



EXECUTIVE CHAMBERS
HONOLULU

GEORGE R. ARIYOSHI
GOVERNOR

February 13, 1981

Mr. Donald A. Bremner, Chairman
Environmental Quality Commission
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Dear Mr. Bremner:

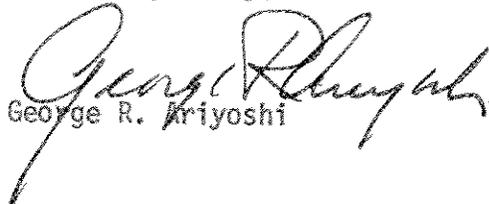
Subject: Supplemental Environmental Impact Statement for the
Panaewa Agricultural Park

Based upon the recommendation of the Office of Environmental Quality Control, I am pleased to accept the subject document as satisfactory fulfillment of the requirements of Chapter 343, Hawaii Revised Statutes. This environmental impact statement will be a useful tool in the process of deciding whether or not the action described therein should or should not be allowed to proceed. My acceptance of the statement is an affirmation of the adequacy of that statement under the applicable laws, and does not constitute an endorsement of the proposed action.

When the decision is made regarding the proposed action itself, I expect the proposing agency to weigh carefully whether the societal benefits justify the environmental impacts which will likely occur. These impacts are adequately described in the statement, and, together with the comments made by reviewers, provide a useful analysis of alternatives to the proposed action.

With warm personal regards, I remain,

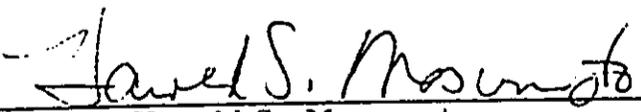
Yours very truly,


George R. Ariyoshi

OEQC LIBRARY

ENVIRONMENTAL IMPACT STATEMENT FOR
PANAWEA AGRICULTURAL PARK
SUPPLEMENTAL STATEMENT
FARM LABORATORY, UNIVERSITY OF HAWAII AT HILO
WAIAKEA, HILO, COUNTY OF HAWAII
STATE OF HAWAII

University of Hawaii
2444 Dole Street
Honolulu, Hawaii 96822


Harold S. Masumoto
Vice President for Administration

August, 1980

HI
138A

ENVIRONMENTAL IMPACT STATEMENT FOR
PANAWEA AGRICULTURAL PARK
SUPPLEMENTAL STATEMENT
FARM LABORATORY, UNIVERSITY OF HAWAII AT HILO
WALAKEA, HILO, COUNTY OF HAWAII
STATE OF HAWAII

AUGUST 1980

APPLYING AGENCY:

University of Hawaii
2444 Dole Street
Honolulu, Hawaii 96822

CONTACT:

Harold S. Masumoto
Vice President for Administration

ACCEPTING AGENCY:

Governor, State of Hawaii

PREPARED BY:

Facilities Planning Office
University of Hawaii
2002 East-West Road
Honolulu, Hawaii 96822

INTRODUCTION

This Supplemental Statement to the Environmental Impact Statement for the Panaewa Agricultural Park incorporates all of the comments received.

The Panaewa Agricultural Park is proposed for development by the Department of Land and Natural Resources. It will consist of approximately 470 acres and provide acreages for plant nurseries, floral and orchard enterprises. Approximately 110 acres will be allocated for a Farm Laboratory for the University of Hawaii at Hilo. The Farm Laboratory will have swine and poultry enterprises as well as a small beef herd until a more suitable area for beef production is developed. As noted earlier, there will be floral, orchards, and nursery operations also.

The proposed development of the Farm Laboratory by the University of Hawaii at Hilo is anticipated to result in a significant environmental impact. This Supplemental Statement is prepared in compliance with Sub Part K, Section 2:10 of the EQC Regulations and supplements the Panaewa Agricultural Park, Revised Environmental Impact Statement of March 1980.

SUMMARY

The UHH Farm Laboratory, although a part of the Panaewa Agricultural Park, was not included in the Environmental Impact Statement; therefore, this Supplemental Statement was prepared to address the significant environmental concerns.

The proposed development of the Farm Laboratory will transform the 110 acres of dense rain forest lands into a cleared area for a number of agricultural enterprises. This development, construction and operation of the Farm Laboratory will result in a significant environmental impact. Among the impact is the land clearing operations which will cause the loss of forest cover and any bird and animal life will have to relocate to other locations. Although no endangered native bird and animal life are known to inhabit this site, the Hawaiian Bat is known to forage there. The development will cause the Hawaiian Bat to forage elsewhere. This is not expected to significantly affect the bat population.

PURPOSE OF THE PROJECT

The College of Agriculture and the Hawaii Community College at the UHH provide academic and practical education in the various aspects of agriculture to prepare the graduates to be readily employed in the agricultural business community. The program, at present, offers courses in three specialized areas; namely, animal husbandry, general agriculture and tropical crop production.

The Farm Laboratory will complement classroom instructions by providing actual farming facilities where students can practice and apply the knowledge they have acquired. By actually performing the various farming operations, graduates are prepared to enter commercial agricultural operations with a minimum of additional training.

The Farm Laboratory will also provide facilities to conduct research to demonstrate to the agricultural community the latest crop and management practices.

LOCATION OF THE PROJECT

The proposed Farm Laboratory will be situated within the area designated as the Panaewa Agricultural Park in Hilo. It is approximately four miles southeast of the University of Hawaii at Hilo Campus. The Farm Laboratory is north of the South Hilo-Puna District boundary and east of the Panaewa Forest Reserve strip that parallels Kanoiehua Highway. Please refer to the location map on the following page.

AREA

The Farm Laboratory will encompass 110 acres out of the 470 acres within the Panaewa Agricultural Park.

TAX MAP KEY

The area is designated as being a portion of Zone 2, Section 2, Plat 48, portion of Parcel 4.

LAND OWNERSHIP AND TENURE

The site for the Farm Laboratory is State land administered by the Department of Land and Natural Resources. It is proposed that the University of Hawaii be granted a long-term lease to the Farm Laboratory site.

DESCRIPTION OF THE PROJECT SITE

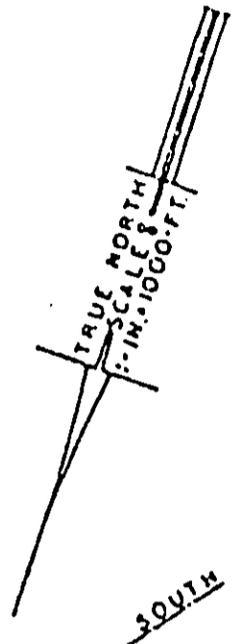
A brief description of the project site is presented and for a more detailed description, reference is made to the "Panaewa Agricultural Park Environmental Impact Statement" prepared for the Department of Land and Natural Resources dated January 1980.

The proposed Farm Laboratory site was a forest reserve and covered with a dense stand of rain forest vegetation. There have been past land clearings of small areas in certain locations resulting in the invasion of the more aggressive exotic plant species. The site is between 220 to 275 feet above sea level and comprised of nearly level to gently sloping undulating terrain. There are no deep gulches and streams. The Puna Sugar Company's sugar canefields are to the south of this site.

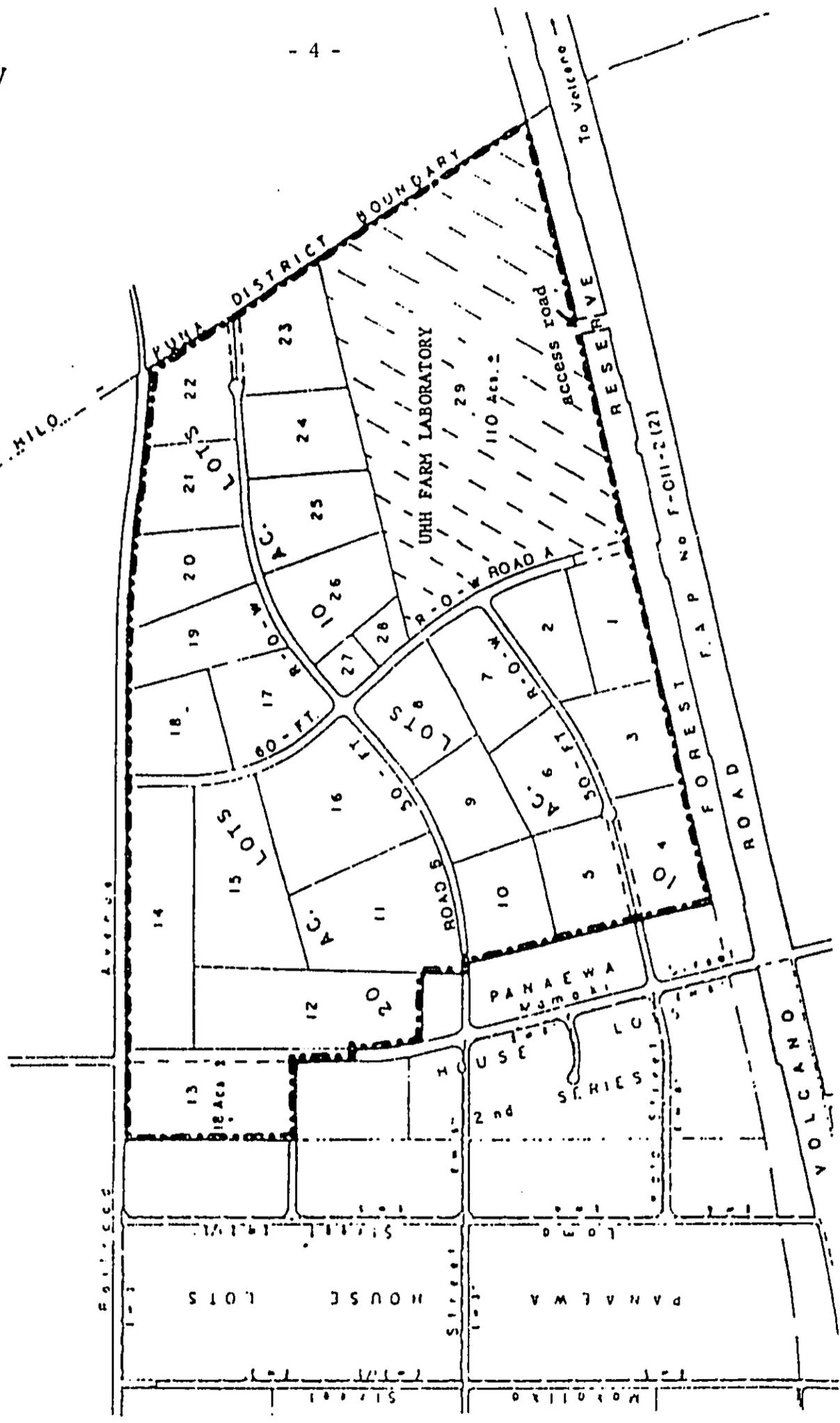
The Farm Laboratory is five miles from Hilo Bay. As there are no streams or drainages through the site leading to the open water, no adverse impact is anticipated to the marine biota.

The dominant soil is the Papai Series, extremely stony muck, dark brown in color overlying aa lava fragments. Permeability is rapid and erosion hazard is considered as slight. The extremely stony properties make this soil difficult to cultivate with machinery. Orchards and pasture uses are better adapted to these soils. Vegetables can be cultivated but will generally require more labor to manage the crop and land.

The area receives about 136 inches of annual rainfall. Crops are usually grown under unirrigated conditions but on occasion, during prolonged drought periods, supplemental irrigation may be required.



DEPT. OF HAWAIIAN HOME LANDS
HOUSE AND FARM LOTS



Domestic water will be available throughout the Farm Laboratory. The proposed 3-inch water meter can deliver up to 300 gpm. If supplemental irrigation is necessary, up to 100,000 gpd may be used.

The Farm Laboratory will also be serviced by the Hawaii Electric Light Company and the Hawaiian Telephone Company.

The development plan will provide access to the Farm Laboratory by the construction of Roads A and B as shown on the attached map. As this route will require an additional travel of about three-fourths mile through the Agricultural Park, the University is planning to develop a direct access to the Farm Laboratory from Kanoelehua Highway. The access road will be located at the approved access point along the highway. The CDUA approval will be requested prior to clearing of the 300-foot strip of the Panaewa Forest Reserve. The District Engineer's Office in Hilo for the Department of Transportation has indicated their approval of the direct access road provided that entrance to Kanoelehua Highway is made at the approved access location.

The disposal of solid and liquid wastes will be the responsibility of each tenant of the agricultural park. Solid wastes will be removed and disposed at approved disposal sites or burned if permitted and the necessary approvals are granted. Household liquid wastes are disposed into cesspools constructed on site in accordance with the Department of Health regulations. Waste disposal from the animal and poultry enterprises will be discussed in the following section.

The Farm Laboratory will be located on the Kau Volcanic Series from Mauna Loa. Although there are potential hazards of volcanic eruptions, the location does not appear to be in an area of high volcanic activity.

The area appears to be stable. There are no known occurrence of land slides or land slips. Flooding hazard appears non-existent.

There will be a direct access road from the Farm Laboratory to Kanoelehua Highway. This road will shorten the distance between the Farm Laboratory and the campus by about three-fourths of a mile. It will also eliminate the traffic of going through the agricultural park to the Farm Laboratory. The access road will keep traffic on the interior farm road to the normal local traffic, reducing noise, traffic hazards and reduce emission of noxious emissions from the automobiles going through the farm area.

DESCRIPTION OF THE FARM LABORATORY

The Farm Laboratory when developed will have a number of agricultural enterprises that are successfully undertaken in the Hilo area.

The enterprises planned are: macadamia, guava, papaya, anthuriums, nursery, vegetables, beef, poultry and swine. Each of the enterprises is planned to represent at least an economic unit in size. The economic unit size approach is being suggested to provide farm operations of sizes large enough to enable an independent farmer and his family to earn an income sufficiently high for attaining a reasonable standard of living. These units will also provide training and experience in operating commercial size enterprises and provide incentives to students when they are operated as a profitable operation.

The larger area within the Farm Laboratory will be devoted to orchards, pastures and nursery-type operations. However, there will be structures to carry out the various functions. Following are the buildings to be built. No classrooms are planned on the Farm Laboratory.

Nursery Headhouse	30' x 40'
Equipment and Supply Storage	20' x 60'
Farm Manager's Residence	
Shade House -- 4 each	30' x 80'
Poultry Brooder - Grower Building	40' x 125'
Swine Growing - Finishing Building	36' x 65'
Waste Treatment Lagoon	
Vehicular Parking Area	

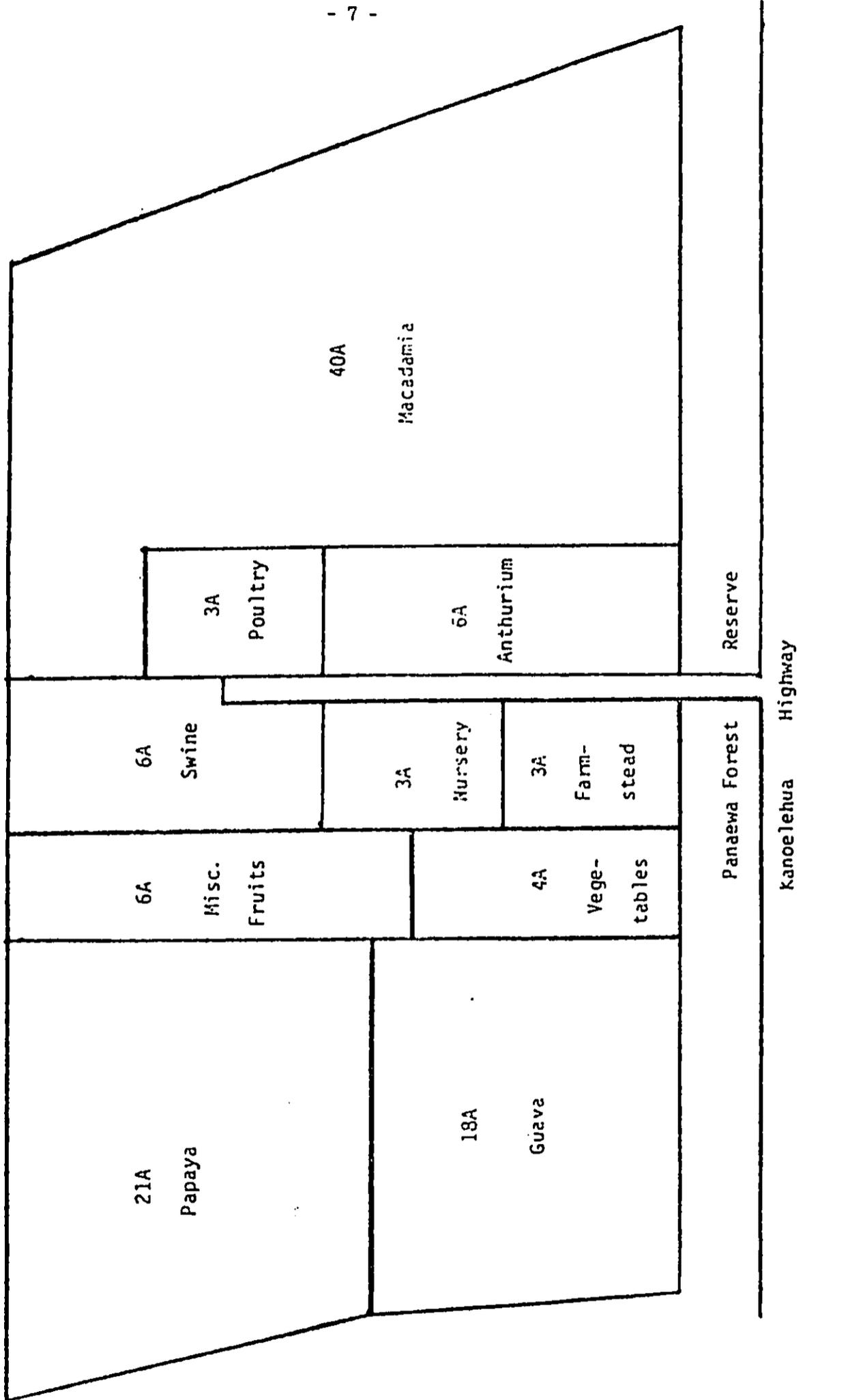
During the early periods of the Farm Laboratory development stages, probably the grazing of beef animals will take up to 50 acres. If additional lands suitable for pasture development are available at other locations, pasture use on the Farm Laboratory will be reduced. Approximately 20 heads of beef animals will be raised on 50 acres of pastures. No significant environmental impacts are anticipated as long as the herd is not increased. With grazing of livestock in the pastures, no problem of animal waste disposal is anticipated. Slaughtering will take place off the Farm Laboratory in an approved facility.

The poultry enterprise will have a maximum of 5,000 layers and 1,500 broilers. The layers will be raised in confinement in egg-laying batteries suspended above the floor in an open-sided concrete floor poultry house. The concrete floor will permit easy cleaning of the manure and permit air drying. It is estimated that up to 30 tons of manure will be produced annually. Moisture content of the manure will be kept as low as possible to control the fly population. From time to time, the accumulated air-dried manure will be removed and used on the Farm Laboratory or sold.

Broilers will be raised on wood shavings or other suitable litter that can be used on the Farm Laboratory or sold. Slaughter of the poultry will be on the farm when an approved facility is built.

UHH FARM LABORATORY PLOT PLAN

PANAWEA FARM LOTS
(Not drawn to scale)
February 1980



The hogs will be raised in concrete floor pens that can be washed as needed. Approximately 30 brood sows and 300 piglets will be kept. All of the washing from the pens will be disposed into a specially designed and approved waste treatment unit. At the present time, the waste treatment unit will consist of a lagoon for anaerobic bacterial digestion of the solids. Effluent from the lagoon will be discharged into a cesspool. It is estimated that 440 cubic feet per day of liquid waste will be generated by the washing of the hog pens. There are no indications at present that the effluent will contaminate the ground water supply.

All slaughtering of the hogs will be in approved, off-farm slaughter house.

It is estimated that the poultry flocks and the sows and their litters would annually produce approximately 60 and 30 tons of manure, respectively.

In the operation and management of the Farm Laboratory, students will provide the largest share of the labor. As they are generally inexperienced and unskilled, operations will be less efficient than that of the experienced commercial operators. However, with experience, the students will improve. Upon their graduation and replacement by new students, the training process will repeat.

Students from the College of Agriculture and the Hawaii Community College will use the Farm Laboratory. The various farming enterprises will be apportioned between the colleges as well as the schedule for the operation of the equipment. Each college will be expected to assume managerial responsibilities with faculty members being assigned to be in charge of each enterprise. There will be a full-time farm manager to oversee the operation of the Farm Laboratory with at least one hired staff to provide staff support. The major portion of the farm labor will be provided by the students to gain practical experience and skill. They will be paid for work performed as long as the work is exclusive of the usual and normal instructions or laboratory exercises.

Students will maintain records for each of the enterprises as one phase of their training program.

To provide security as well as to assure proper maintenance and scheduling of all of the farm equipment and machinery, the equipment and machinery will be stored and maintained at the Farm Laboratory under the supervision of the Farm Manager. Should any scheduling conflicts occur, the Farm Manager will decide who and what operations will use the equipment.

STUDENT ENROLLMENT AND FACULTY STAFFING

The Farm Laboratory will complement classroom instructions by providing to the students of the College of Agriculture and Hawaii Community College agricultural programs, experience and training in the many aspects of agriculture. By being exposed to these training experiences, it is expected that students can become proficient agricultural operators. It is the intent of the University to make the Farm Laboratory large enough to provide the necessary training facilities for its students.

The total enrollment projected is 250 students and 12 faculty members for the College of Agriculture. The agricultural programs for the Hawaii Community College projects 90 students and 5 faculty members. Although over three hundred students may be enrolled in the agricultural programs, by proper scheduling, it is proposed that not more than 30 students will be on the Farm Laboratory during any particular period.

Located about four miles from the campus, students and faculty will drive to reach the Farm Laboratory. To reduce the number of cars on the Farm Laboratory, car pooling will be stressed. Parking areas will also be limited to encourage car pooling.

FUNDING

The development and operations of the Farm Laboratory is totally dependent on general fund sources until there is income from the sale of produce from the Farm Laboratory. However, income from the sale of produce are expected to be small and the major fiscal support remains with the general fund. During the first few years, major portion of the funds will be for the development of the facility. Rapid development of the Farm Laboratory is desirable but must be guided by the availability of funds and the enrollment.

For the 1979-80 fiscal year, \$277,000 was appropriated for capital improvements and \$162,000 was appropriated for fiscal year 1980-81. For 1980-81, \$145,000 has been appropriated for operating expenses.

SCHEDULE OF DEVELOPMENT

The proposed total development of the Farm Laboratory is expected to take up to ten years, based on present level of anticipated funding. However, development will be adjusted to the funds available, student enrollment and priority as decided for its development. Table No. 1 on the following page gives the development plan.

TABLE NO. 1

UNIVERSITY OF HAWAII AT HILO
UNIVERSITY FARM LABORATORY

Proposed Enterprises by Biennium
(in number of acres, square feet, heads, etc.)

Enterprise	1979-1981	1981-1983	1983-1985	1985-1987	1987-1989
Farmstead	3 acres	3 acres	3 acres	3 acres	3 acres
Anthurium	3 acres	4 acres	6 acres	6 acres	6 acres
Ornamental Shadehouse	2,400 sq. ft.	4,800 sq. ft.	4,800 sq. ft.	4,800 sq. ft.	4,800 sq. ft.
Nursery	1 acre	2 acres	3 acres	3 acres	3 acres
Sheltered Greenhouse	0	4,800 sq. ft.	9,600 sq. ft.	12,000 sq. ft.	14,400 sq. ft.
Vegetables	2 acres	3 acres	4 acres	4 acres	4 acres
Macadamia	0	17 acres	22 acres	27 acres	40 acres
Guava	0	5 acres	9 acres	14 acres	18 acres
Papaya	0	3 acres	10 acres	16 acres	21 acres
Beef	50 acres (pasture)	50 acres (20 cows)	44 acres (20 cows)	24 acres (10 cows)	0
Miscellaneous Fruits	0	1 acre	2 acres	5 acres	6 acres
Swine	1 acre (6 sows)	3 acres (9 sows)	4 acres (18 sows)	5 acres (24 sows)	6 acres (30 sows)
Poultry	1 acre (2,000 broilers)	2 acres (2,000 broilers)	3 acres (3,000 hens, 4,000 broilers)	3 acres (4,000 hens, 4,000 broilers)	3 acres (5,000 hens, 6,000 broilers)
Sub-total	61 acres	93 acres	110 acres	110 acres	110 acres

Among the agricultural enterprises planned for the Farm Laboratory are:

Farmstead	3	acres
Anthurium	6	"
Nursery	3	"
Vegetables	4	"
Macadamia	40	"
Guava	18	"
Papaya	21	"
Other fruits	6	"
Swine	6	"
Poultry	3	"

TOTAL 110 acres

The 50-acre pasture will be phased out with the total development of the Farm Laboratory.

The Farm Laboratory within the Panaewa Agricultural Park is adjacent to developed farm and residential lands. Utility services such as electricity and water have been assured. Road and utility services to each lot in the Agricultural Park will be provided. The University of Hawaii will provide the interior farm roads and distribution of water and electricity on the Farm Laboratory.

All of the vegetative debris from the land clearing will either be piled or windrowed until removed or burned as permitted.

ANTICIPATED ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATING MEASURES

The proposed development of the Farm Laboratory by clearing the rain forest will result in short and long term environmental impacts.

The short term environmental impacts essentially involve the development of the Farm Laboratory. The land clearing of the dense rain forest growth will require the use of heavy equipment. This will result in noise, dust, noxious gases and the generation of large volume of debris. All of these actions will cease or be greatly reduced upon the completion of the land clearing for the Farm Laboratory. Noise from the heavy machinery, breaking of the trees and the moving of the lava materials, may exceed allowable noise limits for short periods of time. Tractors can emit noise up to 95 dba. The ambient noise level near the highway approaches 78 dba for short periods in the afternoon when traffic is heavy. When the land clearing is completed, the ambient noise level is not expected to be excessive for an agricultural area.

Clearing of the rain forest cover will also cause fauna inhabiting the area to migrate to the adjoining areas. Such relocation is not considered to be adverse.

During the clearing process, if the land is dry, dust may be a problem. However, as the area is in a high rain fall zone, the land is usually moist so dust is not expected to be significant. Should dust be a problem, water will be sprayed onto the working area.

If the debris is burned, approval from the appropriate agencies will be obtained.

No significant changes to the water quality are anticipated. There are no streams or other bodies of water on the site. Soil erosion is not expected to cause problems to the adjoining areas.

For the long-term productivity impacts, the development of the Farm Laboratory will provide agricultural training facilities for our future agriculturalists. This will assure that there will be trained agriculturalists that can continue the agricultural industry in our state.

Located in an area of high rainfall, crops will generally not require irrigation. On the other hand, crops will require frequent fertilizations, applications of insecticides and fungicides. To control weed infestations, herbicides may be used. All use of chemicals will be in accordance with manufacturers' recommendations. Only approved chemicals will be used on the Farm Laboratory.

At present, there are no indications that chemicals from the ground surface are percolating into the ground water reservoir. Ground water quality will be monitored regularly for evidence of contamination.

The Farm Laboratory, when fully developed, will result in the generation of noise. However, it is anticipated that the noise level will not be excessive. As there will not be residences other than the farm manager's residence close to the origin of the noise, noise problems are not considered to be of significant impact.

The operation of the Farm Laboratory will generate solid and liquid wastes. All waste disposal will be by approved methods. No significant adverse environmental impacts are anticipated. Odor problems are anticipated to be minimal as all applicable sanitary measures will be employed and residences will be located at some distance from the pens.

One of the benefits accruing from the Farm Laboratory is the availability of training facilities to students. This facility can also be made available to commercial farm operators to acquaint them with new crops, new products or new systems of farm management.

The Hawaiian Bat (Lasiurus Cinereus Semotus) is known to forage in this area. The State Wildlife Biologist has indicated that the Farm Laboratory will not significantly interfere with the Hawaiian Bat. There may be the possibility that the Hawaiian Bat may continue to frequent the Farm Laboratory, feeding on insects found on the plantings.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The development of the rain forest into the Farm Laboratory will involve certain actions that are considered as irreversible and irretrievable commitments of our resources. The expending of labor and fuel for energy are irreversible and irretrievable commitments. The land clearing will transform the site from a wilderness area to a developed farm. However, if its use for a Farm Laboratory is not required, vegetative cover can be re-established. State funds for the project need not be considered as totally irretrievable.

Materials used in the Farm Laboratory facilities can be reclaimed and reused to the extent possible. The site can be restored to a forest land in the event the Farm Laboratory is terminated.

SUMMARY OF UNRESOLVED ISSUES

The major concerns have been addressed in this Supplement. However, what will be the final outcome will not be known until the Farm Laboratory is operational. Among the concerns that will be monitored and measures taken to mitigate them if required are:

1. Farm Laboratory Traffic - If excessive number of vehicles are used to reach the Farm Laboratory, strict controls will be adopted to reduce the number of automobiles being driven to the site.
2. Ground Water Contamination - There are no indications that the effluent from the waste disposal lagoon will contaminate the ground water supply. If there is evidence of contamination, alternate sewage disposal method will be employed after consultation with the appropriate agencies.
3. Insect Infestations - All applicable insect control measures will be employed with strict adherence to farm sanitation. If necessary, approved insecticides will be used. All storage of animal and poultry feed will be made water and vermin-proof.

ALTERNATIVES

As the availability of the land for the Farm Laboratory appears to be fairly certain, all of the other alternatives were rejected but are discussed for informational purposes.

Alternative 1:

The establishment of a small scale farm laboratory was considered to complement classroom instructions. As this procedure will give students only a very limited exposure to commercial types of farming enterprises and not provide the desired types of training, it was rejected.

Alternative 2:

The cooperative use of commercial farms was considered. Under this proposal, students will spend time working on a commercial farm to gain experience. The distance from the campus to the farm was considered to be too far for students to commute. The other problem was that farmers are not inclined to accept students to work on the farms. As students and the farm laboratory exercises cannot be fully coordinated on commercial farms, students may not be able to experience all phases of farming. For these reasons, this alternative was rejected.

Alternative 3:

This alternative would have used audio-visual instructions to acquaint students rather than to have them work on a farm. As this alternative did not give students the actual feel and the "hands-on" experience of farming, it was rejected.

AGENCIES OR PERSONS CONSULTED OR COMMENTING

Following are the agencies and persons that were consulted for the preparation of this amendment.

Federal

U. S. D. A. Soil Conservation Service
U. S. Fish and Wildlife Service

State

Department of Health
Department of Transportation
Department of Land and Natural Resources
University of Hawaii Cooperative Extension Service
Office of Environmental Quality Control

County

Planning Department
Department of Water Supply

Others

Hawaii Electric Light Company

GEORGE R. ARIYOSHI
GOVERNOR



FACILITIES PLANNING

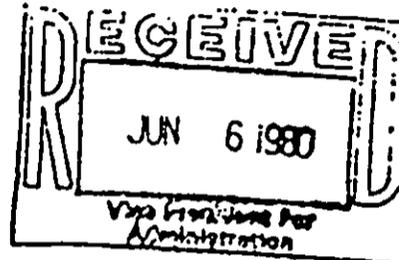
RICHARD O'CONNELL
DIRECTOR

JUN 1 1980

TELEPHONE NO.
548-6915

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
OFFICE OF THE GOVERNOR
350 MALEKAUWILA ST
ROOM 301
HONOLULU, HAWAII 96813

June 4, 1980



MEMORANDUM

TO: Harold S. Masumoto
Vice President for Administration
University of Hawaii

FROM: Richard L. O'Connell, Director
Office of Environmental Quality Control *R. O'Connell*

SUBJECT: Environmental Impact Statement for Panaewa
Agricultural Park; Supplemental Statement

We have reviewed the subject EIS and offer the following comments for your consideration:

Page 4. The discussion on water use should be expanded. How much domestic water will be required by the U.H. Farm Lab? Are existing facilities sufficient to meet this demand?

In the discussion on access to the farm lots which road is referred to? This road should be labeled in the map on page 3a. According to the revised Panaewa EIS (pp. 12-35), direct access to Volcano Road will not be possible at this time. Therefore, a discussion of the impact of additional traffic through the Panaewa Agricultural Park in terms of increased traffic and impact on air quality should be included in the EIS.

Page 5. Papai soils have severe limitations for septic tank and cesspool disposal systems. In light of this limitation, what type of liquid waste disposal system will be used?

How much solid waste will be generated by beef enterprises? How will this waste be disposed? What impact will animal wastes have on ground water quality? Marine water quality? Biota?

Harold S. Masumoto
June 4, 1980
Page 2

Page 6. What facilities will be constructed on the site? Will classrooms be constructed? How many?

Page 7. How many students will be accommodated at the site at any one time? Is transportation available from the university to the ag farm? Will parking be provided? What impact will the proposed ag farm have on traffic in the area?

Page 8. Will the U.H. agricultural program be expanded due to the availability of the ag farm? If so, how many additional faculty and students are anticipated?

Page 12. Are the existing utilities adequate to serve the present and future needs of the farm lab?

Page 13. What noise levels are anticipated during site preparation? Will any mitigative measures be implemented to lessen noise impact to surrounding farms and houses?

The Hawaiian Bat (Lasiurus Cinereus Semotus), an endangered species, is known to forage in the area. A discussion of the projects impact on existing habitat and bat population should be included in the EIS.

Page 14. A discussion of the impact on ground water quality of applying herbicides, insecticides, fungicides and fertilizers should be included in the EIS.

Odor problems associated with animal husbandry should also be discussed.

In preparing the supplemental EIS the content requirements are the same as required for the EIS. The following sections should be added to the supplemental EIS:

1. Summary Sheet
2. A discussion of the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity.
3. A discussion of irreversible and irretrievable commitments of resources
4. Summary of unresolved issues
5. A list of organization and persons consulted in preparing the EIS

Harold S. Masumoto
June 4, 1980
Page 3

6. A list of necessary approvals
7. An indication of what other interests and considerations of governmental policies are thought to offset the adverse environmental effects of the proposed action.

We have enclosed a list of commenting agencies and organizations on an attached sheet.

We appreciate the opportunity to review the subject EIS and look forward to the revised statement.

Attachment

LIST OF COMMENTING AGENCIES

Federal

*Fish and Wildlife Service

May 21, 1980

State

*Department of Health

May 22, 1980

* Denotes comments previously forwarded to UH by commenting party.

UNIVERSITY OF HAWAII

VICE-PRESIDENT FOR ADMINISTRATION

December 24, 1980

MEMORANDUM

TO: Mr. Harry Akagi, Acting Director
OEQC

SUBJECT: Environmental Impact Statement for Panaewa
Agricultural Park, Supplemental Statement

This is in response to comments received from your office concerning the Panaewa Agricultural Park, EIS, Supplemental Statement. Our responses were prepared after consultations with the appropriate agencies and are included in the revised Supplemental Statement. As suggested, sections that were not in the earlier draft have been incorporated in the revised statement.

The Farm Laboratory will be provided with a 3-inch waterline with a capacity of up to 300 gpm. The normal water usage will be for livestock, hog and poultry drinking water, washing of pens, equipment, and produce as well as for domestic uses by the farm residence. Since the Farm Laboratory is in an area which receives about 136 inches of average annual rainfall, crops are normally grown under unirrigated conditions. However, on rare occasions, during periods of prolonged drought, supplemental irrigation may be applied to the crops. It is estimated that up to 100,000 gpd might be used for irrigation and the 3-inch waterline can provide this volume. In addition to the water supply, the construction plans for the Agricultural Park development provide for adequate utility services capacities.

Access to the Farm Laboratory has been amended to permit direct access from Kanoelehua Highway. The Department of Transportation has indicated that Road A (interior farm road) will not be allowed to connect directly to Kanoelehua Highway. Access would be permitted at a point which is approximately 1,600 feet south of the proposed Road A terminus. The University has been informed by the DOT that they have no objections to an access road into the Farm Laboratory if the road

Mr. Harry Akagi
Page Two
December 24, 1980

is located at the permitted location on the highway. We have requested a road easement through the 300-foot forest strip and have submitted the CDUA and environmental assessment to the Department of Land and Natural Resources. The direct access road from the highway will prevent student traffic from traveling through the interior farm roads to reach the Farm Laboratory.

The treatment and disposal of liquid wastes at the Farm Laboratory is one of our major concerns. Discussions have been held with the staff from the Department of Health, the Soil Conservation Service and the University's Agricultural Engineering Department to develop plans for an acceptable system. It was suggested that the anaerobic digestion system be considered. Our staff will continue to study the various systems and decide on one which is acceptable for the site.

Since the Agricultural Park area is presently unused, what effect the discharge of liquid wastes and effluent will have on the ground water quality is not known. It is our understanding that there will be close monitoring of the liquid waste at the site as well as of the quality of the ground water from wells in the Panaewa area. If there is any evidence of contamination to the ground water, an alternative method of sewage disposal will be implemented. Contamination of the coastal water from the Farm Laboratory run-off is not expected to occur as the ocean is over four miles away. There are no streams flowing from the site to the ocean.

The development of the Farm Laboratory within the Agricultural Park is not anticipated to result in any significant permanent loss of fauna inhabiting the site. In all probability, the fauna will relocate to adjoining areas and may return when the lands are cleaned and the crops are planted. The Hawaiian Bat, known to forage in this area, may also relocate to other sites during the developmental phase of the Farm Laboratory. When the crops are established, the Bat may return to forage in the Agricultural Park.

As the Farm Laboratory is an integral component of the University's agricultural program, it will provide facilities to supplement classroom instructions at the UHH Campus. There are no plans to construct any classrooms at the Farm Laboratory. Structures that are proposed at the Farm Laboratory are those necessary for crop production, nursery operation, hog and poultry enterprises and for the operations and maintenance of the Farm

Mr. Harry Akagi
Page Three
December 24, 1980

Laboratory. Development of the Farm Laboratory will not be for the expansion of the agricultural program but to provide needed facilities to adequately train the students. The projected student enrollment in the agricultural program is 340 with 17 faculty members.

The detached location of the Farm Laboratory from the Hilo Campus necessitates use of automobiles for commuting. In order to minimize the number of cars at the Farm Laboratory and the area allocated for parking, students will be instructed to pool their rides.

During the land clearing and developmental phases of the Farm Laboratory, use of heavy equipment may result in noise levels approaching 95 dba. As the Farm Laboratory site is over a half mile from the nearest residence and three hundred feet from the highway, no significant long-term adverse impacts are anticipated from the noise. When the major land clearing and development of the site are completed, noise levels will be reduced.

The husbandry of poultry and hogs will result in vermin and odor problems. To mitigate these problems, chicken manure will be stored under the roof to keep it as dry as possible until removed. Hog pens will be concrete lined for sanitary reasons. If necessary, approved insecticides and chemicals will be used to control insects and odor.

In addition to the above, we have incorporated sections relating to the commitment of resources.

The assistance rendered by your staff in revising the Supplemental Statement is appreciated.



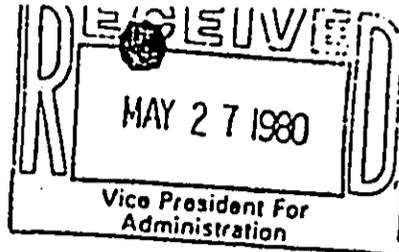
Harold S. Masumoto
Vice President for Administration

cc Mr. Susumu Ono, DLNR
Chancellor S. Mitchell/F. Tom/M. Sumada
Mrs. Mae Nishioka/C. Akita
Mr. Harold Tanaka
Mr. Tamotsu Sahara

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

FACILITIES PLANNING
OFFICE

MAY 29 5 28 PM '80



GEORGE A. L. YUEN
DIRECTOR OF HEALTH

VERNE C. MAZUR, M.D.
DEPUTY DIRECTOR OF HEALTH

HENRY H. THOMPSON, M.
DEPUTY DIRECTOR OF HEALTH

JAMES C. KUMACAL, M.D.
DEPUTY DIRECTOR OF HEALTH

YASAO OKADA
DEPUTY DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801

May 22, 1980

MEMORANDUM

In reply, please refer to:
File: EPHS-SS

To: Mr. Harold S. Masumoto, Vice President for Administration
University of Hawaii

From: Deputy Director for Environmental Health

Subject: Environmental Impact Statement (EIS) for Panaewa Agricultural Park
Supplemental Statement, Farm Laboratory, U.H. at Hilo

Thank you for allowing us to review and comment on the subject EIS. On the basis that the project will comply with all applicable Public Health Regulations, please be informed that we do not have any objections to this project.

We submit the following comments for your information and consideration:

1. We have recommended the services of the Federal Soil Conservation staff engineers to assist in the design of the animal and fowl wastewater lagoons.
2. Measures to prevent nuisance problems such as mosquito and fly breeding and odor shall be implemented.
3. The impact of the agricultural park and farm laboratory on the existing Panaewa Well should be addressed. The County of Hawaii Department of Water should be consulted.

We realize that the statements are general in nature due to preliminary plans being the sole source of discussion. We, therefore, reserve the right to impose future environmental restrictions on the project at the time final plans are submitted to this office for review.

Bruce A. Choy
MELVIN K. KOIZUMI

cc: Harold Matsuura
OEQC
Governor Ariyoshi

June 9, 1980

MEMORANDUM

TO: Mr. Melvin Koizumi, Deputy Director
Department of Health
Environmental Health Division

SUBJECT: Supplemental Statement for Panaewa Agricultural
Park EIS

This is in response to your comments concerning the Supplemental Statement for the proposed University's Farm Laboratory at the Panaewa Agricultural Park.

In the preparation of the Supplemental Statement, our staff contacted the Federal Soil Conservation Service staff engineers and they recommended that we work with our agricultural engineers since the SCS engineers were collaborating with them on the various wastewater projects. We will utilize available assistance in the design of the farm laboratory facilities.

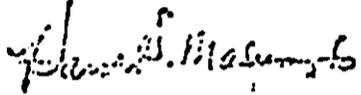
The vermin problems that may arise are of concern to our staff. They will incorporate all reasonable measures to mitigate these problems.

Based on earlier discussions with the County Department of Water staff, they are not able to evaluate the impact of the proposed agricultural park at this time. The University intends to abide by all recommendations of the Department of Water that are necessary to preserve the potable quality of the Panaewa well.

Mr. Melvin Koizumi
Page Two
June 9, 1980

There are many voids in the availability of specific technical information and we intend to provide for them as the information is made available.

Thank you for reviewing the Supplemental Statement and voicing your concerns.



Harold S. Masumoto
Vice President for Administration

cc. Mr. Susumu Ono, DLNR
Mr. Richard O'Connell, OEQC
Chancellor Stephen Mitchell, UHH/F. Tom
Mrs. Mae Nishioka/H. Tanaka
✓ Mr. Tamotsu Sahara



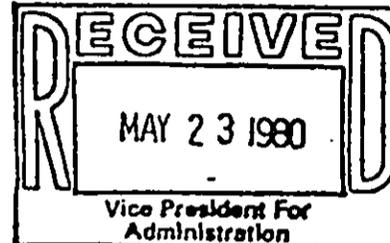
United States Department of the Interior

FISH AND WILDLIFE SERVICE

300 ALA MOANA BOULEVARD
P.O. BOX 50167
HONOLULU, HAWAII 96850

IN REPLY REFER TO:
ES
Room 6307

May 21, 1980



Office of Environmental Quality Control
Office of the Governor
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Re: EIS
Panaewa Agricultural Park
Panaewa, South Hilo, Hawaii

Dear Sir:

We have reviewed the supplemental statement to the referenced EIS dated April 10, 1980, concerning the farm laboratory for the University of Hawaii in Hilo. As stated in our January 22, 1980 letter, commenting on the basic EIS, the endangered Hawaiian Bat, Lasiurus Cinereus Semotus, is known to forage in this area and may use the area for roosting. Information regarding the bat should be included in this supplement or the final EIS.

We appreciate this opportunity to comment.

Sincerely yours,

Maurice H. Taylor

Maurice H. Taylor
Field Supervisor
Division of Ecological
Services

cc: University of Hawaii
Vice President for Administration

MAY 23 1980
FACILITIES PLANNING
OFFICE



Save Energy and You Serve America!

UNIVERSITY OF HAWAII

VICE-PRESIDENT FOR ADMINISTRATION

June 6, 1980

Office of the Vice President for Administration
Division of Ecological Services
Fish and Wildlife Service
P. O. Box 50167
Honolulu, Hawaii 96850

Dear Mr. Taylor:

SUBJECT: Panaewa Agricultural Park EIS

We received a copy of your comments to OEQC concerning the Hawaiian Bats within the Panaewa Agricultural Park. As the University's Farm Laboratory comprises less than one-fourth of the proposed development, this matter would be more appropriately addressed in the EIS rather than the Supplemental Statement.

Thank you for your interest and comments.

Sincerely yours,



Harold S. Masumoto
Vice President for Administration

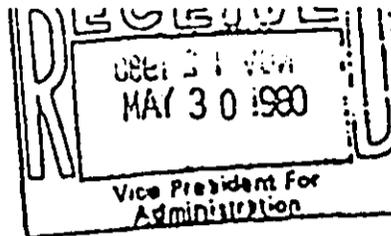
cc Mr. Susumu Ono, DLNR
Mr. Richard O'Connell, OEQC



COUNTY OF HAWAII

PLANNING DEPARTMENT

25 AUPUNI STREET • HILO, HAWAII 96720



HERBERT T. MATAYOSHI
Mayor

- SIDNEY M. FUKU
Director

DUANE KANUHA
Deputy Director

May 28, 1980

Mr. Harold S. Masumoto
Vice President for Administration
University of Hawaii
2444 Dole Street
Honolulu, Hawaii 96822

Dear Mr. Masumoto:

Supplemental EIS - University of Hawaii Farm
Laboratory, Panaewa Agricultural Park,
Waiakea, South Hilo (TMK: 2-2-48:Por. of 4),
Hawaii

JUN 7 11 27 AM '80
FACILITIES PLANNING
OFFICE

We have reviewed the subject proposal and have the following comments to offer:

1. The facility plot plan (Page 11) indicates that the proposed access road for the subject property will be off of Kanoelehua Highway, and will traverse the Forest Reserve buffer strip along the highway. Please be advised the the proposed access roadway will require the approval of the Board of Land and Natural Resources for use of a portion of the Forest Reserve, and the Department of Transportation to allow direct access off of Kanoelehua Highway.
2. Please note that in accordance with Article 7, Section 3(I) of the Hawaii County Zoning Code, piggeries and pen feeding of livestock operations must maintain a minimum 1,000' (feet) setback from any major public roads (i.e. Kanoelehua Highway). Further, all accessory buildings and/or enclosures (fences over 8 feet) for the shelter and confinement of any livestock must maintain a 100' (feet) front yard setback. Please be advised that we have determined the front property line to be the northern boundary line along Road "A".

Thank you for the opportunity to provide comments on the proposed Farm Laboratory. Should you have any questions on the above, please contact us.

Sincerely
[Signature]
SIDNEY FUKU
Director

UNIVERSITY OF HAWAII

VICE-PRESIDENT FOR ADMINISTRATION

June 5, 1980

Mr. Sidney Fuke, Director
Planning Department
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. Fuke:

SUBJECT: Supplemental Statement for
Panaewa Agricultural
Park EIS,
TMK: 2-2-48:4 (Por.)

This is in response to your comments concerning the Supplemental Statement for the proposed University's Farm Laboratory at the Panaewa Agricultural Park. We wish to assure you that the University will comply with all State and County regulations that are applicable to the Farm Laboratory.

The matter of a direct access from Kanoelehua Highway to the Farm Laboratory was discussed with DLNR-DOWALD, the agency that is responsible for the planning and development of the agricultural park, and it was their decision that Road A within the project would not be a through road. Our staff, therefore, discussed the direct access route with the District Engineer, Department of Transportation and the State Forester, DLNR. Both have indicated that they have no objections to the use of the direct access road as shown in our plans to Kanoelehua Highway.

Mr. Sidney Fuke
Page Two
June 5, 1980

The setback as mandated by the Hawaii County
Zoning Code for piggeries and livestock operations will be
adhered to.

Thank you for reviewing the Supplemental
Statement and expressing your concerns.

Sincerely yours,

Harold S. Masumoto

Harold S. Masumoto
Vice President for Administration

cc Mr. Susumu Ono, DLNR
Mr. Richard O'Connell, OEQC
Chancellor Stephen Mitchell/F. Tom
Mrs. Mae Nishioka/H. Tanaka
Mr. Tamotsu Sahara

913 Halekauwila St.
Honolulu, HI 96814
June 3, 1980

Office of Environmental Quality Control
550 Halekauwila St.
Room 301
Honolulu, HI 96813

Dear Sirs:

I have reviewed the Supplemental Statement for Farm Laboratory, Panaewa Agricultural Park, Waiakea, Hilo, and offer the following comments:

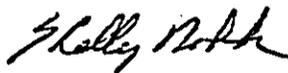
The section on the anticipated impact of the proposed action on the environment should include a discussion on the cruelty aspects of modern factory farming if any projects at the facility will encourage or support such practices. This should include a statement on each questionable practice, including, but not limited to, overcrowding, close confinement, de-beaking, tail docking, stress, boredom, forced moulting, castration, branding, mother deprivation, roughage deprivation in feedlots, and iron and light deprivation in veal calves.

The probable impact of the proposed project in supporting or expanding public consumption of meat should be addressed. Livestock feeding wastes a gigantic amount of food that could be used to fight hunger throughout the world. An analysis should be included which addresses the ethics of exacerbating this problem by supporting the local meat industry. It should be stated whether an enlarged meat industry will increase, decrease, or have no effect on Hawaii's self-sufficiency.

The alternatives section should deal with the option of channeling research and energy to more resource-efficient food production systems that the meat industry and should include a discussion on the relative efficiencies of maintaining a human population that directly consumes grains and a system that uses grain to raise livestock.

The section on mitigation measures should include a section stating which individual(s), group(s), or agency(s) will be responsible for oversight of agricultural and experimental practices to insure that cruel practices are not used. To have any usefulness, this body must have representation from parties other than researchers involved in the agriculture industry and veterinarians who have a vested interest in the agriculture industry. It is suggested that scientists who do not experiment on animals be included as well as representatives from concerned animal welfare organizations.

Sincerely,



Kelley Dobbs

cc: Vice President for Administration
University of Hawaii

July 17, 1980

Mr. Kelley Dobbs
913 Halekauwila Street
Honolulu, Hawaii 96814

Dear Mr. Dobbs:

This is in response to your thought-provoking letter of June 3, 1980, to the Office of Environmental Quality Control concerning the Supplemental Statement for the proposed University Farm Laboratory at the Panaewa Agricultural Park.

The University Farm Laboratory is designed to be a teaching facility. Through its proper use, students will be taught modern up-to-date methods of raising crops and animals. We agree that there should be no place in a teaching institution for the promotion of cruel practices in the raising of livestock. Proper management does not condone either overcrowding or group confinement since production decreases under these conditions. Proper management would also dictate the elimination of cruel practices.

The decision to incorporate livestock production in the University's curriculum was in no way influenced by whether or not such a decision would expand the public's consumption of meat. From a teaching point of view, we are not interested in enlarging the meat industry or improving the efficiency with which the meat industry operates. The University is motivated by the increasing necessity to teach more efficient ways of increasing food production, of which meat is an important part, and we are interested in teaching proper methods of raising animals.

In the alternatives section of the Supplemental Statement, we were considering educational alternatives for providing training. Therefore, the alternative which you suggest

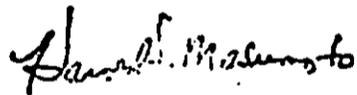
Mr. Kelley Dobbs
Page Two
July 17, 1980

of channeling our resources into researching the relative efficiency of maintaining a human population that directly consumes grains and its system that uses grain to raise livestock was not considered.

The University of Hawaii at Hilo is a public institution that depends upon the general public for support. As such, it is open to the usual procedures of accountability normal for public institutions. Therefore, the University does not believe that any individual, group, or agency needs to be established other than those already in existence for the purpose of insuring that cruel practices are not used.

Your letter shows a great deal of concern for and commitment to the above matters and we thank you for reviewing the Supplemental Statement and expressing your views.

Sincerely yours,



Harold S. Masumoto
Vice President for Administration

cc Mr. Richard O'Connell, OEQC
Mr. Susumu Ono, BLNR
bcc Mr. Fred Tom
Mrs. Mae Nishioka/H. Tanaka/T. Sahara
Chancellor Stephen Mitchell

NOTICE

ALL reference material borrowed from this library will be on a 30-day loan period, limited to ONE RENEWAL ONLY.

If borrowed material is not returned when DUE, is DAMAGED, or LOST, there will be a REPRODUCTION CHARGE OF .25¢ PER PAGE.

OEQC LIBRARY - PHONE 548-6915
550 HALEKAUWILA STREET ROOM 301