABOR	MATL	TOTAL	WC	HOURS	LABOR	MATL	TOTAL			
41	0	0	0	0	73	0	0	0	0			
43	0	0	0	0	74	0	0	0	0			
51	0	0	0	0	76	3250	91195	19800	110995			
53	0	0	0	0	81	0	0	0	0			
61	0	0	0	0	82	0	0	0	0			
62	0	0	0	0	83	0	0	0	0			
63	0	0	0	0	84	0	0	0	0			
71	0	0	0	0	95	0	0	0	0			
EPS HRS				3050	TOTALS				3250	91195	19800	110995
NON-EPS HRS				200								
					CONTRACT COST					0		
					CONTINGENCY					0		
					GRAND TOTAL					110995		

DISTRIBUTION

SHOPS	PRODUCTION	CONTROL	SUPPLY DEPARTMENT	WORK REQ. FILE	HOUSING	TOTAL	COPIES
			1	1			
		4	FDMC FILE				

G. J. Hasegawa

OCT 09 1998

AUTHORIZED WORK (Signature)

MAINTENANCE OFFICER
TITLE

DATE

CONTINUATION SHEET

DESCRIPTION

SPRAY VACANT QUARTERS (CHG. OF OCCUPANCY)

W/C 76 A. SPRAY INTERIOR AND EXTERIOR WITH INSECTICIDES FOR CONTROL OF INSECTS DURING A CHANGE OF OCCUPANCY IN THE HOUSING AREA.

B. INSPECT AND TREAT FOR ROACHES IN SEWER MANHOLES IN ALL HOUSING AREAS 4X PER YEAR.

C. INSPECT AND SET POISON BAIT FOR CONTROL OF RODENTS IN MANHOLES IN ALL HOUSING AREAS 4X PER YEAR.

MONITOR TENT FUMIGATION CONTRACTS

W/C76 A. PRE- CHECK OF EACH BUILDING PRIOR TO FUMIGATION.
B. TAKING FUMISCOPE READINGS AFTER THE INDUCTION OF THE GAS.
C. TAKE THREE TEST DURING PROCESS.

DAY 1 1. TAKE 1ST. FUMISCOPE READING AFTER TWO HOURS OF GAS INDUCTION.
2. TAKE 2ND. FUMISCOPE READING FOUR HOURS AFTER FIRST READING.

DAY2 3. FINAL FUMISCOPE READING.
4. AFTER TENT REMOVAL AND FOUR HOURS OF VENTILATION, TEST FOR SAFE RE-ENTRY READINGS.
5. DURING WAITING PERIOD, REPEAT TESTING TO THE OTHER BUILDINGS IF AVAILABLE.

NOTE: UNDISCLOSED NUMBER OF BUILDINGS WILL BE SCHEDULED FOR TENT FUMIGATION DURING THE FY. HOUSING OFFICE WILL INFORM W/C 76 FOREMAN ON QUANTITIES. APPROX. 25 PER YEAR.

WORK AUTHORIZATION/ESTIMATE (MAINTENANCE MANAGEMENT)

45E023

FACILITIES DEPT., MCAS KANEOHE BAY JOB ORDER NO: 459FZH

FACILITY: HSG. OFFICE 455 JOB TITLE: HERBICIDE SIDEWALKS BLDG. 455

DATE: 09/08/98 BY: SC

LEAD SHOP: 76

GENERAL JOB DESCRIPTION:

ESJO: HERBICIDE SIDEWALKS, CURBS, ROADWAYS AROUND HOUSING AND SPRAY PARKING LOT AROUND BLDG.455

FY99

REF #1: D.BUFFUM

REMARKS:

ACCOUNTING DATA:

FUND ADMIN: H5 SUB FUNCT: COST ACCT. CODE: 9220 ~~422F~~ OBJECT CLASS: 2720
 ACTIVITY CODE: 00318 APPROP. SYMBOL: 1701106 LABOR CLASS CODE: 04

ESTIMATE

WC	HOURS	LABOR	MATL	TOTAL	WC	HOURS	LABOR	MATL	TOTAL
41	0	0	0	0	73	0	0	0	0
43	0	0	0	0	74	0	0	0	0
51	0	0	0	0	76	180	5314	2500	7814
53	0	0	0	0	81	0	0	0	0
61	0	0	0	0	82	0	0	0	0
62	0	0	0	0	83	0	0	0	0
63	0	0	0	0	84	0	0	0	0
71	0	0	0	0	95	0	0	0	0
EPS HRS 8					TOTALS				
NON-EPS HRS 172					180 5314 2500 7814				
					CONTRACT COST 0				
					CONTINGENCY 0				
					GRAND TOTAL 7814				

DISTRIBUTION

SHOPS	PRODUCTION	CONTROL	SUPPLY DEPARTMENT	WORK REQ. FILE	HOUSING	TOTAL	COPIES
		4	1	1			

G. J. Hasegawa

OCT 09 1998

MAINTENANCE CONTROL DIRECTOR

AUTHORIZED WORK (Signature)

TITLE

DATE

DESCRIPTION

HERBICIDE AROUND HOUSING AREA

- W/C 76
1. APPLY HERBICIDE ALONG ALL SIDEWALKS, CURBS, ROADWAYS THROUGH OUT HOUSING AREA. USE TRUCK DRAWN SPRAYER ALONG ROADWAYS AND PARKING STALLS
 2. USE HAND HELD SPRAYER ALONG SIDEWALKS. NOTE THIS ESJO DOESN'T INCLUDE 802 HOUSING AREA.
 3. FREQUENCY IS 1X PER YEAR.
 4. NOTE: ALL OTHER HERBICIDING PERFORMED AFTER THE INITIAL SPRAYING WILL BE THROUGH A E.S. TICKET. THE TICKET WILL BE INITIATED THROUGH A HOUSING INSPECTOR.

WORK AUTHORIZATION/ESTIMATE (MAINTENANCE MANAGEMENT)

H5E822

FACILITIES DEPT., MCAS KANEOHE BAY JOB ORDER NO.: H59FZY

FACILITY: ~~802~~ HOUSING JOB TITLE: TERM INSP/CHG.OF OCC/HERB/802

DATE: 09/10/98 BY: SC

LEAD SHOP: 76

GENERAL JOB DESCRIPTION:

ESJO. TERMITE INSPECT, SPOT TREAT OF ALL QRTS. HERBICIDE SIDEWALKS AND ROADWAYS, SPRAY FOR INSECTS FOR CHANGE OF OCCUPANCY, TREAT MANHOLES FOR ROACHES AND RODENTS FY99

REF #1: M.DILULLO REF #2: D.BUFFUM

REMARKS:

ACCOUNTING DATA:

FUND ADMIN: H5 SUB FUNCT: COST ACCT. CODE: ⁹²²⁰~~422F~~ OBJECT CLASS: 2720
 ACTIVITY CODE: 00318 APPROP. SYMBOL: 1701106 LABOR CLASS CODE: 04

ESTIMATE

WC	HOURS	LABOR	MATL	TOTAL	WC	HOURS	LABOR	MATL	TOTAL			
41	0	0	0	0	73	0	0	0	0			
43	0	0	0	0	74	0	0	0	0			
51	0	0	0	0	76	560	15714	4800	20514			
53	0	0	0	0	81	0	0	0	0			
61	0	0	0	0	82	0	0	0	0			
62	0	0	0	0	83	0	0	0	0			
63	0	0	0	0	84	0	0	0	0			
71	0	0	0	0	95	0	0	0	0			
EPS HRS				560	TOTALS				560	15714	4800	20514
NON-EPS HRS				0								
									CONTRACT COST		0	
									CONTINGENCY		0	
									GRAND TOTAL		20514	

DISTRIBUTION

SHOPS	PRODUCTION	CONTROL	SUPPLY DEPARTMENT	WORK REQ. FILE	HOUSING	TOTAL	COPIES
		4	1	1			

ENCLOSURES: SEE MAP

G. J. Hasegawa

OCT 09 1998

MAINTENANCE OFFICER

AUTHORIZED WORK (Signature)

TITLE

DATE

DESCRIPTION

TERMITE INSPECTION AND SPOT TREATMENT

WC76 INSPECTION OF ALL QRTS. IN THE 802 HOUSING AREAS.
SPOT TREAT ALL INFESTATION AS REQUIRED. 1X PER YEAR.

- A. FIRST QUARTER (OCT, NOV, DEC)
2700 THROUGH 2712
- B. SECOND QUARTER (JAN, FEB, MAR)
2713 THROUGH 2726
- C. THIRD QUARTER (APR, MAY, JUN)
2727 THROUGH 2739
- D. FOURTH QUARTER (JUL, AUG, SEP)
2740 THROUGH 2753

SPRAY VACANT QUARTERS 802 HOUSING
(CHANGE OF OCCUPANCY)

WC76 A. SPRAY INTERIOR AND EXTERIOR OF QRTS. WITH INSECTICIDE
IN THE 802 HOUSING AREA DURING A CHANGE OF OCCUPANCY.
APPROX. 105 CHANGES PER YEAR.

- B. INSPECT AND TREAT FOR ROACHES IN SEWER MANHOLES IN
802 HOUSING AREA. NOTE: THERE ARE 19 MANHOLES. TREAT
4X PER YEAR.
- C. INSTALL/SET POISON BAIT FOR RODENT CONTROL IN MAN-
HOLES IN THE 802 HOUSING AREA. 4X PER YEAR.

NOTE: THE HOUSING OFFICE/INSPECTOR WILL INFORM W/C 76
WITH A LIST ON LOCATIONS, DATES AND TIMES OF
PROPOSED VACANT QRTS.

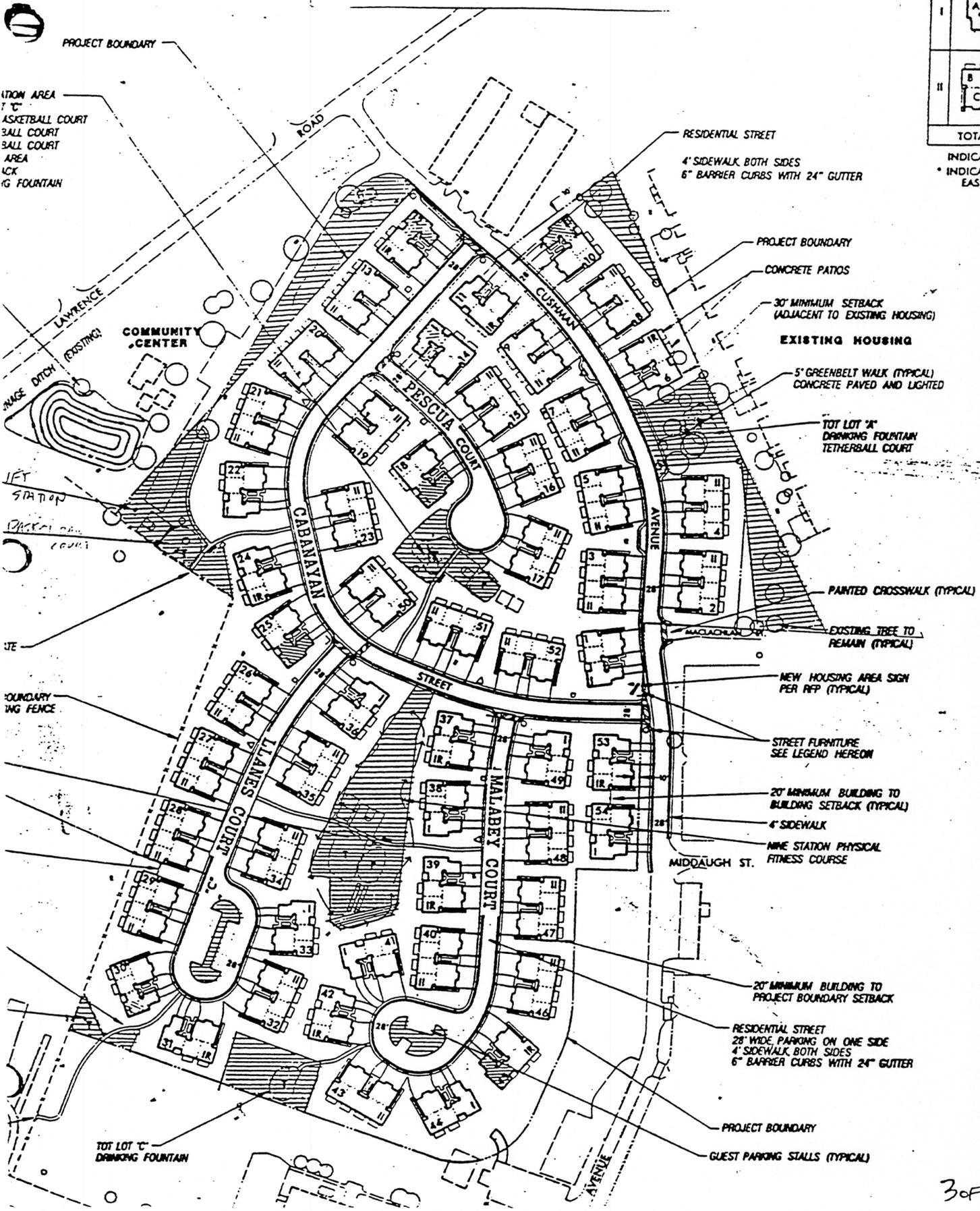
HERBICIDE (ROADWAYS AND SIDEWALKS)

- WC76 A. SPRAY EDGES OF ALL ROADWAYS IN 802 HOUSING AREA.
USE HAND CARRIED SPRAYER. USE (KROVAR) CHEMICAL
FOR ROADWAYS. 2X PER YEAR.
- B. SPRAY ALL SIDEWALKS IN 802 HOUSING AREA. USE HAND
CARRIED SPRAYER. USE (ROUNDUP) CHEMICAL FOR ALL
SIDEWALKS. 3X PER YEAR.

HS9FZ
 HANA LIKE - 1992

UNIT MI

BUILDING TYPE	
I	
II	
TOTALS	
INDICATES A	
* INDICATES A EASILY MC	



SPORTS AREA
 BASKETBALL COURT
 BALL COURT
 BALL COURT
 AREA
 LOCKER
 DRINKING FOUNTAIN

COMMUNITY CENTER

RESIDENTIAL STREET
 4" SIDEWALK BOTH SIDES
 6" BARRIER CURBS WITH 24" GUTTER

PROJECT BOUNDARY
 CONCRETE PATIOS
 30' MINIMUM SETBACK (ADJACENT TO EXISTING HOUSING)
 EXISTING HOUSING
 5' GREENBELT WALK (TYPICAL)
 CONCRETE PAVED AND LIGHTED

TOT LOT 'A'
 DRINKING FOUNTAIN
 TETHERBALL COURT

PAINTED CROSSWALK (TYPICAL)

EXISTING TREE TO REMAIN (TYPICAL)

NEW HOUSING AREA SIGN PER RFP (TYPICAL)

STREET FURNITURE SEE LEGEND HEREON

20' MINIMUM BUILDING SETBACK (TYPICAL)

4" SIDEWALK

NINE STATION PHYSICAL FITNESS COURSE

20' MINIMUM BUILDING TO PROJECT BOUNDARY SETBACK

RESIDENTIAL STREET
 28' WIDE PARKING ON ONE SIDE
 4" SIDEWALK BOTH SIDES
 6" BARRIER CURBS WITH 24" GUTTER

PROJECT BOUNDARY
 GUEST PARKING STALLS (TYPICAL)

TOT LOT 'C'
 DRINKING FOUNTAIN

LIST OF STANDARD PESTICIDES AVAILABLE TO DOD COMPONENTS AND ALL FEDERAL AGENCIES AS OF JULY 1, 2000

J-	Item (Alternative Trade Name)	Unit Package	AAC *	Price	Unit Issue	Users
81	Algacide, Copper Sulfate, 80.16% pentahydrate, crystal (Cuproze)	50-lb bag	L	-----	BG	A,F
71	Fungicide, Wood Preservative, copper naphthenate mixture (COP-R-NAP)	5-gal co	D	201.90	CO	A,N,F,M
98	Fungicide, Wood Preservative, copper naphthenate mixture (COP-R-NAP RTU)	5-gal co	L	-----	CO	A,N
741	Fungicide, Methylisothiocyanate (MITC-FUME) ***RESTRICTED USE PESTICIDE***	18 tubes	L	-----	CO	A,N,F,M
88	Fungicide, Methyl Azoxystrobin, 50% (Heritage)	(6) 1-lb. cont.	J	2100.00	BX	A,N,F,M
67	Herbicide, Borate-Bromacil mixture, 94% sodium metaborate tetrahydrate, 4% bromacil, granular (Borocil IV)	50-lb bag	Y	115.09	BG	A,N,F
93	Herbicide, Bromacil, 21.9% lithium salt of bromacil, liquid (Hyvar X-L)	(2) 2.5-gal co	D	312.17	BX	A,N,F,M
106	Herbicide, Bromacil, 40.8%, water soluble liquid (Bromax-4L)	5-gal drum	D	681.13	DR	A,N,F
79	Herbicide, Bromacil, 40.8%, wettable powder (Hyvar X)	(12) 4-lb bags	H	1007.94	BX	A,N,F,M
75	Herbicide, Chlorate-Borate mixture, 30% sodium chlorate, 68% sodium metaborate tetrahydrate, granular (Monobor Chlorate)	50-lb bag	Z	61.97	BG	A,N,F
23	Herbicide, Diquat, 35.3%, water soluble liquid (Reward)	1-gal co	D	115.52	GL	F
99	Herbicide, Diquat, 35.3%, water soluble liquid (Reward)	(2) 2.5-gal co	D	575.79	BX	A,N,F
46	Herbicide, Diuron, minimum 80% diuron, granular	25-lb bag	Z	115.00	BG	A,N,F
710	Herbicide, Diuron-Bromacil mixture, 40% bromacil, 40% diuron, granular (Krovat I DF)	6-lb bag	D	70.06	BG	A,N,F
578	Herbicide, Isopropylamine salt of glyphosate, 41%, water soluble liquid (Roundup Pro)	(2) 2.5-gal co	D	254.69	BX	A,N,F
42	Herbicide, Isopropylamine salt of glyphosate, 41%, water soluble liquid (Roundup Pro)	30-gal drum	Z	1557.61	DR	A,N,F
93	Herbicide, Isopropylamine salt of glyphosate, 41%, water soluble liquid (Rodeo)	(2) 2.5-gal co	D	629.53	BX	A,N,F,M
113	Herbicide, Isopropylamine salt of glyphosate, 0.96%, water soluble liquid (Roundup Ready-to-Use)	24-oz pump spray bottle	D	5.28	BT	F
573	Herbicide, Isopropylamine salt of glyphosate, 0.96%, water soluble liquid (Roundup Dry Pack)	25 pkg.	D	76.95	BX	A,N,F,M
02	Herbicide, Isopropylamine salt of imazapyr, 27.6% (Arsenal)	(2) 2.5-gal co	D	1418.27	BX	A,N,F,M
17	Herbicide, Oryzalin, 40% (Sulfan A.S.)	1-gal bot	L	-----	GL	A,N,F,M
113	Herbicide, Prometone, 25% prometone, emulsifiable concentrate (Pramitol 25E)	5-gal can	D	94.88	CN	A,F
90	Herbicide, Tebuthiuron (Spike 80W)	4-lb bag	L	-----	BG	A,N,F,M
576	Herbicide, Tebuthiuron-Diuron, 1% Tebuthiuron, 3% Diuron (Spraykil SK-13)	40 lb. container	D	90.48	CO	A,N,F,M
194	Herbicide, 2,4-Dichlorophenoxy-acetic acid (2,4-D), oil miscible/water emulsifiable liquid (low volatile ester form)	(2) 2.5-gal co	H	107.03	BX	A,N,F,M
60	Herbicide, 2,4-Dichlorophenoxy-acetic acid (2,4-D), water soluble liquid (amine salt form)	(2) 2.5-gal co	H	104.55	BX	A,N,F,M
110	Herbicide, 2,4-Dichlorophenoxy-acetic acid (2,4-D), 0.4%, water soluble liquid (amine salt form) (Weed-B-Gon)	24-oz pump spray bottle	D	6.33	BT	F
63	Insect Repellent, clothing application, 75% DEET, 25% ethanol	2-oz bottle	D	1.38	BT	A,N,F,M
36	Insect Repellent, clothing application, aerosol (Permethrin Arthropod Repellent)	(12) 6-oz cans	D	38.41	BX	A,N,F,M
82	Insect Repellent, personal application, (3M/EPA 58007-1)	(12) 2-oz tubes	D	34.32	BX	A,N,F,M
66	Insect Repellent, clothing application, 40% permethrin, liquid (2-Gal sprayer)	(12) 151-ml bot	D	159.30	BX	A,N,F,M
56	Insect Repellent, personal application, 3% benzocaine, 10% precipitated sulfur (Chigg-Away)	188-ml bot	D	2.72	BT	A,N,F,M
88	Insect Repellent, personal application & sunscreen, 20% DEET/SPF15 (Sunset)	(12) 2-oz tubes	D	42.82	BX	A,N,F
82	Insect Repellent, personal application & sunscreen, 20% DEET/SPF15 (Sunset)	320 packets	D	325.28	BX	A,N
37	Insect Repellent, clothing application, permethrin (IDA)	12 kits	D	42.77	BX	A,N,F,M
65	Insect Repellent, personal application, 30% DEET (Cutter Insect Repellent Stick)	(12) 1-oz sticks	D	34.70	BX	A,N,F
116	Insecticide, Aluminum phosphide, 55 % tablets (Phostoxin/Fumitoxin) ***RESTRICTED USE PESTICIDE***	100 tablets	D	20.31	CN	A,N,F
98	Insecticide, Aluminum phosphide, 55 % tablets	1660 pellets	D	27.17	BT	A,N,F

(Phostoxin/Fumitoxin) ***RESTRICTED USE PESTICIDE***						
149	Insecticide, <i>Bacillus thuringiensis</i> , 10% (Bactimos Briquets)	100 Briquets	D	71.85	BX	A,N,F,M
169	Insecticide, Baygon, 1% propoxur, liquid (Roach and Ant Spray)	1-gal can	V	10.72	GL	A,N,F,M
138	Insecticide, Boric Acid, aerosol (Perma-Dust)	(12) 9 oz cans	D	63.58	BX	A,N,F
197	Insecticide, Carbaryl, 80%, water dispersible powder (Sevin 80S)	(5) 10-lb bags	H	262.29	BX	A,N,F
187	Insecticide, Carbaryl, 42.6%, liquid (Carbaryl 4L)	(2) 2.5-gal co	D	153.10	BX	F
181	Insecticide, Carbaryl, 5%, dust (Sevin 5% dust)	(12) 4-lb bags	D	153.68	BX	A,N,F
159	Insecticide, Cyfluthrin (Tempo 2EC)	(12) 240-ml bot	D	489.03	BX	A,N,F,M
151	Insecticide, Cyfluthrin (Tempo 20WP)	(288) 9.5-g pack	D	380.00	BX	A,N,F,M
122	Insecticide, Cypermethrin (Demon WP)	1-lb jar	D	57.76	LB	A,N,F,M
145	Insecticide, Deltamethrin (Delta Dust)	1-lb co	D	11.45	LB	A,N,F,M
138	Insecticide, Diazinon, 2%, dust	20-lb co	D	24.24	CO	A,N,F,M
125	Insecticide, Diazinon, 47.5%, emulsifiable concentrate	1-gal can	D	40.25	GL	A,N,F,M
138	Insecticide, Dichlorvos, 20% (plastic strips)	48 strips	D	181.01	BX	A,N,F,M
134	Insecticide, D-Phenothrin, 2%, aerosol	12-oz can	D	6.40	CN	A,N,F,M
137	Insecticide, D-trans Allethrin and Resmethrin, 0.15% and 0.2% minimum, respectively, aerosol	11-oz can	D	1.79	CN	A,N,F,M
151	Insecticide, Dursban, 42% chlorpyrifos, emulsifiable concentrate (Dursban 4E)	1-gal can	D	114.87	GL	N,F,M
103	Insecticide, Dursban, 20% chlorpyrifos, microencapsulated (Empire 20)	1-pint co	D	24.86	PT	A,N,F,M
766	Insecticide, Dursban, 42.8% chlorpyrifos, emulsifiable concentrate (Dursban TC/CYREN PRO Termite Conc.)	(4) 1-gal co	D	262.17	BX	A,N,F,M
111	Insecticide, Dursban, 42% chlorpyrifos, emulsifiable concentrate (Dursban 4E)	5-gal can	D	482.02	CN	A,N,F,M
161	Insecticide, Dursban, 19.36% chlorpyrifos, liquid (Mosquitomist 1.5 ULV)	5-gal can	D	279.20	CN	A,N,F,M
187	Insecticide, Dursban, 0.5% chlorpyrifos, aerosol (Engage)	(12) 20-oz cans	D	85.72	BX	A,N,F,M
161	Insecticide, Dursban, 20% chlorpyrifos, emulsifiable concentrate (Dursban Pro)	1-pint co	H	9.70	PT	A,N,F,M
172	Insecticide, Ficam, 76% bendiocarb, wettable powder (Ficam)	1-lb jar	D	76.88	LB	A,N,F,M
144	Insecticide, Fly Bait, 1% methomyl (Apache/Golden Malrin)	5-lb can	D	18.17	CN	A,N,F,M
113	Insecticide, Hydramethylnon (Amdro Fire Ant Bait)	(24) 6-oz bot	L	-----	BX	A,N,F,M
799	Insecticide, Hydramethylnon (Siege Gel Bait)	4-30 gm reservoirs	J	12.98	BX	A,N,F,M
194	Insecticide, Fenoxycarb {Logic (Award Brand of Logic)}	25-lb bag	J	244.74	BG	A,N,F,M
169	Insecticide, Fipronil, cockroach, large size (Combat Quick Kill)	8 bait stations/ box/ 12 boxes	D	82.96	PG	A,N,F,M
167	Insecticide, Fipronil, cockroach, regular size (Combat Quick Kill)	12 bait stations/ box/ 12 boxes	D	80.41	PG	A,N,F,M
150	Insecticide, Fipronil (Maxforce Roach Killer Bait Gel)	4-30 gram reservoirs/box	Z	17.00	BX	A,N,F,M
122	Insecticide, Fipronil (MaxForce Ant Bait)	96 stations	D	116.40	PG	A,N,F,M
116	Insecticide, Hydroprene, emulsifiable concentrate (Gentrol IGR)	(10) 1-oz bot	D	95.57	BX	A,N,F,M
180	Insecticide, Imidacloprid, 5% granular (Merit 0.5 g)	30 lb. bag	J	50.00	BG	A,N,F,M
146	Insecticide, Lambda-cyhalothrin, 9.7% (Demand CS)	(8) 8 oz bottle	D	284.87	BX	A,N,F,M
157	Insecticide, Lambda-cyhalothrin (Demand Pesttab)	40 tablets	D	71.57	CO	A,N,F,M
122	Insecticide, Malathion, 57.0%, emulsifiable concentrate, class 1	1-gal co	D	33.75	GL	A,N,F,M
138	Insecticide, Malathion, 57.0%, emulsifiable concentrate, class 1	5-gal can	D	129.20	CN	A,N,F,M
181	Insecticide, Malathion, 95%, liquid, grade B	54-gal drum	D	1697.60	DR	A,N,F,M
142	Insecticide, Malathion, 95%, liquid, grade B	5-gal can	D	194.12	CN	A,N,F,M
195	Insecticide, Methoprene (Altosid XR Briquets)	220 Briquets	D	705.80	BX	A,N,F,M
193	Insecticide, Methoprene (Altosid SR-20 Liquid Larvicide)	(2) 2.5-gal co	J	4905.24	BX	A,N,F,M
172	Insecticide, N-ethyl perfluorooctane sulfonamide (Advance Dual Choice)	36 stations	D	31.66	PG	A,N,F,M
165	Insecticide, Naled, 85%, liquid (Dibrom)	30-gal drum	J	3276.93	DR	A,N,F
111	Insecticide, Naphthalene, ball form	1-lb box	D	7.61	LB	A,N,F,M
194	Insecticide, Nithiazine, Fly Strips (Quikstrike), 2 strips per package	(12) Pkg./box	J	168.00	BX	A,N,F
125	Insecticide, P-Dichlorobenzene, crystal/flake	100-lb drum	J	421.85	DR	A,N,F
124	Insecticide, P-Dichlorobenzene, crystal GSA	1-lb can	J	6.71	LB	A,N,F,M
115	Insecticide, Propetamphos, 50% (Catalyst)	(8) 3.2-oz bot	D	32.62	BX	A,N,F,M

780	Insecticide, Pyrethrins, 3% pyrethrins with synergists, liquid (ULV fog concentrate)	1-gal bot	D	75.35	GL	A,N,F,M
143	Insecticide, Pyrethrins, or d-phenothrin, aerosol (Wasp Freeze/Wasp Stopper II Plus)	(12) 12-oz cans	D	57.95	BX	A,N,F,M
349	Insecticide, Pyrethrin, aerosol (PT 565 Plus XLO)	(12) 12-oz cans	D	116.70	BX	A,N,F
333	Insecticide, Resmethrin (Scourge)	5-gal can	D	397.51	CN	A,N,F
383	Insecticide, Spinosad, 11.6% (Conserve SC)	1 gal cont.	J	250.00	GL	A,N,F,M
751	Insecticide, Sumthrin-Piperonyl Butoxide ,10%-10%, (Anvil 10+10 ULV)	(2) 2.5-gal/box	D	800.00	BX	A,M,F,N
706	Insecticide, Sumthrin-Piperonyl Butoxide, 10%-10%, (Anvil 10+10 ULV)	250 gal co	D	37087.50	CO	A,N,F,M
132	Insecticide, Temephos (Abate 4E)	2.5-gal co	J	812.55	CO	A,N,F,M
229	Mosquito Larvicide and Pupicide (Agnique MMF)	(2) 2.5-gal co	D	167.00	BX	A,N,F
352	Rodent Indicator Bait Blocks (Census Bait Blocks)	285 blocks	D	54.34	CO	A,N,F,M
364	Rodenticidal Bait, Anticoagulant, 0.005% diphacinone	40 blocks	D	47.96	BX	A,N,F,M
373	Rodenticidal Bait, Anticoagulant, 0.005-0.0055% diphacinone, pellets	5-lb can	V	8.93	CN	A,N,F
384	Rodenticidal Bait, Anticoagulant, 0.005% broadiolone (Maki), pellets	11-lb can	D	28.89	CN	A,N,F,M
308	Rodenticidal Bait, Anticoagulant, 0.005% brodifacoum (Talon-G), pellets	10-lb can	D	39.24	CN	A,N,F,M
320	Rodenticidal Bait, 2% zinc phosphide (ZP Rodent Bait) ***RESTRICTED USE PESTICIDE***	(250) 7.5-g pkg.	J	38.25	CO	N
372	Rodenticide, Anticoagulant, concentrate 0.106% sodium salt of diphacinone (LIQUA-TOXII)	50 pouches	D	253.37	BX	A,N,F,M
318	Rodenticide, 10% zinc phosphide (ZP Tracking Powder) ***RESTRICTED USE PESTICIDE***	(4) 500-g bot	J	33.50	BX	N

+User Code A=Army, N=Navy, F=Air Force, M=Marines SOS (DSCR-Richmond)=S9G

*ACQUISITION ADVICE CODES (ACC)

- D. DOD INTEGRATED MATERIAL MANAGER (IMM) STOCKED, AND ISSUED. Issue, transfer, or shipment is not subject to specialized controls other than those imposed by the Integrated Material Manager/Military Service supply policy.
1. The item is centrally managed, stocked, and issued.
 2. Requisitions will be submitted in accordance with Military Service requisitioning procedures.
- G. GENERAL SERVICES ADMINISTRATION (GSA) INTEGRATED MATERIAL MANAGED, STOCKED AND ISSUED. Identifies GSA managed items available from GSA Supply Distribution Facilities. Requisitions and fund citations will be submitted in accordance with GSA/Military Service requisitioning procedures.
- H. CENTRAL CONTRACT - NOT STOCKED ITEM. Direct delivery under central contract #(non-stocked items) issue, transfer, or shipment is not subject to specialized controls other than those imposed by IMM/Service/Agency supply policy.
1. The item is centrally managed and procured.
 2. Normal issue is by direct shipment from the vendor to the user at the order of the ICP or IMM. However, orders for quantities less than the vendor's minimum order of quantity may be issued from stock by ICP or IMM supply distribution facilities.
 3. Requisitions and fund citations will be submitted in accordance with IMM/Service/Agency requisitioning procedures.
 4. Generally, delivery will be made within applicable Service/Agency guidelines addressing customer-required time frame.
- I. DIRECT ORDERING FROM A CENTRAL CONTRACT/SCHEDULE. Issue, transfer, or shipment is not subject to specialized controls other than those imposed by Integrated Material Manager/Military Service supply policy. The item is covered by a centrally issued contractual document, or by a multiple award Federal Supply schedule for GSA managed items, which permits using activities to place orders on vendors for direct delivery to the user.
- J. NOT STOCKED, CONTROLLED PROCURED. Identifies IMM/Military Service centrally managed but not stocked items. Long lead times must be anticipated, since procurement will be initiated only after receipt of a requisition. Requisitions will be submitted in accordance with IMM/Military Service requisitioning procedures.
- K. CENTRALLY STOCKED FOR OVERSEAS ONLY. Main means of supply is local purchase. Item is stocked in domestic supply system for those overseas activities unable to procure locally due to non-availability of procurement sources or where local purchase is prohibited. Requisitions will be submitted by overseas activities in accordance with Service/Agency requisitioning procedures. NOTE: CONUS activities will obtain supply support through local procurement procedures.
- L. LOCAL PURCHASE. IMM/Military Service managed items authorized for local purchase, as a normal means of support, by the Military Service, or base, post, camp, or station level. Items not stocked in wholesale distribution system of IMM/Military Service ICP. The local purchase forms authorized by the individual IMM/Military Service must be used. NOTE: GSA FSS items are included.
- V. TERMINAL ITEM. Identifies items in stock; but future procurement is not authorized. Requisitions may continue to be submitted until stocks are exhausted. Preferred items National Stock Number (NSN) normally provided by the application of the phrase, "When Exhausted Use (NSN)". Requisitions will be submitted in accordance with IMM/Military Service requisitioning procedures as applicable.

- X. SEMIACTIVE ITEM-NO REPLACEMENT. A potentially inactive NSN which must be retained in the supply system as an item of supply because (1) stocks of the item are on hand or in use below the wholesale level and (2) the NSN is cited in equipment authorization documents TO&E, TA, TM, etc. or in-use assets are being reported.
1. Items are authorized for central procurement but not authorized for stockage at wholesale level.
 2. Requisitions for in-use replacement will be authorized in accordance with individual Military Service directives.
 3. Requisitions may be submitted as requirements generate. Repetitive demands may dictate at ACC change to permit Wholesale stockage.
- Y. TERMINAL ITEM. Further identifies AAC V items on which wholesale stocks have been exhausted. Future procurement not authorized.
1. Requisitions will not be processed to the wholesale suppliers.
 2. Internal Services' requisitioning may be continued in accordance with Military Service requisitioning policies.
- Z. INSURANCE/NUMERIC STOCKAGE OBJECTIVE ITEM. Items, which may be required occasionally or intermittently and prudence requires that a nominal quantity of material be stocked due to the essentiality or the lead-time of the item.
1. The item is centrally managed, stocked and issued.
 2. Requisitions will be submitted in accordance with IMM/Military Service requisitioning procedures.

EMERGENCY VECTOR CONTROL PLAN
(MCBH KANEOHE BAY)

APPENDIX TO THE PEST MANAGEMENT PLAN

Ref: (a) DODINST 4150.7
(b) OPNAVINST 6250.4B

1. **PURPOSE:** This appendix outlines potential problem areas and proposed actions to be undertaken in case of a natural disaster or contingency leading to a vector-borne disease or other problem pest outbreak. It is intended to augment the installation Pest Management Plan, and is designed to assist the Medical and Facilities Departments in identifying and suppressing pest target species as soon as possible. In accordance with references (a) and (b), the Medical Department assumes responsibility for vector-borne disease outbreak and outbreak of medically important pests.
2. **IMPLEMENTING AUTHORITY:** Director, Branch Medical Clinic, Pearl Harbor, notifies the affected installation commanding officer and requests authorization to initiate the plan.
3. **RESPONSIBILITIES:**
 - a. Installation Commanding Officer: Commanding General, MCBH Kaneohe Bay, will authorize the Medical Department to initiate the Plan, as well as allocate the required funding to support the plan.
 - b. The Medical Department will implement the plan and contact the Medical Entomologist.
4. **DEVELOPMENT AND IMPLEMENTATION**
 - a. Senior Medical Officer, Branch Medical Clinic, Pearl Harbor, is responsible for implementation and termination of the Plan upon consultation with the Navy Medical Entomologist.

POC: Head Medical Entomologist
NAVENPVNTMEDU No. 6 Pearl Harbor
Phone (808) 473-0555

- b. Head, Preventive Medicine, Branch Medical Clinic, Pearl Harbor. Project leader assumes responsibility of vector surveillance and control during implementation of the plan.
- c. Pest Control Shop Supervisor, Facilities Department (Work Center 76, phone 257-1225. In the event of a vector-borne disease or other pest outbreak, the work center will provide to the Medical Department the necessary equipment, chemical and manpower resources needed for the duration of the emergency.
- d. Military and civilian agencies that need to be contacted during an emergency vector control crisis include:
 - (1) Navy Environmental Health Center (NEHC), Norfolk, VA. Phone (757) 462-5500. POC Navy Entomologist.
 - (2) Navy Disease Vector Ecology and Control Center (NDVECC), Bangor, WA. Phone (306) 315-4450. POC Operations Officer.
 - (3) Navy Environmental and Preventive Medicine unit No. 6 (NAVENPVNTMEDU No. 6), Pearl Harbor. POC Medical Entomologist 473-0555.
 - (4) State of Hawaii Vector Control Branch. POC Branch Manager, phone 831-6767.
- e. MCBH Kaneohe Bay Public Affairs Office (PAO) will be contacted upon implementation of the Plan at 257-8841. All media inquiries will be referred to the PAO.
- f. Environmental factors that may contribute to a vector-borne disease outbreak:
 - (1) Earthquake – May cause a disruption in normal sanitation services leading to an increase of disease vectors.
 - (2) Hurricane – May cause flooding, power outages and major disruption in utility services leading to an increase in disease vectors.
 - (3) Storm – Flooding may cause the disruption of services leading to an increase in disease vectors.

g. Vector-borne diseases that could manifest in MCBH Kaneohe Bay and outlying areas:

DISEASE	VECTOR/PEST	RESERVOIR	CONTROL
Bacillary Dysentery	Mechanically by cockroaches and ants	Man	Crack/crevice, residual insecticides; baits
Conjunctivitis	Eye gnats	Man	ULV/ULD application
Plague	Fleas	Rodents	Rodent Control; Dusting/residual applications for fleas
Typhoid Fever	Flies	Man	Space and outdoor residual applications
Typhus	Lice/fleas	Man/Rat	Residual indoor/outdoor applications; rodent control; personnel protection
Dengue fever	Mosquito	Man	ULV fogging; larviciding
Hanta Virus	Rodent (Mice)	Rodent (Mice)	Rodent control; sanitation

h. Areas that may require supplemental vector control:

- (1) Family Housing
- (2) Bachelor Quarters
- (3) Galley/Food Service