Stephen K. Yamashiro
Mayor

Virginia Goldstein
Director

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OFC. OF ENV. QUALITY

County of Hawaii

PLANNING DEPARTMENT

25 Aupuni Street, Room 109 • Hilo, Hawaii 96720-4252
(808) 961-8288 • Fax (808) 961-9615

October 27, 1993

Mr. Brian J. J. Choy, Director
Office of Environmental Quality Control
220 S. King Street
Honolulu, HI 96813

Dear Mr. Choy:

Negative Declaration and Final Environmental Assessment (EA)
Hilo Healthcare Center
City of Hilo, South Hilo, Hawaii
Tax Map Key: 2-3-31:por. 1 & 2-3-32:por. 1

The County Planning Department has reviewed the comments received during the 30-day public comment period which began on September 23, 1993, the responses to those comments, as well as revisions to the Final Environmental Assessment. This agency hereby determines that this project will not have significant environmental effects and issues this Negative Declaration. Please publish this notice in the November 8, 1993 OEQC Bulletin.

We enclosed a completed OEQC Bulletin Publication Form and four (4) copies of the Final EA. Please contact Rodney Nakano or Susan Gagorik of my staff at 961-8288 if you have any questions.

Sincerely,

Virginia Goldstein

VIRGINIA GOLDSTEIN
Planning Director

RKN:mjs
Lndtyeh.rkn
Enclosures

xc: Mr. Tom Yeh
Mr. Roy R. Takemoto

1993-11-08-HI-FEA-Hilo Healthcare Center

NOV - 8 1993

Final Environmental Assessment

HILO HEALTHCARE CENTER

Pilhonua, South Hilo, Hawaii

Prepared For:

HILO MEDICAL INVESTORS, LTD.

October 25, 1993

Prepared By:
Roy R. Takemoto
171 Hoomalu Street
Hilo, HI 96720
(808)959-0189

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1 INTRODUCTION

1.1 Applicant

The applicant, ***Hilo Medical Investors, LTD.*** ("HMI"), proposes to build a long-term healthcare facility near the Hilo Hospital. Life Care Centers of America, Inc. ("Life Care") will operate and manage the proposed facility. Life Care also currently manages the Life Care Center of Hilo on Kawailani Street. HMI will lease the land from the State of Hawaii.

1.2 Approving Agency

Because the proposed action involves State land, this environmental assessment has been prepared pursuant to the requirements of the State EIS law and associated rules.[1] This environmental assessment will also be submitted as part of an application for a County of Hawaii Use Permit. The Planning Department will serve as the accepting authority to determine the significance of the project's impacts and whether a full Environmental Impact Statement ("EIS") would be required.

1.3 Agencies Consulted

The following agencies and organizations were consulted in the process of preparing this environmental assessment:

- Federal
  - U.S. Army Corps of Engineers
  - U.S. Department of Agriculture, Soil Conservation Service
  - U.S. Department of the Interior, Fish and Wildlife Services
- State
  - Department of Health
  - Department of Land and Natural Resources
    - Division of Historic Preservation
    - Division of Land Management
  - Office of State Planning
  - Department of Accounting and General Services
  - Department of Agriculture
- County
  - Planning Department
  - Department of Public Works
  - Department of Water Supply
  - Office of Aging
- Others
  - Surrounding lessees and landowners

---

[1] Hawaii Revised Statutes §343-5(a)(1) (Supp. 1992) (an environmental assessment is required for actions which "propose the use of state or county lands"); Hawaii Administrative Rules, Chapter 11-200 (Environmental Impact Statement Rules).

2 DESCRIPTION OF PROPOSED ACTION

2.1 Location and Ownership

The location of the proposed long-term healthcare facility is on a 9.173-acre parcel in Piihonua, South Hilo District, island and county of Hawaii (see Fig. 1). This parcel was recently created from a consolidation and resubdivision of two larger parcels (TMK 2-3-31:1 and 2-3-32:1) (see Fig. 2).[2] The State of Hawaii owns the parcel and will lease it to HMI for a term of 55 years. Execution of the lease is conditioned upon the State's approval of the Certificate of Need.

2.2 Existing Uses

Site. The site is presently used as a temporary gravel parking lot for the Hilo Hospital employees until construction of the psychiatric wing has been completed (see Fig. 3). Upon completion, the employees will park in the original employee parking lot on the hospital site.

Surrounding Areas. Ownership and existing uses of the surrounding land include (see Fig. 4):

- North: The parcel's northern boundary fronts Waianuenue Avenue. Across the street is Hilo Hospital, Big Island Center for Independent Living, and Hospice of Hilo;
- Makai (east): Several parcels border the makai boundary. A cluster of four parcels are privately owned with two existing homes. The other parcel is State-owned. The existing use of this State-owned parcel is parking for Hilo Hospital and vacant land. The State has no committed plans for the parcel; however, one proposal under consideration is for a lease to a private developer for a medical office condominium.
- South: State- and County-owned watershed reserve land lies to the south of the site.
- Mauka (west): The neighboring parcel on the mauka side is State-owned. The University of Hawaii at Hilo currently uses a portion of the parcel for agriculture. The planned use is possibly to continue the UHH's existing use.

2.3 Project Description

2.3.1 *Proposed Healthcare Facilities and Operations*

The proposed project will provide long-term intermediate care (ICF) and skilled nursing facilities (SNF) (see Appendix A for a glossary of long-term care terminology). Being designed as an SNF/ICF "swing" facility permits use of the bed appropriate to a resident's needs and may avoid a transfer or delayed admission as might occur if the facility were all one level of care or distinct parts.[3] The facility will be designed and operated to meet the certification standards for Medicare and Medicaid, as well as State licensure requirements.

---

[2]Subdivision #6137, Final Subdivision Approval by the County of Hawaii on May 13, 1992.

[3]"SNF/ICF swing bed facility" means a facility which may provide care for patients requiring either skilled nursing care or intermediate nursing care in any of its beds. §11-94-2, Hawaii Administrative Rules.

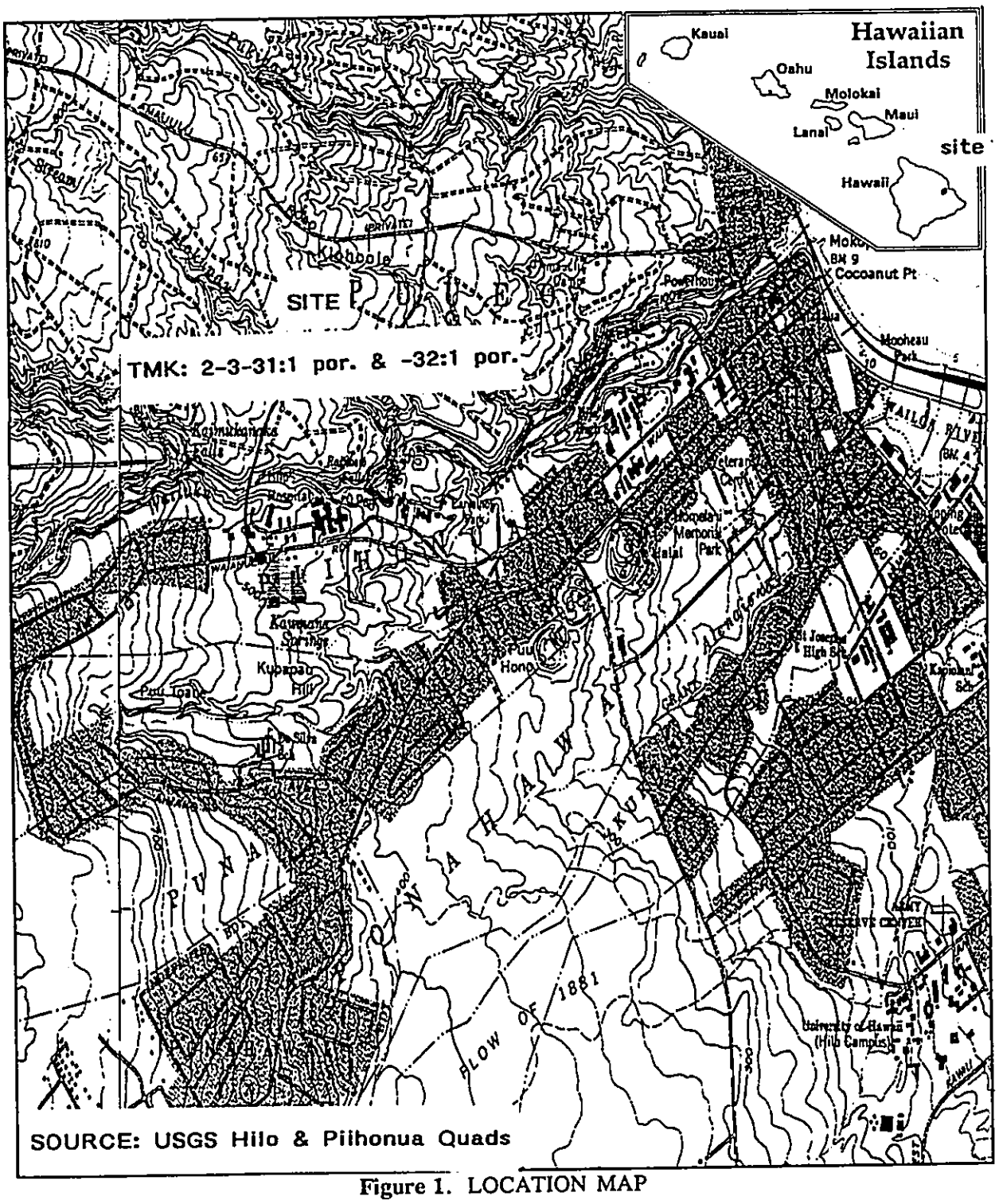

Figure 1. LOCATION MAP

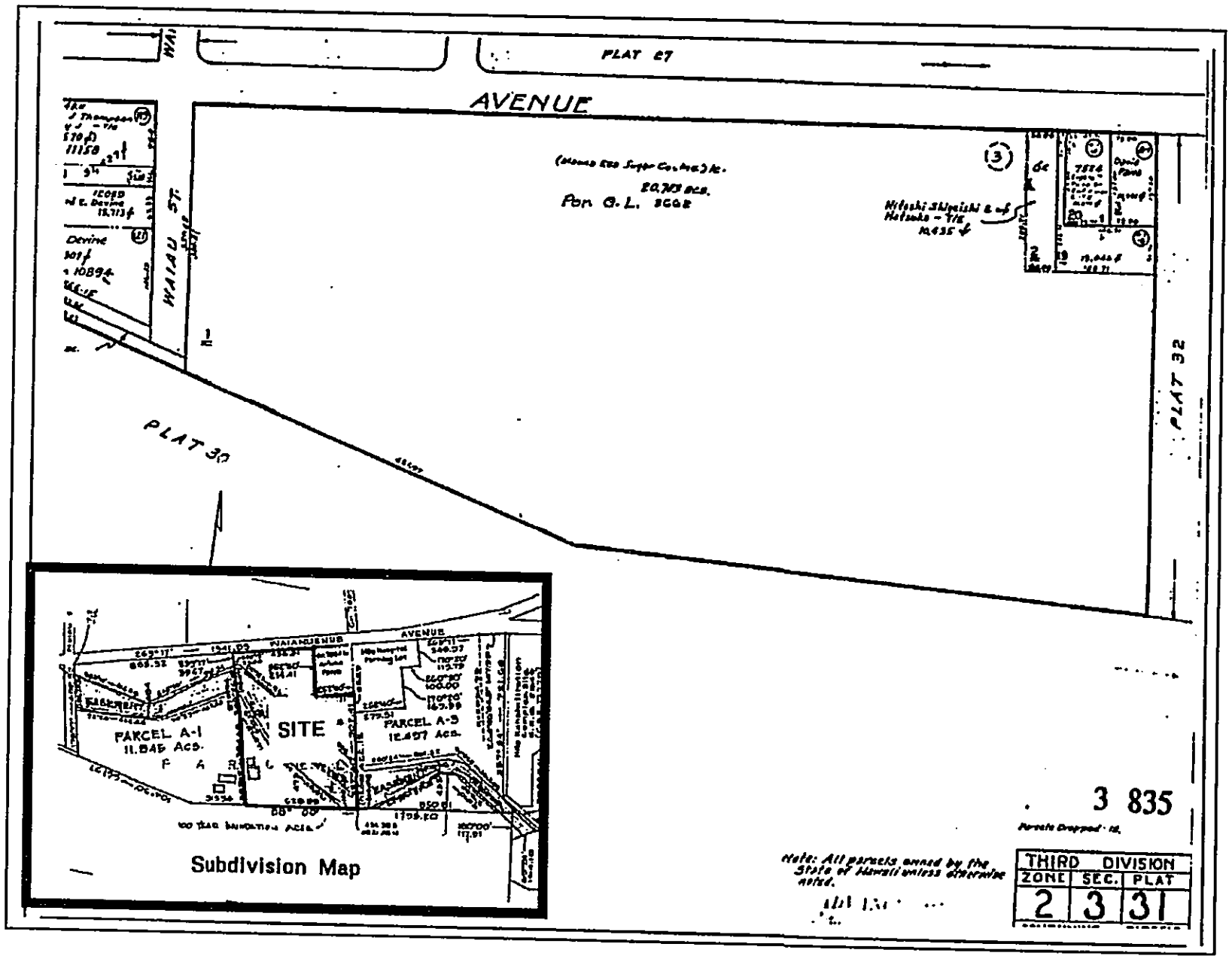

Fig. 2. TAX AND SUBDIVISION MAPS

PHOTO A. Existing gravel parking lot in foreground. Neighboring private residence in the background.

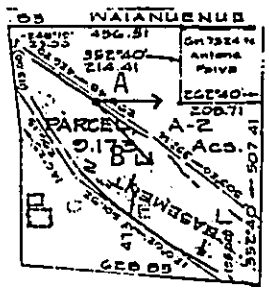

PHOTO B. Predominantly open lot with grass, occasional clumps of banana, and trees along the back edge of the property.

Figure 3. SITE PHOTOGRAPHS

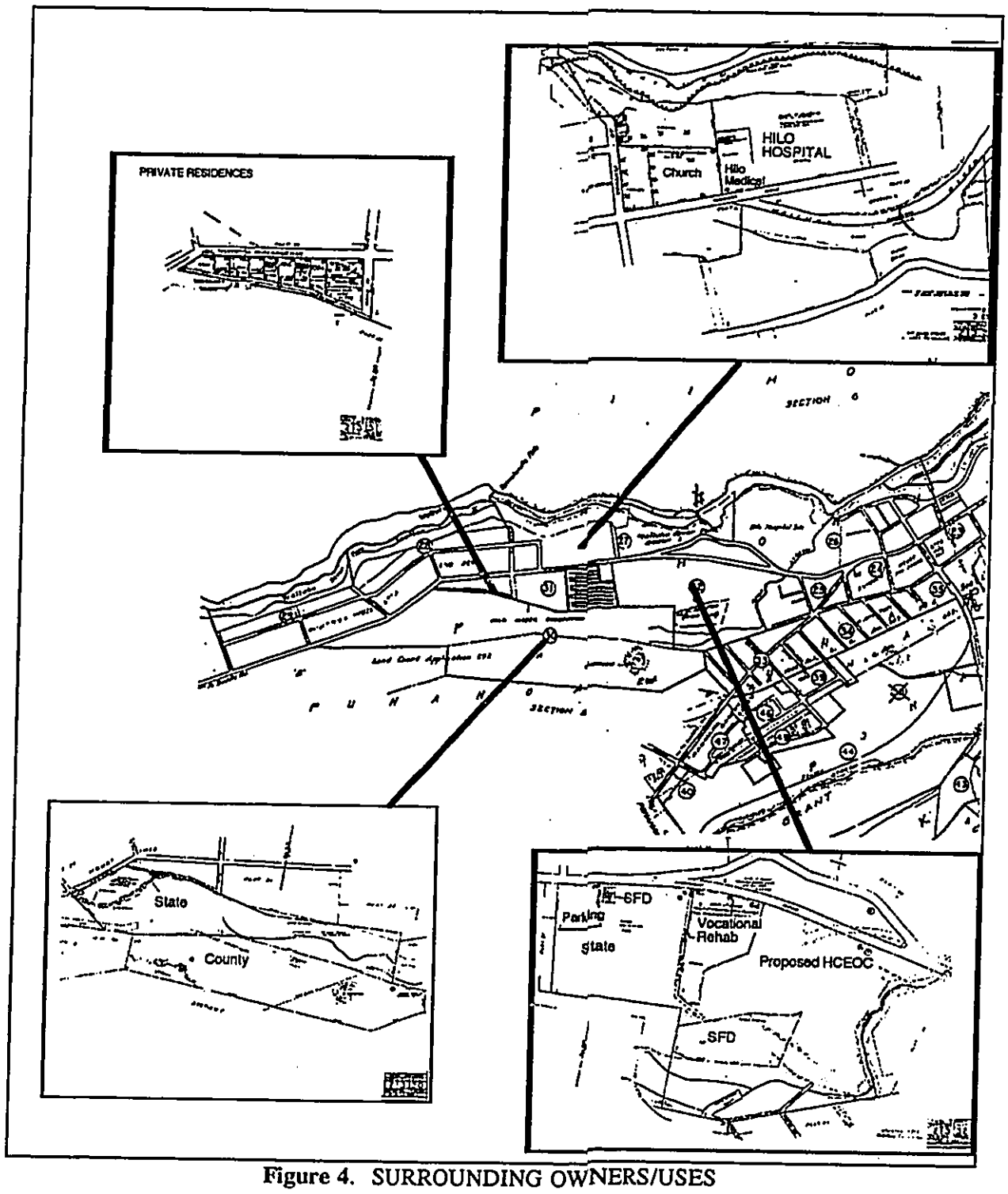

Figure 4. SURROUNDING OWNERS/USES

This facility will consist of a one-story 45,000 s.f. building, more or less, with 120 beds in 58 semi-private rooms (2 beds per room) and 4 private rooms (see Figs. 5 and 6). The rooms are clustered around two courtyards and a central lounge (see Fig. 7). Future improvements may include a 60-bed addition, at which time the applicant will seek an amendment to the Use Permit and file a revised environmental assessment.

The facility is targeted primarily for the dependent elderly who need assistance with meals, personal hygiene, and other daily requirements as shown in Table 1.

Table 1. **Elderly Housing Types**

Dependency Level	Housing Type	Description
Independent	Retirement housing	Age-segregated housing facilities frequently emphasizing security and leisure; self-contained units
Semi-independent	Congregate care apartments	Resident capable of own personal care; meals available; may include emergency staff and social services
Semidependent	Homes for the aged	Meals; personal and housekeeping assistance; may be a nursing staff
Dependent	Intermediate care; nursing homes	Licensed practical nurse; meals; personal assistance
Dependent	24-hour skilled nursing facility	Healthcare facilities, 24-hr registered nurse; all meals; housekeeping, social services, physiotherapy
Dependent	Geriatric ward in hospital	Acute care, diagnosis, medical supervision, therapy

*Adapted from Carstens, Diane Y., Site Planning and Design for the Elderly. New York: Van Nostrand Reinhold Company, 1985.

Non-elderly residents who require the intermediate or skilled nursing level of care would also benefit from this facility.

2.3.2 *Parking*

The zoning code requires 1 parking stall per bed.[4] Therefore, the site plan provides for 120 stalls. However, based on past experience, especially with the existing Life Care Center, the applicant may seek a variance to reduce the amount of parking to 60 stalls. None of the patients drive, and only about 75% of the patients regularly receive visitors who arrive throughout the day and evening. The facility will employ a total of about 60 - 70 persons in three shifts. The largest shift is during the day (7:00 a.m. - 4:00 p.m.) with about 35- 40 employees.

[4]Hawaii County Code §25-73(a)(8).

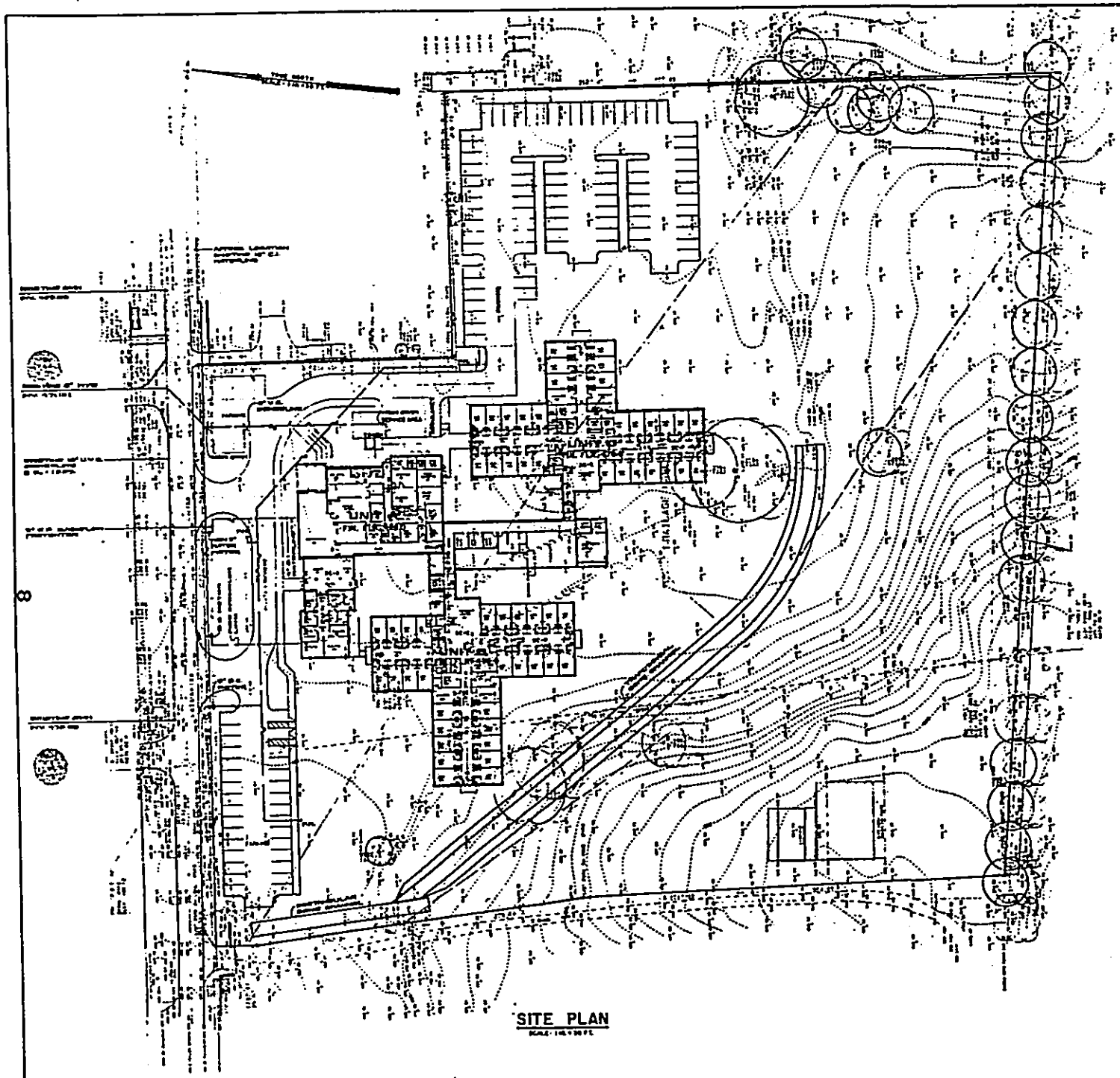

FIG. 4

PROPOSED SITE PLAN
HILO HEALTH CARE CENTER
(SINGLE STORY)

TAX MAP KEY: 3RD DIV. 2-3-31: 01 (PORT)
HILO, HAWAII

LESSEE: HILO MEDICAL INVESTORS, INC.
200 GALLERIA PARKWAY, SUITE 1900
ATLANTA, GEORGIA 30339

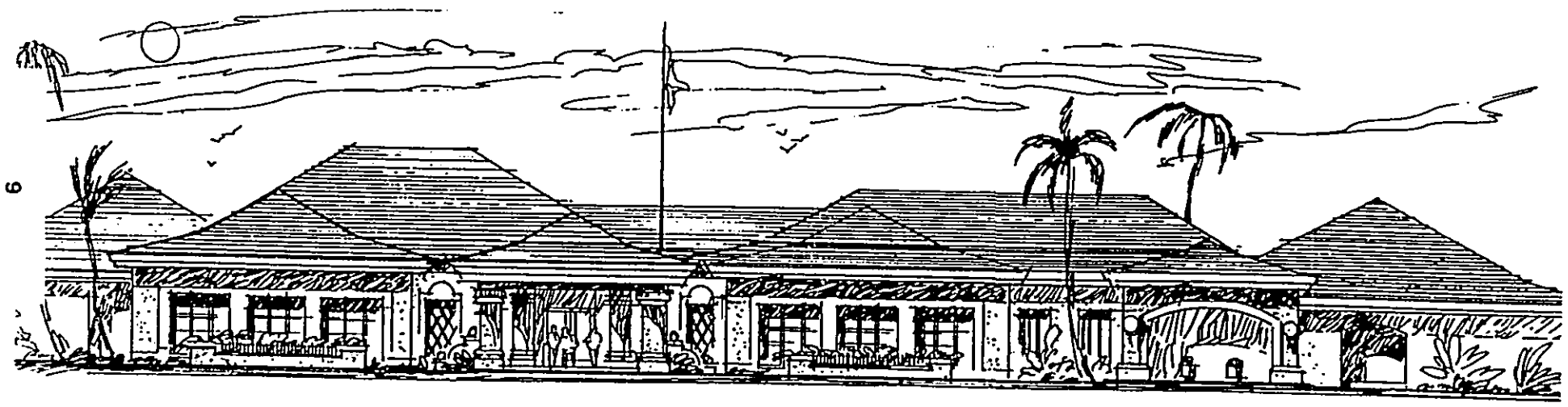

Figure 6. ELEVATION

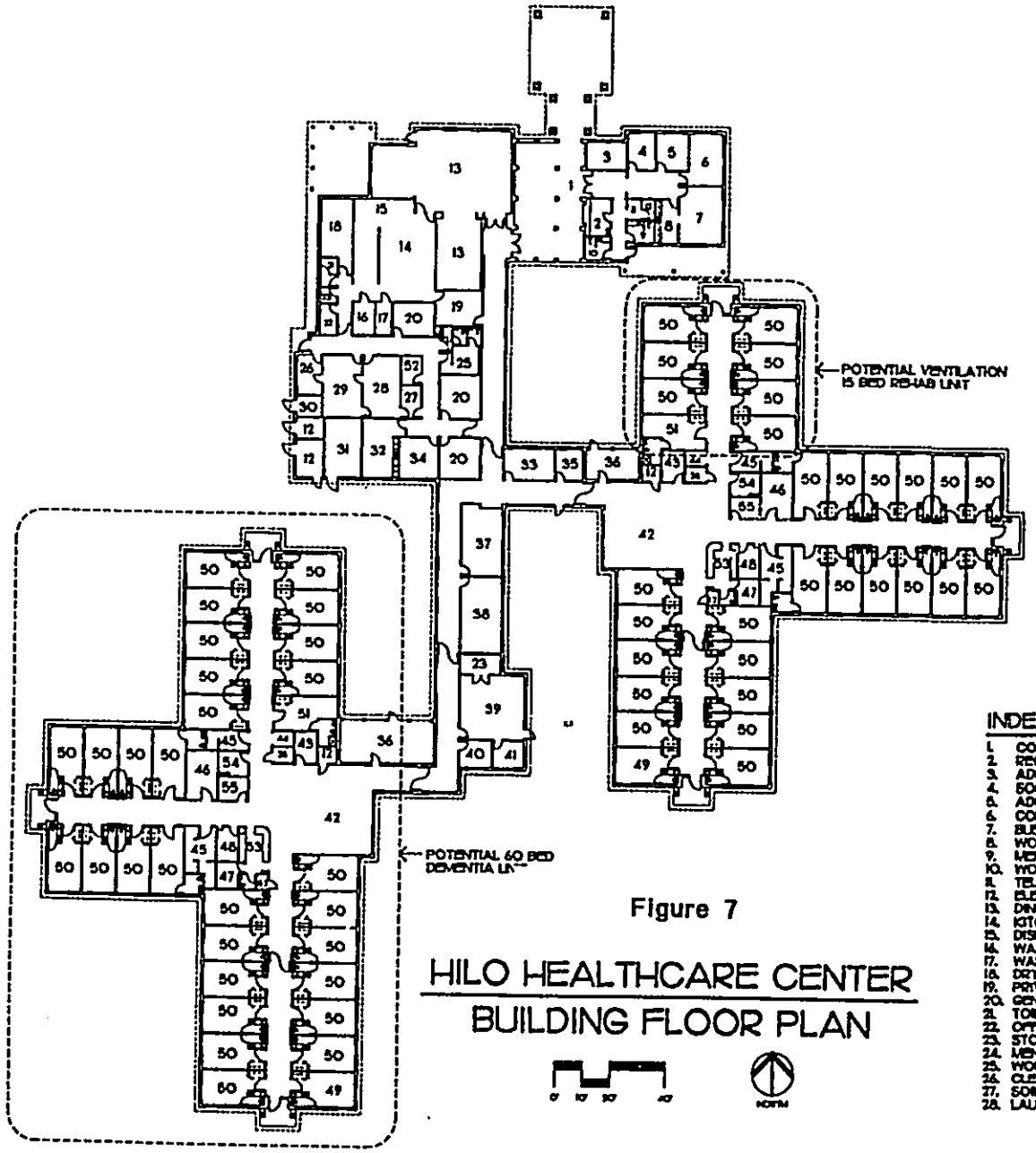

Figure 7

HILO HEALTHCARE CENTER
BUILDING FLOOR PLAN

0 10 30 40 NORTH

PATIENT ROOM/ BED COUNT

	NUMBER OF PATIENT ROOM	NUMBER OF PATIENT BEDS
SEMI-PRIVATE	58	116
PRIVATE	2	2
ISOLATION	2	2
TOTAL	62	120

INDEX OF ROOMS

1. COVERED FOYER
2. RECEPTION
3. ADMISSIONS
4. SOCIAL SERVICES OFFICE
5. ADMINISTRATOR
6. CONFERENCE
7. BUSINESS OFFICE
8. WORKROOM
9. MENS TOILET
10. WOMENS TOILET
11. TELEPHONE
12. ELECTRICAL
13. DINING ROOM
14. KITCHEN
15. DISHWASHING
16. WALK-IN COOLER
17. WALK-IN FREEZER
18. DRY STORAGE
19. PRIVATE DINING
20. GENERAL STORAGE
21. TOILET
22. OFFICE
23. STORAGE
24. MENS LOCKER ROOM
25. WOMENS LOCKER ROOM
26. CLEAN LINEN
27. SOILED LINEN
28. LAUNDRY
29. DRYING/FOLDING
30. OXYGEN STORAGE
31. MECHANICAL
32. STAFF LOUNGE
33. BEAUTY/BARBER SHOP
34. MAINTENANCE OFFICE
35. DIRECTOR OF NURSING
36. SCREENED PORCH
37. EXAM
38. REHAB DINING
39. ACTIVITY AREA
40. ASSISTANT DIR. OF NURSING
41. ACTIVITY DIRECTOR
42. RESIDENT LOUNGE
43. EQUIPMENT STORAGE
44. WHEEL CHAIR/ STRETCHER
45. CENTRAL SHOWERS
46. CENTRAL BATHING
47. MEDICAL PREP.
48. NOURISHMENT
49. PRIVATE PATIENT ROOM
50. SEMI-PRIVATE PATIENT ROOM
51. ISOLATION PATIENT ROOM
52. HOUSEKEEPING
53. NURSES' STATION
54. SOILED UTILITY
55. CLEAN UTILITY

2.3.3 *Infrastructure*

Access. Access to the site is from Waianuenue Avenue. A maximum of two ingress/egress points will be provided.

Wastewater. The applicant will connect to a 10" sewer line along Waianuenue Avenue.

Water. The applicant will connect to a 16" line along Waianuenue Avenue and use a 2" water meter.

Drainage. The applicant proposes to construct an open lined channel through the project site to divert and mitigate the effects of an existing floodplain transecting the site. The channel will be fenced to restrict access. The applicant will also construct drywells to contain most of the onsite-generated surface runoff within the site boundaries.

Electrical and Telephone. The applicant will connect to the overhead lines along Waianuenue Avenue.

2.4 Need for Proposed Healthcare Facilities[5]

The service area for the proposed facility is primarily East Hawaii where the need is most critical. A 60-bed long term care facility opened in Kona in 1989 to meet the needs of West Hawaii. The waitlist at the existing Life Care Center was 98 patients in a survey conducted on August 7, 1992. Of that number, 40 occupied an acute care bed in Hilo Hospital which is expensive and in short supply.

More specifically, the target population who would benefit from the proposed facility include:

- Patients in acute beds waitlisted for SNF or ICF;
- Patients in SNF beds waitlisted for ICF;
- Persons in non-institutional settings waitlisted for ICF;
- Patients of physicians who feel they require ICF care now but the patient is not waitlisted due to the physician's knowledge of unavailability of beds;
- Persons being cared for by family or relatives at home who can no longer provide the necessary care;
- Persons with no support system who can no longer care for themselves and require ICF care;
- Patients in acute beds and SNF beds whose level of care drops to SNF or ICF;
- The frail and vulnerable elderly, defined as always needing help in at least one activity of daily living, or sometimes needing help in at least five. The activities of daily living include: bathing, dressing, grooming, eating, transferring, walking, stairclimbing, wheeling, and using the toilet. A survey conducted by the Hawaii County Office on Aging found 9% of South Hilo's 60+ population in 1990 to be frail and vulnerable.

The islandwide projected long-term care bed need for 1994, the first year of operation of the proposed

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[5]The State Health Planning and Development Agency (SHPDA) approved the Certificate of Need (CON) application on March 30, 1993. The information in this section is taken from the CON application document.

facility, is 703. The existing and approved supply is 521 beds. The proposed 120-bed facility will help to alleviate the projected deficit of 182 beds. The projected stabilized occupancy rate for the proposed facility is 98%. Long-term care facilities in Hawaii County averaged around 99% occupancy in 1991. The Life Care Center had an average length of stay of 766 days.

2.5 Timetable and Cost

The applicant plans to commence construction by the first quarter of 1994 and open in the last quarter of 1994 or early 1995. The estimated total project cost is approximately $11 million.

3 ENVIRONMENTAL SETTING, IMPACT, & MITIGATION MEASURES

3.1 Physical Characteristics

3.1.1 *Climate*

The elevation of the project site is about 460' above mean sea level. Located on the wetter windward side of the island, the mean annual rainfall is about 136". Generally, the wet months occur from October through April. Mean annual temperature is about 73°F. Wind patterns are sharply diurnal. Dominant easterly tradewinds prevail during the day (9am - 8pm). In the evening (9pm - 8am), cooler westerly winds sweep down the slopes of Mauna Loa.[6] A wind rose is shown in Fig. 8.

3.1.2 *Topography & Soils*

The topography of this site is fairly level with moderate slopes on the south side of the property (see Fig. 9).

According to the *Soil Survey of the Island of Hawaii*[7], the soil on the proposed site is classified as Hilo silty clay loam with gentle slopes of 0 to 10 percent (HoC). This soil belongs to the family of geologically young soils (Inceptisols) that formed from volcanic ash in high rainfall areas (Hydrandepts), having high concentrations of amorphous aluminum minerals (allophane).[8] These soils exhibit unique properties: they irreversibly dry into sand and gravel size aggregates, and their water-holding capacity is often over 300% in field conditions.[9] The Hilo soils possess thixotropic properties-- that is, the soil behaves as a solid if undisturbed and liquifies if agitated; thus, a tractor would gradually sink with several

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[6]Department of Land and Natural Resources, State of Hawaii. An Inventory of Basic Water Resources Data: Island of Hawaii, Report R34, 1970 (rainfall and wind data); University of Hawaii, Department of Geography, Atlas of Hawaii (2d. ed.). Honolulu: University of Hawaii Press, 1983, p. 66 (rainfall and wind data).

[7]U.S. Department of Agriculture, Soil Conservation Service. Soil Survey of Island of Hawaii. State of Hawaii, 1973, Map 74.

[8]McCall, W. Soil Classification in Hawaii, Cooperative Extension Service, University of Hawaii, Circular 476, 1975.

[9]Sherman, G. "Tropical Soils of the Hawaiian Islands" in A Natural History of the Hawaiian Islands (ed. A. Kay), Honolulu: University Press of Hawaii, 1972, p. 237.

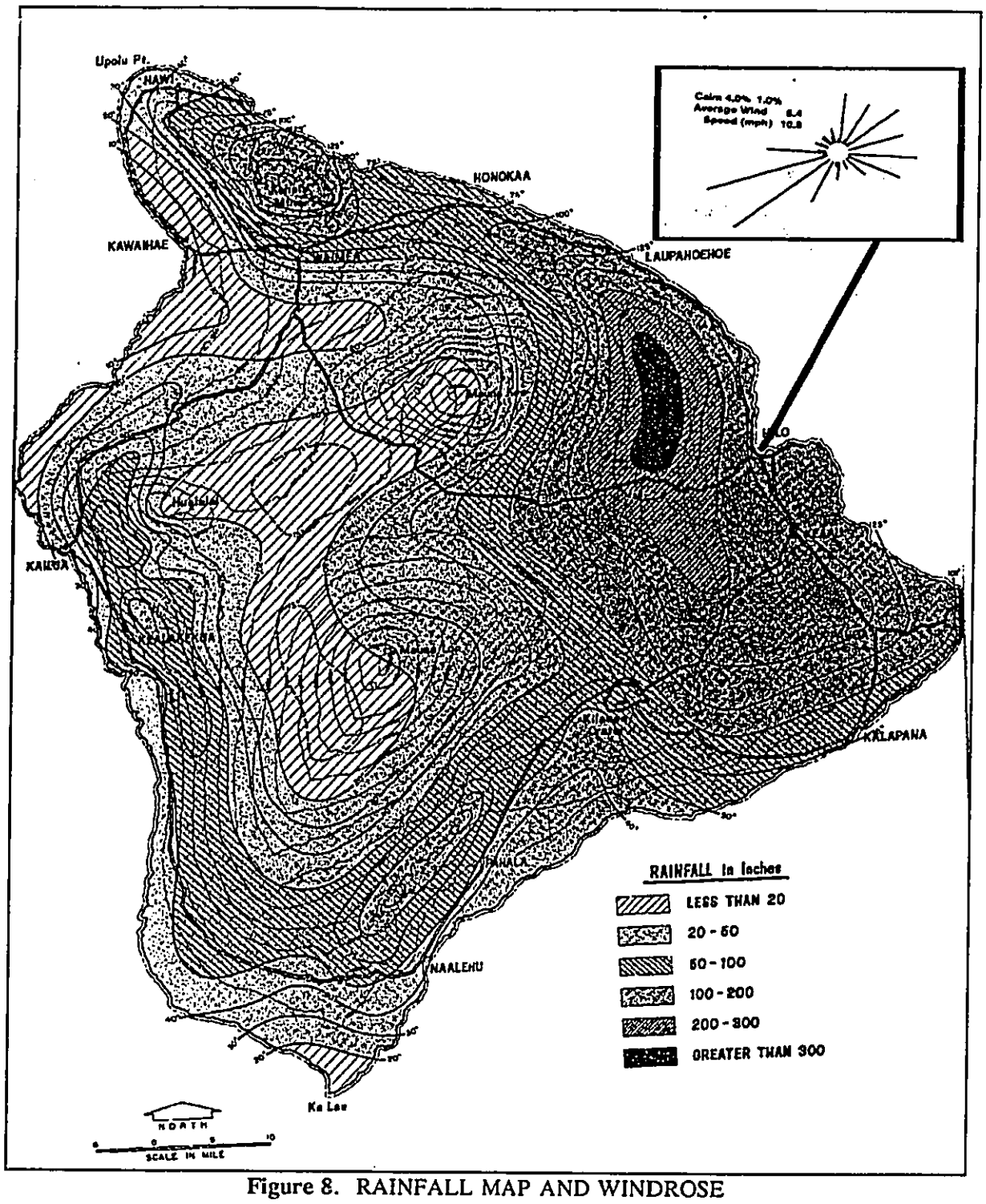

Figure 8. RAINFALL MAP AND WINDROSE

Source: State of Hawaii, Department of Land & Natural Resources, An Inventory of Basic Water Resources Data: Island of Hawaii, Report R34, 1970 (rainfall map); University of Hawaii, Department of Geography, Atlas of Hawaii (2d. ed.), 1983 (windrose)

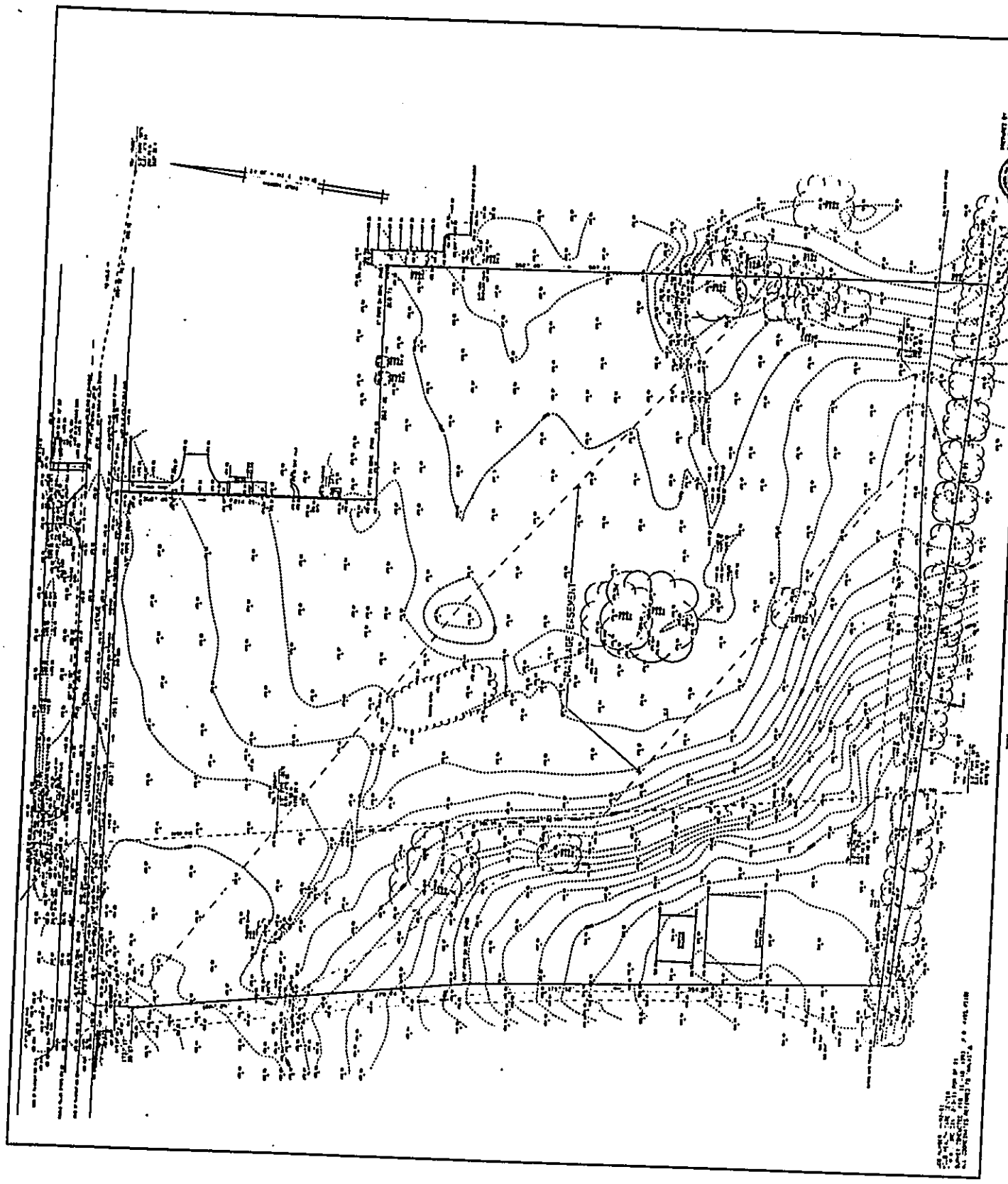

Figure 9. TOPOGRAPHIC MAP

passes over this type of soil.[10]

Since the Hilo soils have high shrink but low swell capacity (unlike the montmorillinite soils which have high shrink *and* swell capacity), this soil should not pose a potential landslide problem,[11] but could cause settling of overlying pavement or structures. These soils also have low bearing capacity, high compressibility, low shear strength, and high organic matter content. Permeability is rapid, runoff is slight to moderate depending on slope, and erosion hazard is slight to moderate depending on slope.[12]

The soil is suitable for agriculture, but not considered prime land. The various agricultural suitability ratings for this soil are as follows:

- *Soil Conservation Service (SCS)*: **IIIe**
  The SCS classification system rates the soil as IIIe on a scale of I to VIII. Although Class III soils are suitable for growing sugar cane, macadamia nuts, truck crops, or used for pasture, these soils have severe or very severe limitations, respectively, that reduce the choice of plants and/or require special conservation practices. The subclassification "e" indicates that the limitations are due to a risk of erosion. This risk reflects the heavy rains in the area and the susceptibility to erosion if bared.

- *Agricultural Lands of Importance to the State of Hawaii (ALISH)*: **Unrated**
  The ALISH system rates soils according to "prime" (land best-suited for the production of crops because of its ability to sustain high yields with relatively little input and with the least damage to the environment), "unique" (non-prime agricultural land that is currently used for the production of specific high-value crops), "other" (non-prime and non-unique agricultural land that is of importance to the production of crops), and "unrated" (by inference, land that is poorly suited for crop production). The soil on the project site is unrated.

- *Land Study Bureau's (LSB) Overall Productivity Rating*: **C**
  The LSB system rates soils according to five levels, with "A" representing the class of highest productivity and "E" the lowest. The State Land Use Law considers Class A or B soils "prime" agricultural land.[13] The soil on the project site is classified as C.[14]

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[10]MacDonald, G., et al. Volcanoes in the Sea: The Geology of Hawaii. Honolulu: University Press of Hawaii, 1983, p. 184 (definition of thixotropic properties); McCall, W., pp. 24-25 (classification as thixotropic).

[11]Telephone conversation with SCS, Honolulu office (Saku Nakamura), 1/22/92.

[12]SCS, Soil Survey, p. 18.

[13]The State Land Use Law specifies permissible uses for only those agricultural lands classified A or B by the Land Study Bureau (see §§205-2,4.5, Hawaii Revised Statutes).

[14]University of Hawaii, Land Study Bureau, Detailed Land Classification- Island of Hawaii. L.S. Bulletin No. 6, November 1965, Map 609.

3.1.3 *Natural Hazards*

Flooding

According to the Flood Insurance Rate Maps, a special flood hazard area subject to inundation by a 100-year flood (Zone A) transects the site (see Fig. 10).[15] Stormwater flows into the property from the northwest corner of the property and exits at the southeast corner.

> **Mitigation Measure.** The applicant will construct an open lined channel (approx. 6' deep and 12' wide) acceptable to the Department of Public Works to divert the 100-year flood around the proposed structures. At the outlet of the drainage channel, a retention basin (approx. 1/2 acre) will reduce the flow to the natural flood flow volume and velocity before it discharges into the neighboring properties. *The proposed improvements will maintain the volume, velocity, and inflow/outflow locations of the stormwater flow under present conditions.* The estimated design flow of the flood improvements based upon a 100-year storm is approximately 710 cfs. The stormwater would flow from the channel into the retention basin and would be slowed by the ponding water. The water level in the basin would rise and overflow over a weir at a controlled velocity. When the stormflow ceases, any water remaining in the basin would either drain to a nearby drywell or percolate through tiny holes at the base of the weir. The applicant's engineers will do a detailed flood study to confirm the flows and design parameters.

The applicant will apply to the Federal Emergency Management Agency (FEMA) to amend the Flood Insurance Rate Map (FIRM) to reflect the flood control improvements (see §4.7 below for discussion of the FEMA approval process).

Volcanic and Earthquake Hazards

The volcanic hazard zone is Zone 3 on a scale of 1 through 9 (Zone 1 has the most severe hazard).[16]

Strong earthquakes endanger people and property by shaking structures and by causing ground cracks, ground settling, and landslides.[17] Locally, such damage can be intensified where soft, water-saturated soils amplify earthquake ground motions; on steep slopes, such soils may result in mudflows or landslides. The island of Hawaii experiences thousands of earthquakes each year-- most are so small that they can only be detected by instruments, but some are strong enough to be felt, and a few cause minor to moderate damage. Most of the island's earthquakes are directly related to volcanic activity (magma moving beneath the earth's surface), concentrated beneath Kilauea and Mauna Loa, particularly beneath the south flanks of both volcanoes and in the Kaoiki region between them. Although originating in the volcanically active area, these earthquakes can have damaging effects that are widespread. A few earthquakes are less directly related to volcanism and originate in zones of structural weakness at the base of the volcanoes or deep within the earth beneath the island, such as the earthquake of magnitude 6.2

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[15]Federal Emergency Management Agency. Flood Insurance Rate Map, Panel 880, September 16, 1988.

[16]Heliker, C. Volcanic and Seismic Hazards on the Island of Hawaii, U.S. Geological Survey, 1991.

[17]The discussion in this section is from Heliker, 1991, ibid.

centered in the vicinity of the project area 25 miles deep beneath Honomu in 1973. Such earthquakes unrelated to volcanic activity have no known recurrence interval and are difficult to predict. The Building Code designates the entire island of Hawaii in Earthquake Zone 3 and contains certain structural requirements to address the relative seismic hazards.

3.1.4 *Flora/Fauna*

Scattered stands of sugar cane evidence the past use of the site for sugar cane cultivation. There are also small patches of banana and extensive grass. Due to the past disturbance by sugar cane cultivation and the clearing for the existing gravel parking lot, it is highly unlikely that the site is a habitat for native flora or fauna listed as endangered or threatened.

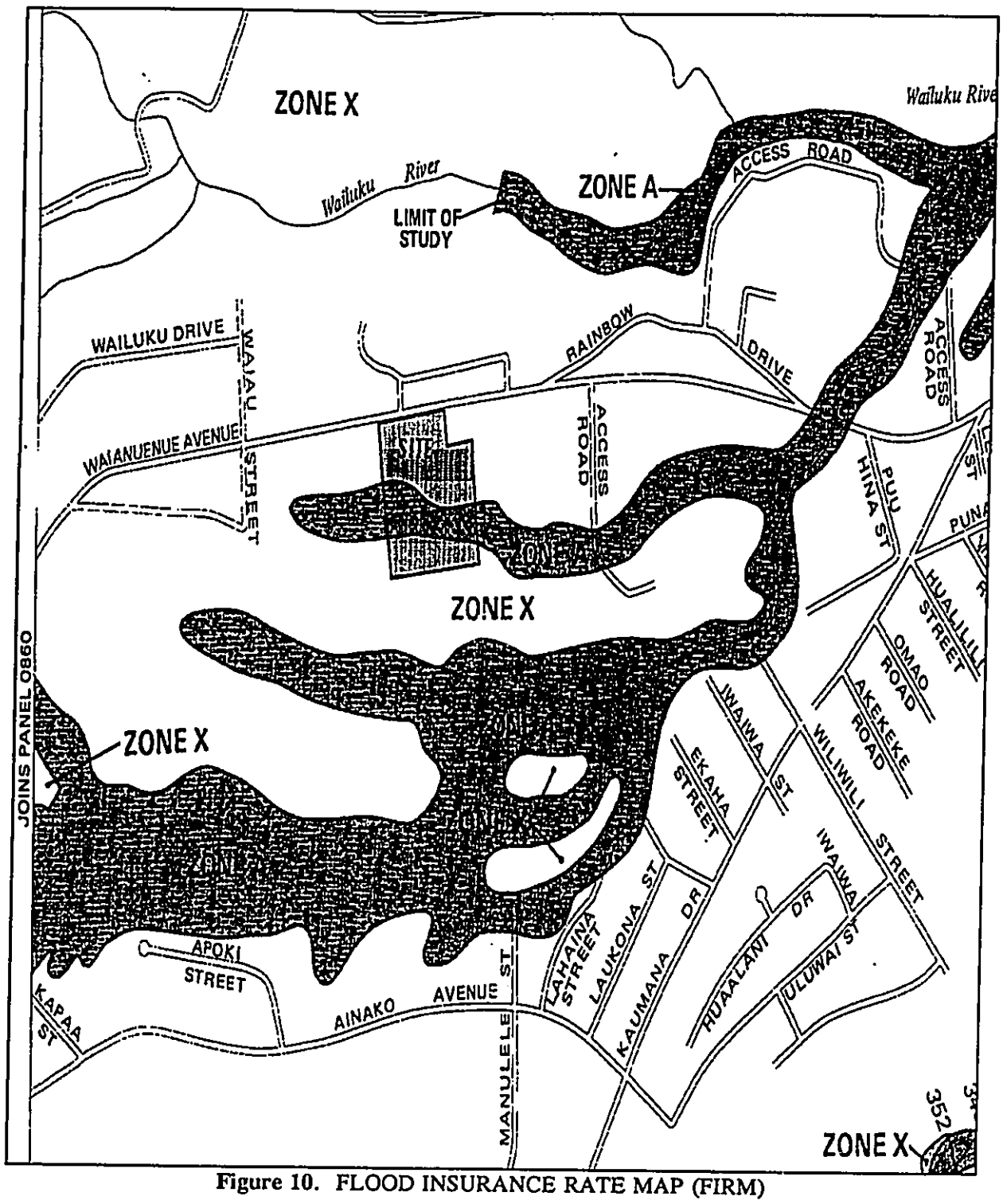

Figure 10. FLOOD INSURANCE RATE MAP (FIRM)

3.1.5 *Historic/Archaeological Resources*

In terms of ancient Hawaiian settlement patterns, the site is categorized as an Upland Agricultural Zone characterized by scattered huts, garden plots, and dryland taro cultivation. However, historic period land alterations caused primarily by sugar cane cultivation have affected the preservation of any pre-Contact remains. In the early 1900's, the Hawaii Mill Company cultivated sugar cane in the Piihonua area which likely encompassed the site.[18] The Hilo Sugar Company took over the Hawaii Mill Company in 1920 and operated until about 1976.

Archaeologists conducted an inventory survey of the site and did not find any evidence of significant archaeological features exposed on the land surface nor surface indications of potential subsurface features. Based on these findings, the archaeologists concluded that no further archaeological work would be necessary for this site (see Appendix B).

3.1.6 *Water Resources*

The site is about 1000 feet south of the Wailuku River, a perennial stream that flows year-round in its upper reaches but intermittently in the lower reaches. The stream assessment study conducted for the State Water Plan selected this stream as a "candidate stream for protection" based on its high recreational and riparian values, including an abundance of native aquatic species.[19] Recognizing the natural values of this stream, the Office of State Planning recommended reclassification of the ridge-to-ridge corridor along the stream from Agriculture to Conservation in the State Land Use District Boundary Review.[20] The proposed site is not within this area proposed for reclassification (see Fig. 11).

The proposed use will not impact the stream. Onsite surface drainage will not be discharged to the stream. The project will hook-up to the sewer system; therefore, there will be no impact from wastewater leachate resulting from onsite wastewater disposal systems.

According to the Commission on Water Resource Management's well inventory, there are two wells located about 9 miles downgradient from the site about halfway between Hilo Hospital and Hilo High School. Since this project will have no subsurface disposal of wastewater, there should be no impacts to the groundwater source of these wells. If drywells are used for stormwater disposal, and these drywells are designed to be considered injection wells, then the impacts of these drywells on the groundwater would be evaluated under the Department of Health's underground injection control (UIC) permit program.

The County-owned parcel south of the project site was considered for a passive recreation Kaumana Springs Wilderness Park many years ago, but that proposal has since died. Today, that parcel

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[18]Kelly, Marion. Hilo Bay: A Chronological History of Land and Water Use in the Hilo Bay Area, prepared for the U.S. Army Corps of Engineers, 1981.

[19]Hawaii Cooperative Park Service Unit, National Park Service. Hawaii Stream Assessment: A Preliminary Appraisal of Hawaii's Stream Resources. Prepared for the Commission on Water Resource Management, State of Hawaii, Report R84, December 1990.

[20]Office of State Planning, State of Hawaii, State Land Use District Boundary Review: Hawaii (Draft), March 1992. According to the Office of State Planning, the final report for Hawaii County will be available by the end of March 1993.

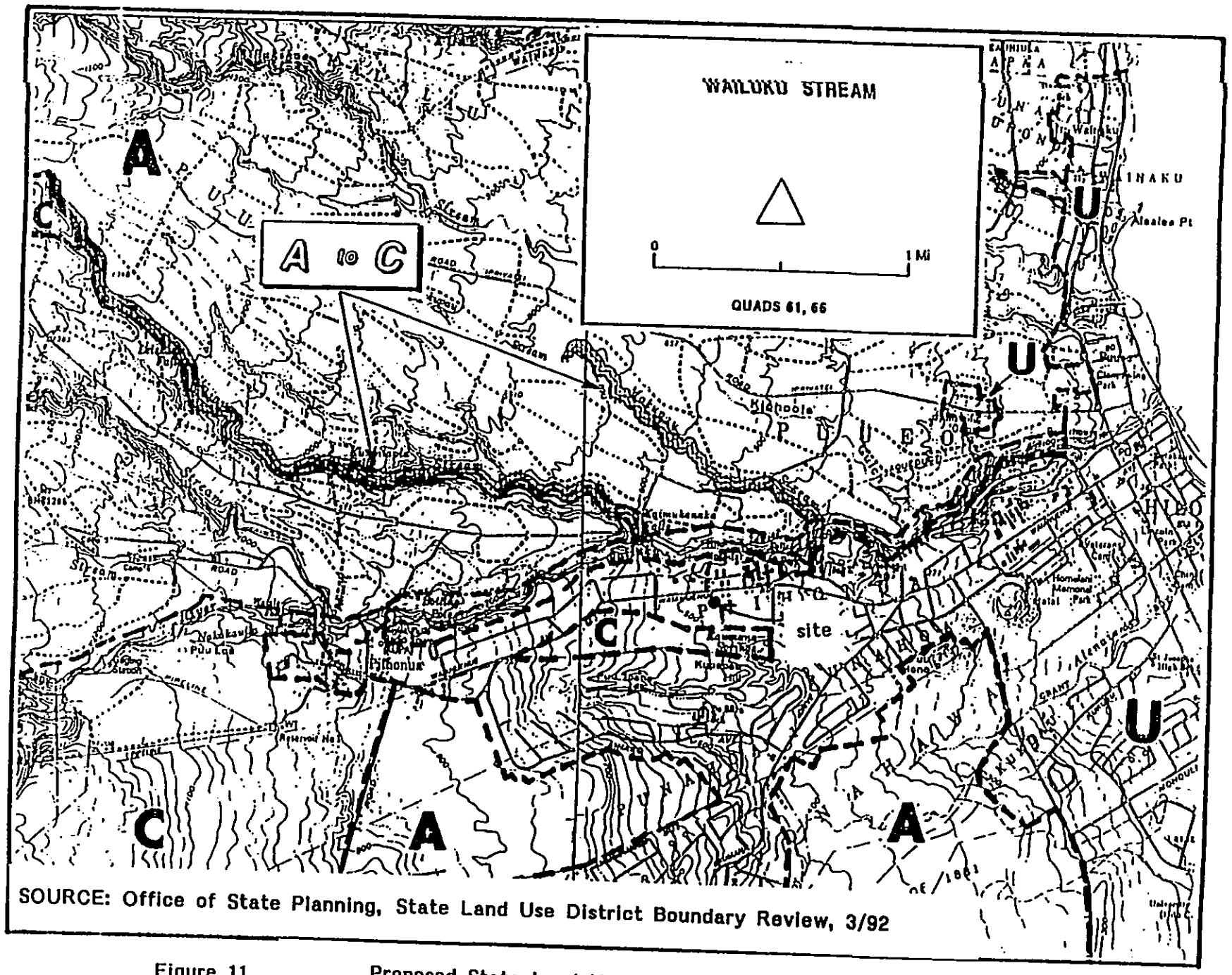

Figure 11. Proposed State Land Use Reclassification

is under the jurisdiction of the Department of Water Supply and managed as a watershed reserve. The proposed project will not cause any increase in erosion or otherwise disrupt the watershed's hydrology.

3.1.7 *Air Quality*

The project will not have any stationary sources of air pollution. The additional traffic generated by the project will increase the automobile-related emissions (SO_2) in the vicinity; however, the increase is insignificant relative to the existing conditions. The existing pollution sources pale in comparison to the natural emissions from the erupting volcano (vog). During the construction period, fugitive dust caused by construction activity will be mitigated as necessary by water sprinkling or mulching. requirements.

3.1.8 *Noise*

The potential noise impact from the project will be confined to the construction period. This noise from construction equipment will be during the day and is a short-term, temporary impact that will cease upon completion of construction. The construction documents will contain strict working time limitations to minimize as much as possible the disturbance to the neighboring residents and hospital zone. The noise impact of ambulance sirens on the future patients of the proposed project will be minimized through design by way of material selection, insulation, landscaping, and setting the building away from the road.

3.1.9 *Scenic Resources*

The project will not impact upon any natural beauty areas identified in the General Plan.[21]

3.2 Socioeconomic Characteristics

3.2.1 *Target Population*[22]

The target population who will benefit from the proposed project are the elderly and their families, relatives, and friends who are responsible for the elderly person's care. Every community needs a continuum of options to house and care for the elderly-- from in-home or community-based care to institutional facilities. As the elderly become more dependent, thus requiring more intensive and/or skilled care, the need arises for eventually moving the elderly person from in-home care to an institutional care facility. The proposed facility is at the institutional end of the continuum.

National Trend. The growth of the older adult population in the United States since 1900 has been dramatic. In 1900, persons aged 65 and older made up just 4% of the total population; by 1980, this had more than doubled to 11%. This growth pattern is projected to continue through the 21st century and beyond. By the year 2000, the number of older adults is expected to reach 13% of the total population, and by 2030 the elders will account for 20% of the population.

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[21]Hawaii County General Plan, November 1989, p. 33 (list of natural beauty areas for South Hilo).

[22]The data in this section is taken from State of Hawaii, The Executive Office on Aging, Long-Term Care Plan for Hawaii's Older Adults: A First Step in Planned Care, Revised July 1988.

Statewide Trend. In Hawaii, the growth is even more staggering as the 60+ population is growing at two and a half times faster than the national average. The 65+ age group comprised about 5.7% of the population in 1970, substantially below the national average of 9.8%. However, by the year 2000 the proportion of the elderly in Hawaii will be comparable to the national average (see Fig. 12 and Table 2). This growth in Hawaii is due in part to the longevity of the Japanese and Chinese older adults whose life expectancy rates increased from 74 years in 1970 to 78 years in 1980. Together, Japanese and Chinese elders constitute more than 44% of the State's elderly population and contribute to Hawaii's claim to the best longevity potential in the nation.

Nearly 50% of Hawaii's elders will be 75+ years of age by the year 2000. Based upon national findings, it is reasonable to expect this group to require as much as three times the long term care services used by younger old adults. The need for institutional long term care services are compounded by other factors: because older adults are often in their 80s when they become functionally dependent, their children are frequently in their 60s when called upon to assume caregiving responsibilities and are not physically capable of the lifting often necessary; additionally, most families now have both parents in the work force with no one home to provide caregiving services.

Hawaii County Trend. Hawaii County has a greater proportion of its population over 60 years of age (17% in 1990) than the Statewide proportion (14.8%) (see Tables 2 and 3). Within the South Hilo division, the 60+ age group comprised 37% of the South Hilo population. Hawaii County also has consistently had the lowest per capita income among all counties (see Table 4), thus potentially having the largest clientele qualifying for Medicaid. The proposed facility will be certified to accept Medicaid or Medicare patients.

3.2.2 *Impact on Other Healthcare Providers*

The proposed facility will have a beneficial impact on health care services in the community. It will promote more appropriate utilization of beds at the acute hospital level and is likely to contribute to reductions in acute lengths of stay. Patients in acute hospital beds waitlisted for long-term care would receive their required services in a more residential environment, surrounded by their peers, complemented with appropriate activities and social services programs. At Hilo Hospital, patients are frequently admitted to acute care for strokes, compression fractures, hip fractures, cancers and pneumonias which then lead to a deterioration in their health to the point where they are no longer able to function at the level they were prior to admission. These patients have been treated for their initial injury or illness, but now require long term care. The current extended care facility at Hilo Hospital, consisting of 108 beds, is often full. Thus, patients stay unnecessarily longer in acute care because of the lack of beds in extended care, and those who require acute care have to wait in the Emergency Room for hours until a bed in acute care becomes available or transfer to Honolulu. The extended care facility is also structurally inadequate and cannot be remodeled. A replacement facility with expanded capacity is sorely needed.[23]

Persons currently in care homes whose needs can no longer be met in that setting would receive the appropriate services suited to their physical condition. The proposed facility will not negatively impact these care home facilities since most of the care homes in Hilo are targeted for the semidependent

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[23]Letter from Ronald AhLoy, M.D., Medical Director, Extended Care Division, January 12, 1990, included in the CON application for the proposed facility.

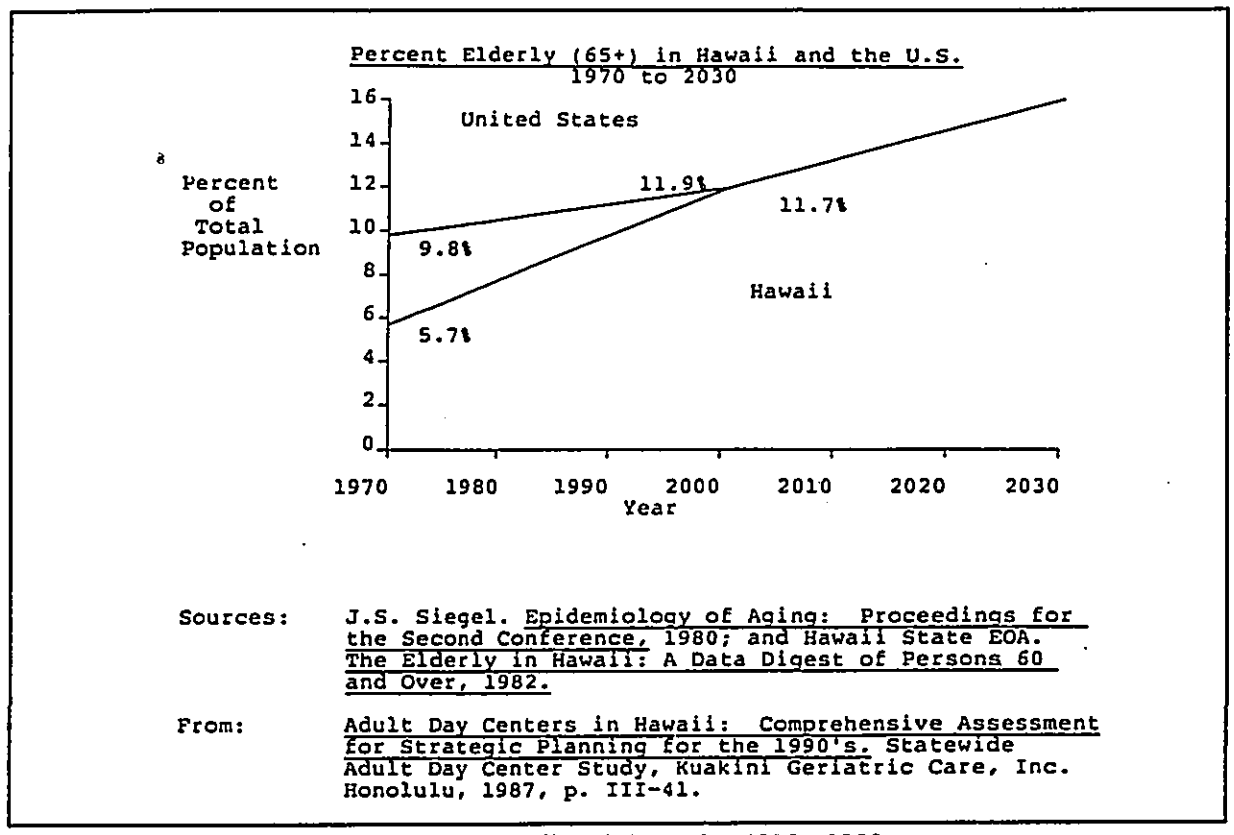


Figure 12. Percent Elderly (65+) in Hawaii and the U.S.: 1970 - 2000

Table 2. Projected Resident Population for Hawaii: 1985-2005
(in thousands)

AGE	1985	1990	1995	2000	2005
Total	1057.8	1138.4	1211.5	1267.8	1310.0
0-64	956.3	1014.4	1068.8	1108.9	1073.7
65-74	62.7	72.2	77.8	83.5	91.6
75-84	29.3	37.9	45.9	52.0	57.1
85+	9.5	14.0	19.0	24.0	28.6
60 and over	145.2	168.9	189.9	211.2	236.3
% of Total	13.7%	14.8%	15.7%	16.7%	18.0%
65 and over	101.5	124.1	142.7	158.9	177.3
% of Total	9.6%	10.9%	11.8%	12.5%	13.5%
85 and over	5.6	14.0	19.0	24.0	28.6
% of Total	9.0%	11.0%	13.0%	15.0%	16.1%

Source: State of Hawaii, Executive Office of Aging, Long Term Care Plan for Hawaii's Older Adults, 1988.

Table 3.

HAWAII COUNTY OFFICE OF AGING
DISTRIBUTION OF 60+ POPULATION BY DISTRICT
Basis: 1990 Census

	Distribution of 60+ Population by District								*Overall Distribution*		
DISTRICT	*60-64*	*65-69*	*70-74*	*75-79*	*80-84*	*85+*	*Total 60+*	*% of Total 60+*	*Total Population*	*% of Total*	*% 60+ of Total*
S. Hilo	2423	2239	1819	1299	822	621	9223	44%	44629	37%	21%
N. Hilo	77	93	61	56	42	27	356	2%	1541	1%	23%
Hamakua	289	275	216	169	114	59	1122	5%	5545	5%	20%
S. Kohala	267	270	189	109	70	39	944	5%	9140	8%	10%
N. Kohala	223	192	113	104	82	53	767	4%	4291	4%	18%
N. Kona	923	870	630	405	230	121	3179	15%	22294	19%	14%
S. Kona	340	290	231	171	88	66	1186	6%	7658	6%	15%
Kau	228	241	167	132	65	48	881	4%	4438	4%	20%
Puna Mauka	643	549	408	259	139	101	2099	10%	14079	12%	15%
Puna Makai	256	293	218	126	59	46	998	5%	6702	6%	15%
TOTAL	5669	5312	4052	2830	1711	1181	20755	100%	120317	100%	17%

Table 4 .-- TOTAL AND PER CAPITA PERSONAL INCOME, BY COUNTIES: 1979 to 1989

Year	State total	Hawaii County	City & County of Honolulu	Kauai County	Maui & Kalawao Counties
TOTAL (Mil. dol.)					
1979	9,030.9	724.4	7,395.5	313.0	598.0
1980	10,279.2	901.3	8,293.1	374.4	710.5
1981	11,051.4	895.8	9,039.9	378.3	737.3
1982	11,731.7	948.9	9,570.6	406.6	805.7
1983	12,875.3	1,080.7	10,396.3	462.7	935.5
1984	13,627.9	1,117.3	11,063.9	471.7	975.1
1985	14,588.7	1,188.4	11,815.8	515.8	1,068.6
1986	15,607.4	1,316.1	12,537.0	566.5	1,187.9
1987 *	16,798.0	1,417.0	13,486.0	612.0	1,283.0
1988 *	18,412.0	1,575.0	14,713.0	693.0	1,431.0
1989	20,477.0	1,800.0	16,251.0	790.0	1,638.0
PER CAPITA (dollars)					
1979	9,506	8,133	9,816	8,234	8,600
1980	10,617	9,682	10,854	9,499	9,916
1981	11,275	9,232	11,765	9,308	9,944
1982	11,760	9,472	12,292	9,703	10,477
1983	12,640	10,526	13,107	10,764	11,724
1984	13,154	10,438	13,805	10,691	11,688
1985	13,874	10,851	14,568	11,365	12,502
1986	14,673	11,830	15,306	12,254	13,647
1987 *	15,525	12,345	16,268	12,776	14,210
1988 *	16,765	13,410	17,548	14,051	15,390
1989	18,379	14,969	19,171	15,585	17,121

* Revised.

Source: Hawaii State Department of Business and Economic Development, Research and Economic Analysis Division, Quarterly Statistical & Economic Report, 2nd Quarter 1990 (1990), p. 24; and State of Hawaii Data Book, 1990 (November 1990), table 393 update.

elderly (refer to Table 1), while the proposed facility is targeted to the dependent elderly who require medical care.

3.2.3 *Employment*

The proposed facility will employ about 60-70 persons distributed in three shifts. About 40% of the available job positions will be limited-skill nurse's aids who, under the supervision of a licensed nurse, provide medical care and assistance with daily living activities. Nurse's aides will receive the required training and take the State's competency evaluation examination. Several registered and licensed nurses will also be needed. Other positions include housekeeping, laundry, maintenance, social services, dietary, and administration.

3.2.4 *Fiscal Impact*

The proposed project will generate revenues to the State through lease rent and general excise tax payments. The County will receive increased property tax revenues. Since no direct government expenditures are required for infrastructure improvements, the net benefit to the State and County is positive.

3.3 Public Facilities, Utilities, and Services

3.3.1 *Roads*

A traffic engineer analyzed the impact of the proposed project on the existing and future traffic conditions. This analysis also considered the cumulative impact of a nearby proposed facility for the Hawaii County Economic Opportunity Council (HCEOC) (see Appendix C for the Traffic Assessment Report).

Existing Traffic Conditions. Waianuenue Avenue in the vicinity of the proposed projects is a two-lane County roadway with a posted speed limit of 35 mph. It provides vehicular access to the Hilo Hospital complex and adjoining related medical uses, and is the primary access for two visitor attractions (Rainbow Falls and "Boiling Pots") and nearly 200 residences in the upper Piihonua area. Akolea Drive, which connects to Kaumana Drive, is an alternative route for these residences. A recent traffic count taken by the State Highways Division at the intersection of Waianuenue Avenue and Kaumana Drive shows a daily volume of about 8,700 vehicles per day (vpd), with a peak volume of 700 vehicles per hour (vph).

Future Traffic Conditions Without the Project. Traffic along Waianuenue Avenue has increased at a compounded growth rate of about 2.4% per year. At this rate, traffic will have increased to about 9089 vpd by 1994 (the projected opening date for the proposed facilities).

Project-Generated Traffic. The entering and exiting traffic include employees, deliveries, and visitors. The proposed project will generate an estimated 282 to 312 vpd, with AM peak hour volumes of between 18 and 26 vph and PM peak hour volumes of between 16 and 34 vph. The highest of these estimates are less than 5% of the existing traffic counted at the Waianuenue Avenue intersection.

The proposed HCEOC facility will relocate the present offices in the old hospital off of Rainbow

Drive to the new location along Waianuenue Avenue. This action is not expected to increase traffic volumes in the area, but will relocate one terminus of some of the trips. Estimated AM peak hour volumes are between 41 to 59 vph, and PM peak hour volumes between 46 to 61 vph.

Figure 13 depicts the traffic flow from both projects using the highest peak hour estimates. The traffic assignments assume 97% of the driveway movements to be to the east (towards Hilo) and 3% to the west (towards upper Piihonua).

Traffic Impacts of Proposed Projects. The impacts of the proposed project and the HCEOC project are not significant to warrant any offsite improvements at the intersection of Waianuenue Avenue and Kaumana Drive. The increase in traffic is expected to be a maximum of 312 vpd, which is about 3% of the projected 1994 traffic volume at that intersection. Neither the proposed project nor the HCEOC project will require left turn storage lanes along Waianuenue Avenue since the probability of a left turning vehicle delaying through traffic behind it was less than 2%.

3.3.2 *Water System*

The Department of Water Supply has one large and four small systems in the South Hilo District. The site is within the service area of the Hilo System, the largest on the island with about 12,000 accounts in 1991 consuming an average of 5.89 mgd from five surface sources and five deep well sources. The surface sources are the Waiakea-uka Tunnels, Olaa Flume Spring, Lyman Spring, Wailuku River-Hookelekele Stream and Kaohama Stream (see Fig. 14). The deep well sources are in the Panaewa and Piihonua well fields.

During normal weather, the system draws as much surface water as practical to minimize power cost for pumping groundwater. However, the turbidity of the surface water increases considerably during heavy rains and must be supplemented with well water. Thus, the allocation between surface water and groundwater usage varies each day depending on weather.

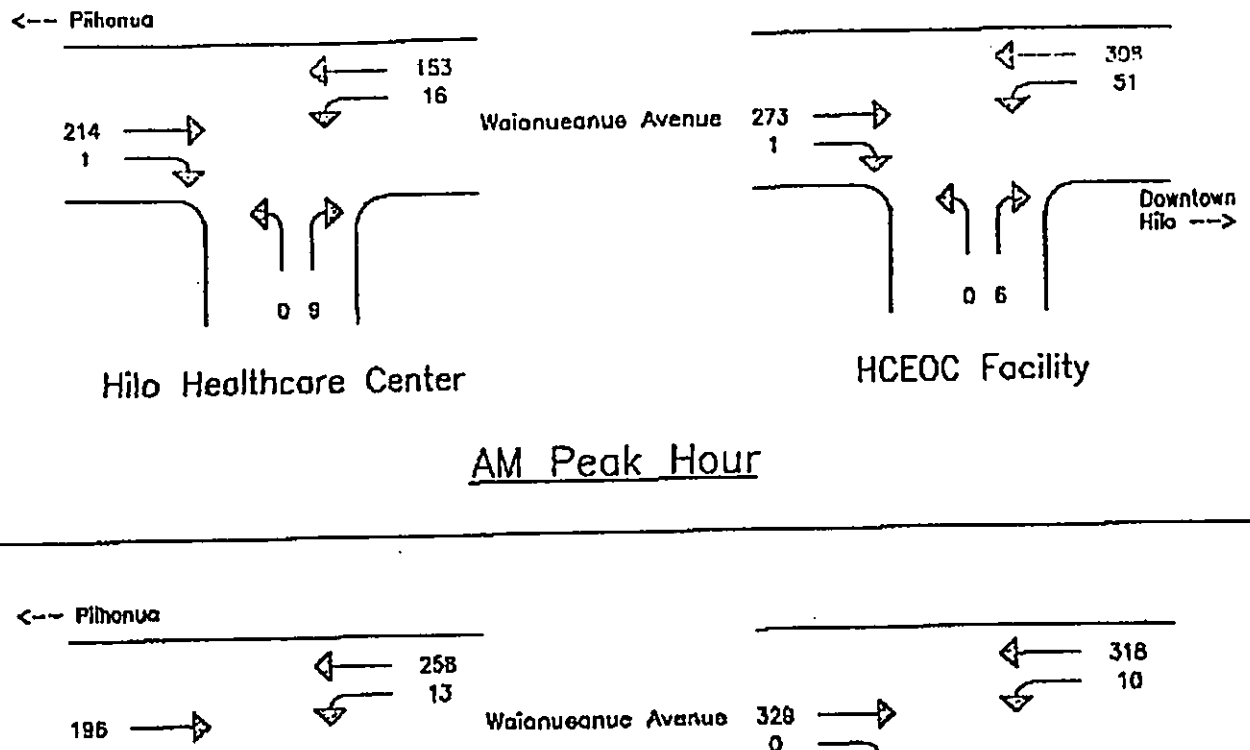
The Hilo System has adequate capacity to accommodate the estimated average flow of 12,000 gpd from the proposed project. The project will connect to a 16" line along Waianuenue Avenue.

3.3.3 *Wastewater System*

The project will connect to a 10" collector sewer along Waianuenue Avenue which has adequate capacity to accommodate the estimated average flow of 12,000 gpd from the proposed project. The collector sewer gravity flows to the existing primary wastewater treatment plant in Keaukaha. When the new wastewater treatment plant near the Hilo airport is ready, the sewage will be pumped and conveyed through a force main from the existing treatment plant to the new treatment plant. The new treatment plant, with a capacity of 5.0 mgd, will be able to accommodate the projected future flows within the Hilo service area. The treatment plant will provide secondary treatment and discharge the effluent through the Hilo Bay ocean outfall.

3.3.4 *Drainage System*

In the vicinity of the proposed project, the drainage system is comprised of box culverts that pass the discharge of the Ainako River across Kokea, Koula, and Kapaa Streets. The residential areas bordering the Wailuku River have a system of collection ditches. Except during very intense storms,



Traffic Assessment Hilo Healthcare Center HCEOC Facility	Traffic Assignments 1994 with projects prepared by: Julian Ng, Inc. February 1993	Figure 13

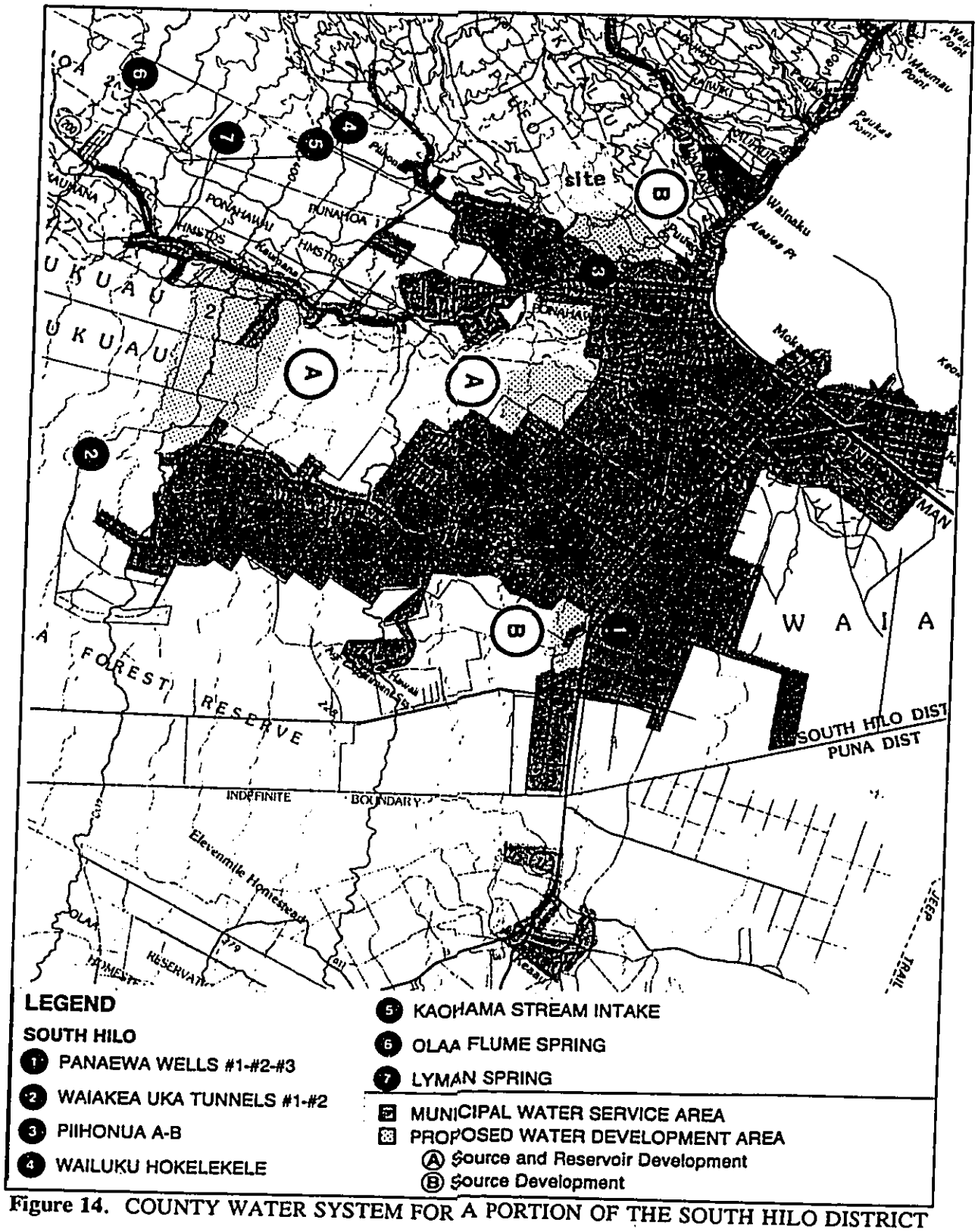


Figure 14. COUNTY WATER SYSTEM FOR A PORTION OF THE SOUTH HILO DISTRICT

there are few problems in the area.[24] The proposed project will not impact these existing systems since most of the project-generated runoff will be contained onsite by drywells or other means acceptable to the Department of Public Works.

3.3.5 *Solid Waste*

Because the proposed facility will generate some medical wastes, the facility will be subject to Department of Health regulations governing the management, treatment, transport, storage, and disposal of infectious waste.[25] The proposed facility will dispose non-infectious wastes at the Hilo landfill. Potential infectious waste will probably be taken to the incinerator at Hilo Hospital to be disposed together with the hospital's infectious wastes. The bottom ash from the hospital's incinerator is disposed at the Hilo landfill.[26]

3.3.6 *Electrical/Telephone*

HELCO and Hawaiian Telephone have adequate capacity to service the proposed project from the overhead lines along Waianuenue Avenue.

3.3.7 *Recreation*

The project will provide onsite most of the recreational facilities to meet the needs of the patients; thus, the project will have minimal impact on County or State parks in the vicinity.

4 RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

4.1 State Plan and Functional Plans

The following State Plan health policy supports the proposed project:

> Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State.[27]

The State Health Functional Plan states the following objective, policy, and implementing action for institutional health care:

> Objective: To ensure that appropriate care, sufficient number of beds at all levels of care and alternative health care are available to the residents of the State of Hawaii at affordable costs.

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[24]General Plan, November 1989, p. 24.

[25]Hawaii Revised Statutes §321-21 (Supp. 1992); Hawaii Administrative Rules, Chapter 11-104.

[26]Barret Consulting, Integrated Solid Waste Management Plan for the County of Hawaii (Draft), February 1993.

[27]Hawaii Revised Statutes §226-20(b)(2) (Supp. 1992).

Policy: Support statewide coordination of public and private hospitals and facilities.

Implementing Action: Determine and update current and projected critical care, acute and long-term SNF and ICF care bed needs throughout the state, and assist public and private hospitals to make changes in types of beds as needed.[28]

4.2 State Land Use Law

The State Land Use classification for the proposed site is Urban. The County, through its zoning ordinance, determines the permissible uses within the Urban district.[29] The proposed healthcare facility may be permitted under the County zoning ordinance's Use Permit procedures (see §4.5 below).

4.3 Hawaii County General Plan

The General Plan LUPAG designation for the proposed site is Low Density Urban Development (see Fig. 15) which is intended for single family residences, ancillary community and public uses, and convenience type commercial uses.[30] A policy under the Housing Element encourages the "construction of specially designed facilities for elderly persons needing institutional care and for active elderly persons".[31] In support of that policy, the General Plan asserts a course of action to "aid and encourage the development of State lands in the South Hilo area for housing for all socio-economic levels through leasehold or purchase".[32]

4.4 Hilo Community Development Plan

This regional plan, adopted by the Planning Commission in 1975, supports the existing RS-10 zoning designation.[33]

4.5 Hawaii County Zoning Code

4.5.1 *Use Permit*

The site, as well as the surrounding parcels, is zoned Single-Family Residential with a minimum lot size of 10,000 s.f. (RS-10) (see Fig. 16). Although not specifically listed as a permitted use in the RS-10 district, the zoning code permits by Use Permit "old age, convalescent, nursing, and rest homes, and other similar uses devoted to the care or treatment of the aged, the sick, or the infirm" in all districts

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[28]State of Hawaii, State Health Functional Plan, 1986, p. 30.

[29]§205-5, Hawaii Revised Statutes; §15-15-24, Hawaii Administrative Rules (statute and rules governing the Land Use Commission's powers within the Urban district).

[30]General Plan Support Document, November 1989, p. 80.

[31]§4(H) (Housing Goals & Policies), Ordinance 89-142, Hawaii County, An Ordinance Adopting the County of Hawaii General Plan and Repealing Ordinance No. 439, as amended.

[32]Ibid., §5(B)(4) (Courses of Action, South Hilo, Housing).

[33]Belt, Collins & Associates, Ltd., Hilo Community Development Plan. Prepared for the County of Hawaii, adopted by Planning Commission Resolution on May 21, 1975, p. 50-51.

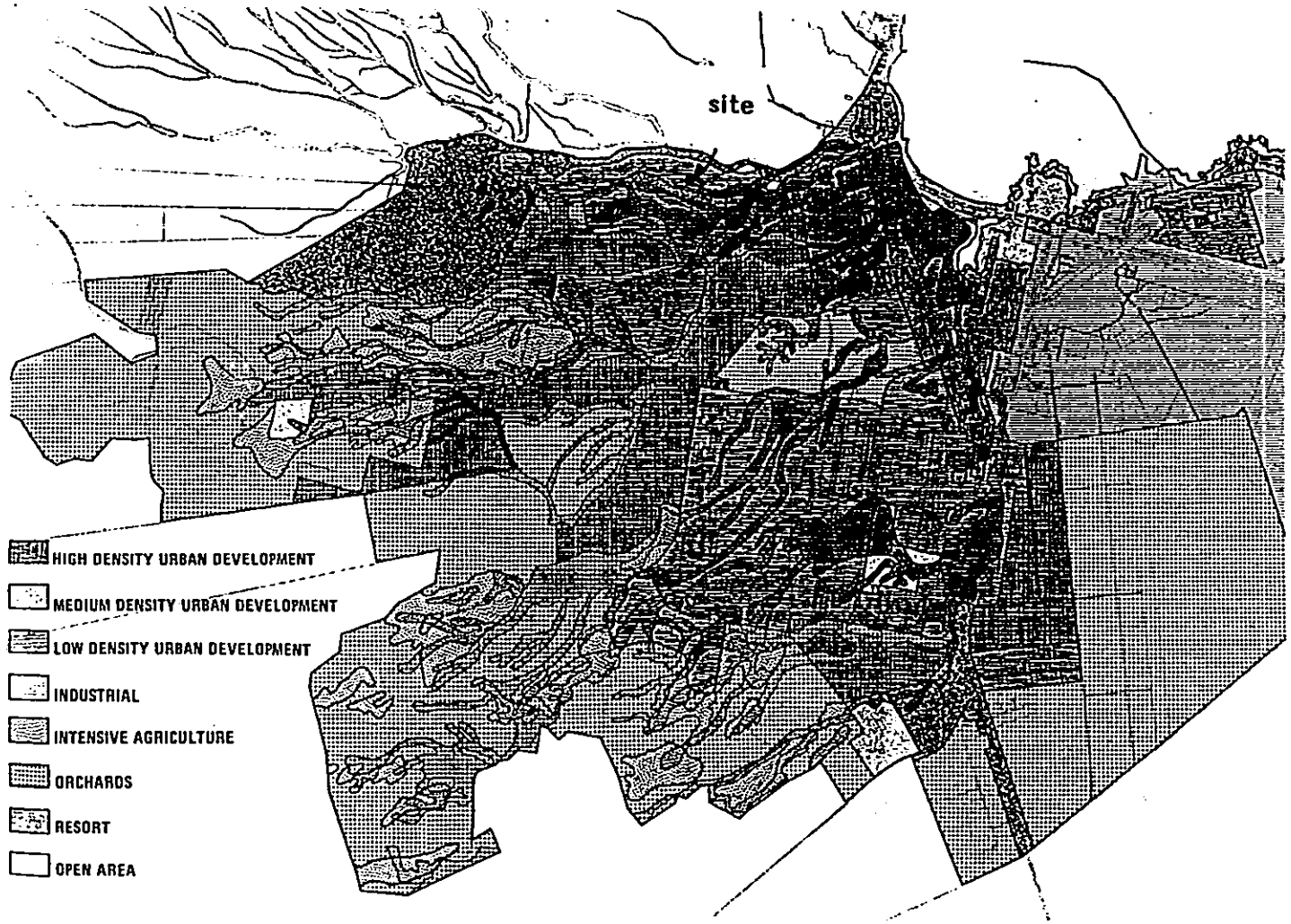

Figure 15. GENERAL PLAN LUPAG MAP

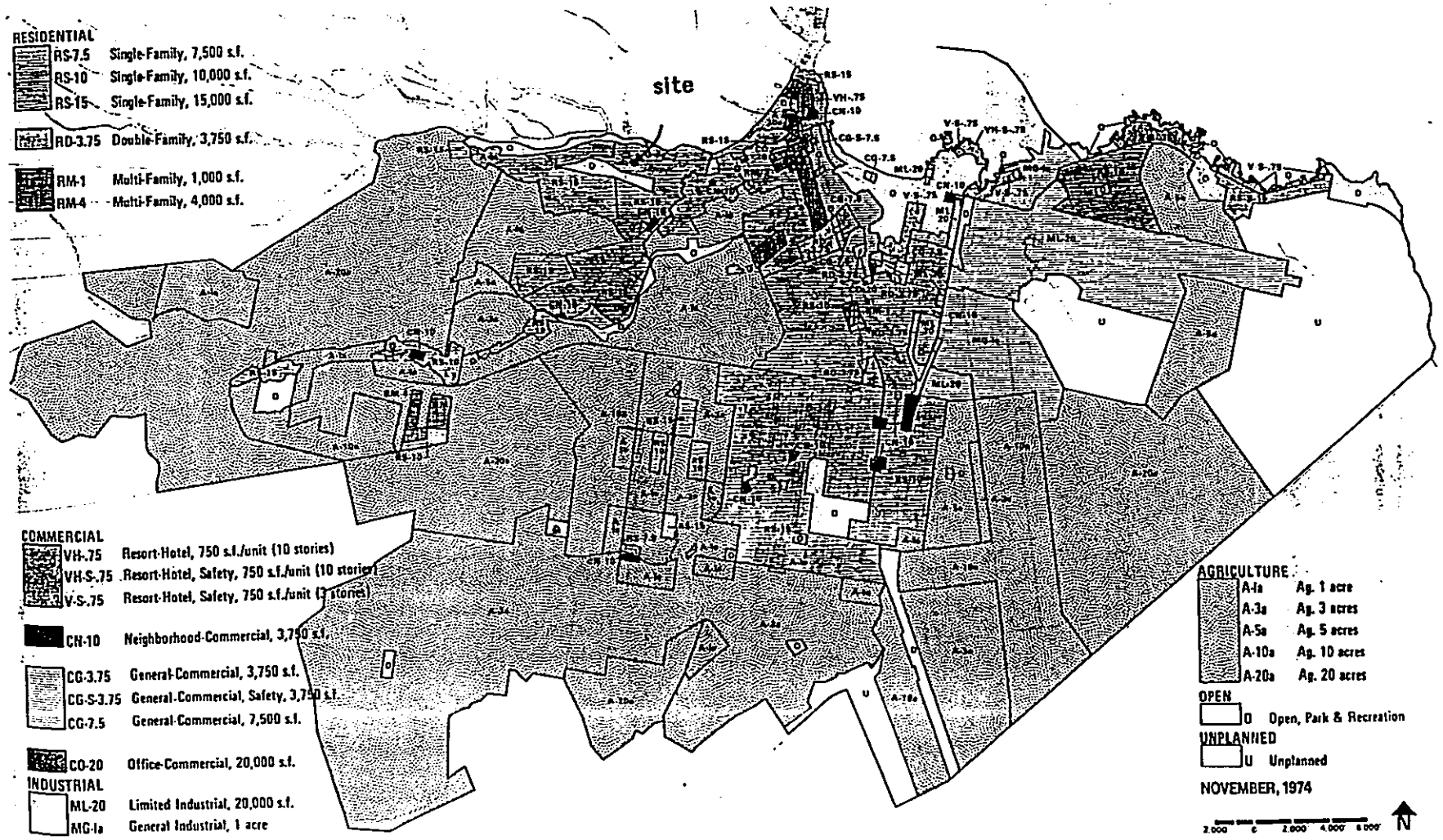

Figure 16. ZONING MAP

except Safety (S) and Open (O) districts.[34]

The Use Permit process involves a maximum 60-day review period by the Planning Department, a public hearing, and a maximum 60-day period from the public hearing closing date for the Planning Commission to make a decision.[35] The proposed project conforms with the Use Permit decision criteria as discussed below:

- *The proposed use will still be consistent with the general purpose of the zoned district, the intent and purpose of this chapter, and the County General Plan.* The general purpose of the RS district is to provide for low density residential areas. Since the proposed use is a type of residential facility for the segment of the population in need of assistance with daily living activities or require limited medical care, it is consistent with the residential purpose of this district. The low-scale design on a large lot provides extensive open space which is consistent with the low density character intended for this district. The project is consistent with the General Plan LUPAG map and policies as discussed in §4.3 above. The Hilo Hospital and Hilo Medical Group facility are other healthcare-related institutional uses that have been permitted in this General Plan low-density residential district.

- *The proposed use will not be materially detrimental to the public welfare nor cause substantial adverse impact to the community's character or to surrounding properties.* The surrounding uses are predominantly institutional or vacant land-- Hilo Hospital, Big Island Center for Independent Living, and Hospice of Hilo to the north; vacant land to the south; vacant land to the west; and private residences and a parking lot to the east. The proposed use is consistent with the institutional character of the surrounding uses. The proposed use will not detrimentally affect the private residences-- the traffic increase is insignificant (see traffic assessment in §3.3.1 above), the operations are quiet, and no air or water pollutants will be emitted.

- *The proposed use will not adversely affect similar or related existing uses within the surrounding area, community or region.* The proposed use will complement the Hilo Hospital by alleviating the use of acute care beds in the hospital by patients who require intermediate care but have no place else to go. Patients at the proposed facility whose condition have degraded to require acute care will have the Hilo Hospital facilities right across the street. The proposed facility with its staff of licensed and registered nurses satisfies the needs of a target group that requires more medical attention and is therefore different from the clientele of the existing independent care homes.

- *The proposed use will not unreasonably burden public agencies to provide roads and streets, sewer, water, drainage, schools, police and fire protection and other related infrastructure.* There will be no direct expenditure of public funds required to service the proposed project as discussed in §3.3 above. The proposed use will pay its proportionate share of operational costs for sewer, water, and other public facilities through the user fees and property taxes.

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[34]§25-28(a)(5), Hawaii County Code.

[35]Hawaii County Code §§25-29 and Rules of Practice and Procedure, County of Hawaii, Planning Commission, Rule 7 (Use Permit procedures and decision criteria).

4.5.2 *Bulk Regulations*

The proposed facility will conform with the zoning code requirements for height limit (35'), minimum building area (10,000 s.f.), minimum building site width (150'), minimum front and rear yards (25'), and minimum side yards (15') for a 9.17-acre lot in the RS-10 district.[36]

4.5.3 *Variance*

Due to the special circumstances relating to the reduced parking needs for a long-term care facility and the mitigation improvements to deal with the 100-year floodplain, the applicant may seek a variance from the off-street parking requirements.[37]

4.5.4 *Plan Approval*

Plan Approval would be required for any use established in the RS district.[38] The applicant will seek final Plan Approval of the construction drawings prior to the building permit application.

4.6 Health Facilities Plans and Approvals

Long Term Care Plan for Hawaii's Older Adults.[39] This Plan establishes a foundation of long-term care policies and programs. The Plan advocates the elders' preference for community-based, in-home care and establishes a policy to prevent and/or delay the need for institutional care. However, the Plan recognizes that institutional care is necessary for a segment of the growing elder population. The proposed facility provides institutional care in a residential setting to accommodate as much as possible the desires of the elder patients.

Health Services and Facilities Plan. The Health Services and Facilities Plan for the State of Hawaii (HSFP) provides for the most economical and efficient system of care by reducing or eliminating underutilized, redundant, or inappropriate health care facilities and services.[40] The State Health Planning and Development Agency (SHPDA) uses the Plan as a guide in reviewing Certificate of Need applications and in making recommendations regarding the expenditures of federal monies. The HSFP specifically addresses the need for long term care services. In March 1991, SHPDA issued updated long term care bed demand for the County of Hawaii. The projected demand for 1995 ranged from 444 to 725 beds. Because of Hawaii County's greater proportion of 65+ population compared to the statewide proportion, the higher projection of 725 beds is a conservative estimate. The supply in 1995 based on existing and approved beds is 521, resulting in a surplus demand of 204. The proposed 120-bed facility, therefore, will help to alleviate the projected surplus need identified in the HSFP.

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[36]Hawaii County Code §§25-121 (height limit), -122 (minimum building site area), -123 (minimum building site average width, -124 (minimum yards).

[37]Hawaii County Code §§25-22 to -27.2 (variance criteria and procedures); see also, Rules of Practice and Procedure, County of Hawaii, Planning Department, Rule 6 (Variances), March 1991.

[38]§25-242(a), Hawaii County Code.

[39]State of Hawaii, Executive Office of Aging, Long Term Care Plan for Hawaii's Older Adults, Revised 1988.

[40]Hawaii Revised Statutes §325D-15 (1985).

Certificate of Need Approval. The proposed construction of a SNF/ICF facility requires a Certificate of Need.[41] SHPDA issued its written approval of the project on March 30, 1993.

SNF/ICF License. The proposed facility will comply with the requirements to obtain State licensing of its facilities.[42]

4.7 FEMA Approval

The proposed flood control improvements will divert the 100-year flood around the proposed structures (refer to §3.1.3 above for further discussion of flood hazards and mitigation measures). The Department of Public Works does not require an amendment to the Flood Insurance Rate Maps (FIRM) to reflect these flood control improvements as a condition to issue a building permit. However, unless the FIRM is revised to reflect the improvements, lenders may require flood insurance. The revision process involves an application to FEMA requesting a Conditional Letter of Map Revision, which is an opinion by FEMA whether a proposed project would justify a map revision. If a revision is justified, the applicant would then request a Letter of Map Revision (LOMR), which is a letter from FEMA officially revising the current flood insurance map to show the changes to the floodplain. Because of the time and expense involved, a Physical Map Revision to reprint the flood insurance map is not usually processed unless the revision reflects increased flood hazards or large-scope changes.[43]

4.8 ADA Compliance

Because the proposed facility qualifies as a "commercial facility" under the definition of the Americans with Disabilities Act ("ADA"), the facility will be designed to conform with the ADA requirements for accessibility.

4.9 Other Permits and Approvals

Other applicable permits include the grading permit, building permit, and driveway permit.

5 DETERMINATION WITH SUPPORTING FINDINGS AND REASONS

The proposed healthcare facility is not expected to cause significant impacts to the environment, pursuant to the significance criteria established by the Environmental Council as discussed below;[44] therefore, the determination is to issue a negative declaration.

- *The proposed project will not involve an irrevocable commitment to loss or destruction to any natural or cultural resources.* The proposed site does not contain any significant

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[41]Hawaii Revised Statutes §§323D-42 to -55 (1985 & Supp. 1992); Hawaii Administrative Rules Chapter 11-186.

[42]Hawaii Administrative Rules, Chapter 11-94 (Skilled Nursing/Intermediate Care Facilities).

[43]Federal Emergency Management Agency (FEMA), Answers to Questions About the National Flood Insurance Program, March 1992; FEMA, Revisions to National Flood Insurance Program Maps: Application/Certification Forms and Instructions for Conditional Letters of Map Revision, Letters of Map Revision, and Physical Map Revisions, October 1992.

[44]Hawaii Administrative Rules, §11-200-12.

natural or cultural resources.

- *The proposed project will not curtail the range of beneficial uses of the environment.* Potentially sensitive surrounding uses include the neighboring county watershed reserve located to the south of the site and the private residences to the west of the site. These uses will not be adversely affected by any emissions or noise from the proposed project.

- *The proposed project will not conflict with the State's long-term environmental policies.* The proposed project will not conflict with the environmental policies set forth in Chapter 344, Hawaii Revised Statutes in that the design will be sensitive to aesthetic considerations, and open space will be maximized as much as possible.

- *The proposed project will not involve substantial secondary impacts, such as population changes or effects on public facilities.* The project serves the existing resident population of East Hawaii and will not induce population changes by attracting visitors or large numbers of those seeking employment.

- *The proposed project will not involve a substantial degradation of environmental quality.* There will be no significant degradation of air, water, or noise quality. The proposed project will enhance the visual character of the area compared to the existing use as a gravel parking lot.

- *The proposed project will not substantially affect any rare, threatened or endangered species of flora or fauna or habitat.* None of the flora or fauna species observed on the subject parcel are considered endangered or threatened.

- *The proposed project will not detrimentally affect air or water quality or ambient noise levels.* The proposed project will not produce any air emissions. Wastewater flows will be disposed via the county sewerage system. The drainage system will be designed in compliance with county and state regulations to protect the groundwater quality and not adversely impact downstream properties. Sitework will be in accordance with grading permit conditions to minimize erosion and non-point source pollution.

- *The proposed project is not located in an environmentally sensitive area (e.g., flood plain, tsunami zone, coastal area).* The project is located within a 100-year flood plain. However, mitigation measures will be undertaken to divert the storm flows around the proposed structures with an open lined channel. The applicant will seek review and approval from FEMA to amend the Flood Insurance Rate Map to reflect these flood control improvements.

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21. *Hawaii Revised Statutes*, Chapter 226 (State Plan) (Supp. 1992).

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30. County of Hawaii, Planning Department, *Rules of Practice and Procedure*.

APPENDIX A

Glossary of Long-Term Care Terminology

GLOSSARY OF LONG-TERM CARE TERMINOLOGY *

Activities of Daily Living (ADL): basic self-care activities, including eating, bathing, dressing, transferring from bed to chair, bowel and bladder control, and independent ambulation, which are widely used as a basis for assessing individual functional status.

Acute Care: medical care designed to treat or cure disease or injury, usually within a limited time period. Acute care usually refers to physician and/or hospital services whose duration is less than 3 months.

Adult Day Care: program designed to meet the social as well as minimum health needs of functionally or mentally impaired adults for the purpose of providing care, assistance, guidance or training essential for sustaining the activities of daily living in a protective setting during the day.

Adult Day Health Care: a day program similar in intent to Adult Day Care but also includes health and rehabilitative services as well as support services to restore or maintain to the fullest extent possible the individual's capacity for remaining in the community.

Adult Day Hospital: a program emphasizing intensive, relatively short-term rehabilitation and restorative services that do not require surgical intervention or inpatient care on a 24-hour basis. It provides medical monitoring and social services in a medical setting until the required rehabilitation and restorative services are no longer necessary.

Adult Residential Care Homes (ARCH): any facility providing 24-hour living accommodations, for a fee, to adults unrelated to the family, who require at least minimal assistance in the activities of daily living, but who do not need the services of an intermediate care facility. Also known as board and care homes.

Aged: generally refers to persons aged 65 and over, or 60 and over under the Older Americans Act.

Source: State of Hawaii, Executive Office of Aging, Long Term Care Plan for Hawaii's Older Adults, Revised 1988

Aging of the Population: the increasing proportion in the total population of older (age 65 and over) relative to younger (less than 65) persons. It is generally measured in percentage distribution by age group, but also measured in median age, the age at which 50 percent of the population is older and 50 percent is younger.

Allowable Costs: costs of operating a facility, which are reimbursable by the state under the state Medicaid program.

Alzheimer's Disease: the most common form of dementia, an organic brain disease leading to progressive loss of brain function and eventual death. The cause is unknown and there is no effective standard medical treatment.

Assistive Device: a tool, prosthesis, or adaptive equipment that helps an individual compensate for certain functional impairments, such as a hearing aid for hearing loss, glasses for vision loss, a cane to aid walking, or a universal cuff for difficulty in eating.

Average Per Diem State Rates: the average amount spent by a state for each Medicaid long-term care resident each day.

Bed-Fast, Bed-Bound: a condition in which one is confined to bed and not able to walk, sit, or move about independently.

Bed-to-Population Ratio: the number of beds certified for a specific health care service to every 1,000 persons in the group intended to use the service. For example, the number of SNF beds per 1,000 persons aged 65 and over.

Board and Care Homes: see Adult Residential Care Homes.

Case Management: a service that assists clients, families, and/or care providers to engage in a problem solving process of identifying needs, exploring optional solutions and mobilizing informal as well as formal supports to achieve the highest level of client independence. The five basic components of case management are:

- entry
- assessment
- case goal-setting and service planning
- care plan implementation
- review and evaluation of client and program status

Case-Mix Payments: a reimbursement system based on the principle that payment for services should take into account the illness level of the resident. Each resident is assessed at some standard time interval and receives services appropriate to those determined needs. The case mix model develops an average patient profile for each facility. The state then pays that average rate for all Medicaid residents in that facility. The case mix system model establishes a rate for each patient which is determined at each assessment.

Categorically Needy: under Medicaid, categorically needy cases are aged, blind, or disabled individuals or families and children who are otherwise eligible for Medicaid and who meet financial eligibility requirements for Aid to Families with dependent Children (AFDC), Supplemental Security Income (SSI), or an optional state supplement.

Ceiling Cap: highest allowable cost payable by the state under the state Medicaid program.

Certificate of Need (CON): a certification made by the state under P.L. No. 92-641 that determines that a certain health service is needed and authorizes a specific operator, at the operator's request, to provide that service.

Certification for Medicaid: the survey's determination regarding a Medicaid provider's compliance with health and safety requirements.

Certification for Medicare: a recommendation made by the state survey agency to the federal agency regarding the compliance of providers with the Conditions of Participation and Conditions of Coverage.

Chronic Condition: a physical or mental illness or disorder characterized by a long duration (usually more than 3 months) or frequent recurrence.

Class-Based or Flat-Rate Reimbursement Systems: rates set statewide or for groups of facilities in a particular state, based on the cost history of the entire group. The state may determine groups by geographic regions, size, ownership status, or any other characteristics it chooses.

Continuum of Care: a comprehensive system of long-term care services and support systems in the community, as well as in institutions. This includes 1)community services;

2)in-home services such as home-delivered meals, homemaker services, personal care, respite services; 3)community-based services such as day care/day health; 4) non-institutional housing arrangements such as shared housing and Adult Residential Care Homes; and 5) nursing homes.

Decertification or Termination: the process of suspending or revoking a health care facility's certification to participate in the Medicare and/or Medicaid programs.

Dementia: the loss of intellectual mental function, due to many different acute and chronic diseases, including Alzheimer's disease, which may affect the white matter and blood supply of the cerebrum.

Diagnosis-Related Groups (DRGs): a classification system that groups patients according to diagnosis, type of treatment, age, and other relevant criteria. In October 1983, Medicare instituted a prospective reimbursement system based on 467 DRGs. Under this system, hospitals are paid a set fee for treating patients in a single DRG category, regardless of the actual cost of care for the individual.

Disability: the inability to perform an activity in the manner or in the range considered normal because of physical or mental impairment.

Discharge Planning: A centralized, coordinated program developed by a hospital or nursing home to ensure that each patient has a planned program for needed, continuing or follow-up care once they leave the health facility.

Distinct Part Facility: a nursing home which is certified by the state agency to provide both skilled and intermediate care in separate designated areas of the facility.

Expenditure: under Medicaid, an amount paid out by a state agency for the covered medical expenses of eligible participants.

Facility-Specific Reimbursement Rates: rates set for each facility based on its cost history.

Functional Dependence: the inability to attend to one's own needs, including the basic activities of daily living. Dependence may result from the changes that accompany natural aging, or from a disease or related pathological condition.

Functional Impairment: inability to perform basic self-care functions such as eating, dressing, and bathing, or instrumental activities of daily living, including home management activities such as cooking, shopping, or cleaning, because of a physical, mental, or emotional condition.

Handicap: a disadvantage resulting from a physical or mental impairment or disability that limits or prevents the fulfillment of a role that is normal (for that individual) in a given environment.

Heavy-Care Residents: residents of skilled or intermediate care facilities who require a great deal of attention for medical care, nursing care, and/or assistance with activities of daily living. Bed-fast or severely demented residents are examples of heavy-care residents.

Home Care: medical, social, and supportive services provided in the home, usually intended to maintain independent functioning and avoid institutionalization.

Home Health Agency (HHA): a public or private organization providing skilled nursing services, other therapeutic services and other assisting services in the patient's home, and which meets certain conditions to ensure the health and safety of the individuals who receive the services.

Hospice Care: care that addresses the physical, spiritual, emotional, social and legal needs of the dying patient and his family. Hospice can be provided by a team of professionals and volunteers in a variety of settings, both inpatient and at home, and includes bereavement care for the family.

Impairment: a physical or mental abnormality that can be readily identified or diagnosed.

Instrumental Activities of Daily Living (IADL): home management and independent living activities such as cooking, cleaning, using a telephone, shopping, doing laundry, providing transportation, and managing money.

Intermediate Care Facility (ICF): an institution furnishing health-related care and services to individuals who do not require the degree of care provided by hospitals or skilled nursing facilities as defined under Title XIX (Medicaid) of the Social Security Act.

Intermediate Care Facility/Mentally Retarded (ICF/MR): a living arrangement for mentally retarded/developmentally disabled individuals in a facility where care, active treatment, and training are provided by a trained staff.

Intermediate Sanctions: penalties short of termination of a facility's Medicaid or Medicare contract, which are imposed by states against health care facilities found to be out of compliance with state or federal regulations.

Key Indicators: measures of quality of care and quality of life which focus on care given to residents, the results (outcome) of such care, and the manner (process) in which the care is given, for example, use of certain drugs, and incidence of infections and bedsores.

Level of Care: the amount of medical care and assistance with activities of daily living needed by individuals in a group. Traditionally, level of care refers to the SNF and ICF groups.

Life Care/Continuing Care Communities: communities that provide a range of services for older adult residents, including homes or apartments for independent living, home care services, infirmary, and sometimes nursing home services. Payment of an initial membership or entrance fee and a monthly fee guarantees the individual most types of health and social services for the rest of his/her life.

Life Expectancy: a measure of the average remaining years of life at specified ages for different subgroups (for example, by sex and race) of a population.

Long-Term Care: a variety of ongoing health and social services provided for individuals who need assistance on a continuing basis because of physical or mental disability. Services can be provided in an institution, the home, or the community, and include informal services provided by family or friends as well as formal services provided by professionals or agencies.

Long-Term Care Facility: any skilled nursing facility, intermediate care facility, nursing home, adult residential care home, or similar institution regulated by a state.

Medicaid: a federal/state program, authorized by Title XIX of the Social Security Act, to provide medical care for low-income individuals. Federal regulations specify mandated services, but states can determine optional

services and eligibility standards. The Federal government's share of costs ranges from 50 to 78 percent and is based on per capita income in the state.

Medicaid Retrospective Reimbursement Systems: state reimbursement systems in which a facility's costs are reimbursed after the expenditure. Each state may have different allowable costs and ceilings, and may vary costs by factors such as region or size of facility.

Medically Needy: under Medicaid, medically needy cases are aged, blind, or disabled individuals or families and children who are otherwise eligible for Medicaid, and whose income resources are above the limits for eligibility as categorically needy (AFDC or SSI) but because of their medical problem are considered within limits set under the Medicaid state plan.

Medicare: a federally funded health insurance program authorized by Title XVIII of the Social Security Act to pay for medical care for elderly and disabled beneficiaries. Medicare reimburses part of the costs for acute care and some types of long-term care. Beneficiaries pay an annual deductible and co-payments for most covered services. The program is divided into two sections: Part A, which covers hospital and inpatient physicians' services, and an optional Part B, which covers outpatient physician and some other outpatient services.

Nurse's Aide, Nursing Aide, Nursing Assistant: people who, under the supervision of a licensed nurse, provide medical care and assistance with activities of daily living to residents, and who are not themselves licensed to independently provide care.

Nursing Home: a residential long-term care facility that provides 24-hour care, skilled nursing care, and personal care on an inpatient basis. Also called skilled nursing facilities(SNF) and intermediate care facilities(ICF).

Ombudsman: a state representative or a representative of a public agency or a private nonprofit organization (which is not responsible for licensing or certifying long-term care services) who (1) investigates and resolves complaints made by or on behalf of older individuals who are residents of long-term care facilities relating to administrative action that may adversely affect the health, safety, welfare, and rights of such residents; (2) monitors the development and

implementation of federal, state, and local laws, regulations, and policies with respect to long-term care facilities in that state; (3) provides information as appropriate to public agencies regarding the problems of older individuals residing in long-term care facilities; and, (4) carries out such other activities as the State deems appropriate.

Outcome Measurement: examination of the results of a service in order to determine the quality of the service provided.

Out-of-Pocket Expenditures: amounts not covered by any third-party payor that must be paid directly by the consumers, out of their own pockets.

Plan of Correction: the form by which a facility documents its procedures and time frame for correcting violations of certification regulations cited by the state survey agency.

Policies/Policy Options: written rules or uncodified practices that govern the behavior of institutions or groups of people. Policy options are possible changes in such rules or practices that can alter behavior and lead to different outcomes. (Public Policy Center, SRI International).

Process Measurement: the examination of methods of providing a service in order to evaluate the quality of the service provided.

Professional Standards Review Organization (PSRO): a physician or other professional medical organization (consisting of physicians and other health professionals with independent admitting hospital privileges) that enter into an agreement with the U.S. Department of Health and Human Services to assume the responsibility for the review of the quality and appropriateness of services covered by Medicare, Medicaid, and the Maternal and Child Health Program. PSROs determine whether services are medically necessary, provided in accordance with professional standards, and, in the case of institutional services, rendered in the appropriate setting.

Prospective Reimbursement Systems: systems in which the day rate or line-item rate is set beforehand, based on a formula that takes into account historical expenditures. Typically these systems are adjusted annually and use an inflation or similar factor as the basis for future adjustment.

Rehabilitation: social or medical care designed to restore patients to their former capacity or to a condition of health or independent activity.

Retrospective Reimbursement Systems: systems in which the amount of reimbursement is based on the cost of the services already provided. These amounts are usually controlled or limited by a cap, a ceiling, or percent of actual costs incurred.

Respite Services: services provided on a short-term basis to a dependent person whose caregiver is temporarily unavailable or in need of a break from caregiving. Respite includes a variety of services such as personal care, friendly visiting or watchful oversight and may be provided in the home or an alternative setting such as a nursing home.

Skilled Nursing Facility (SNF): defined by the federal government as an institution that has a transfer agreement with one or more participating hospitals, and that is primarily engaged in providing skilled nursing care and rehabilitative services to inpatients, and that meets specific regulatory certification requirements.

Spend-Down: under the Medicaid program, a method by which an individual establishes Medicaid eligibility by reducing gross income through incurring medical expenses until net income (after medical expenses) meets Medicaid financial requirements. A resident spends down when she/he is no longer sufficiently covered by a third-party payor (usually Medicare) and has exhausted all personal assets. The resident then becomes eligible for Medicaid coverage.

State Medicaid Plan: a comprehensive written commitment by a Medicaid agency to administer or supervise the administration of a Medicaid program in accordance with federal requirements.

Supplemental Security Income (SSI): a program of income support for low-income aged, blind, and disabled persons, established by Title XVI of the Social Security Act.

Title III of the Older Americans Act: federal legislation that provides funding to states for development and coordination of services for the elderly. The Administration on Aging allocates Title III funds to states primarily on the basis of the proportion of each state's population aged 60 and over.

Waivers: exemption from meeting a particular regulatory requirement. Waivers for certification requirements may be given by states to facilities. Waivers for program requirements may be given by the federal government to states.

ACRONYMS AND INITIALISMS USED IN LONG-TERM CARE

AAA	- Area Agency on Aging
AAHA	- American Association of Homes for the Aging
AARP	- American Association of Retired Persons
ADL	- Activities of Daily Living
AHCA	- American Health Care Association
AoA	- Administration on Aging
ARCH	- Adult Residential Care Homes
DRG	- Diagnosis-Related Group
HCFA	- Health Care Financing Administration (U.S. Department of Health and Human Services)
HHA	- Home Health Agency
ICF	- Intermediate Care Facility
ICF/MR	- Intermediate Care Facility for the Mentally Retarded
JCAH	- Joint Commission on Accreditation of Hospitals
NIA	- National Institute on Aging
OAA	- Older Americans Act
SNF	- Skilled Nursing Facility
SSA	- Social Security Administration
SUA	- State Unit on Aging
SSI	- Supplemental Security Income
UR	- Utilization Review
VA	- U.S. Veterans Administration

* Adapted from Institute of Medicine. Improving the Quality of Care in Nursing Homes. National Academy of Science Press: Washington, D.C.: 1986.

APPENDIX B

Archaeological Letter Report

JOHN WAIHEE
GOVERNOR OF HAWAII

WILLIAM W. PATY, CHAIRPERSON
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STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96813

March 12, 1993

LOG NO: 7716
DOC NO: 9303KS03

Robert L. Spear
Scientific Consultant Services, Inc.
47-269 D Hui Iwa Street
Kaneohe, Hawaii 96744

Dear Dr. Spear:

SUBJECT: **Review of "An Archaeological Inventory Survey for the Hilo Health Care Center, Island of Hawaii (TMK: 2-3-31: 1)". Spear 1993**
Piihonua, South Hilo, Island of Hawaii
TMK: 2-3-31: 001

Thank you for submitting the subject report to our office for review. The report was received on February 23, 1993.

Our office concurs with the findings of the report that no historic sites are located in the project parcel due to the extensive historic period land alterations associated with the sugar cane production. Hence, any project in the subject parcel will have "no effect" on significant historic sites.

If you should have any further questions, please contact Kanalei Shun at 587-0047.

Sincerely,

DON HIBBARD, Administrator
State Historic Preservation Division

KS:bek

AN ARCHAEOLOGICAL INVENTORY SURVEY
FOR THE HILO HEALTH CARE CENTER
ISLAND OF HAWAI'I
(TMK: 2-3-31:1)

By

Robert L. Spear, Ph.D.

February, 1993

For

Mr. Roy Takemoto

SCIENTIFIC CONSULTANT SERVICES Inc.

47-250 D HUI IWA STREET KANEOHE, HAWAII 96744

INTRODUCTION AND SETTING

At the request of Mr. Roy Takemoto, an Archaeological Inventory Survey has been conducted by Scientific Consultant Services on approximately 9.5 acres located at TMK: 2-3-31:1 and 2-3-32:1, Piihonua ahupua'a, South Hilo District, Island of Hawai'i (Figure 1). The purpose of this survey was to determine the presence or absence of cultural remains in the project area. The fieldwork was carried out on January 25, 1993 by Lisa Anderson (Field Assistant) and Robert L. Spear, Ph.D. (Principal Investigator).

This 9.5 acre project area was located in the town of Hilo immediately south of Waianuenue Avenue, bordered on the east and west by other land parcels, and to the south by a portion of the Hilo Watershed Reservation (Figure 2). Vegetation was limited to waste high grass, one stand of bananas, trees, and small amount of sugar cane. A large portion of the property is taken up by a gravel parking lot (Figures 3 and 4).

HISTORICAL AND ARCHAEOLOGICAL FRAMEWORK

A review of the Land Commission Award (LCA) books found no LCA's within or near the project area (n.d.).

A search of the records at the State Historic Preservation Office found that the recorded sites in the immediate area of the project were post-Contact sites such as Old Hilo Hospital (site

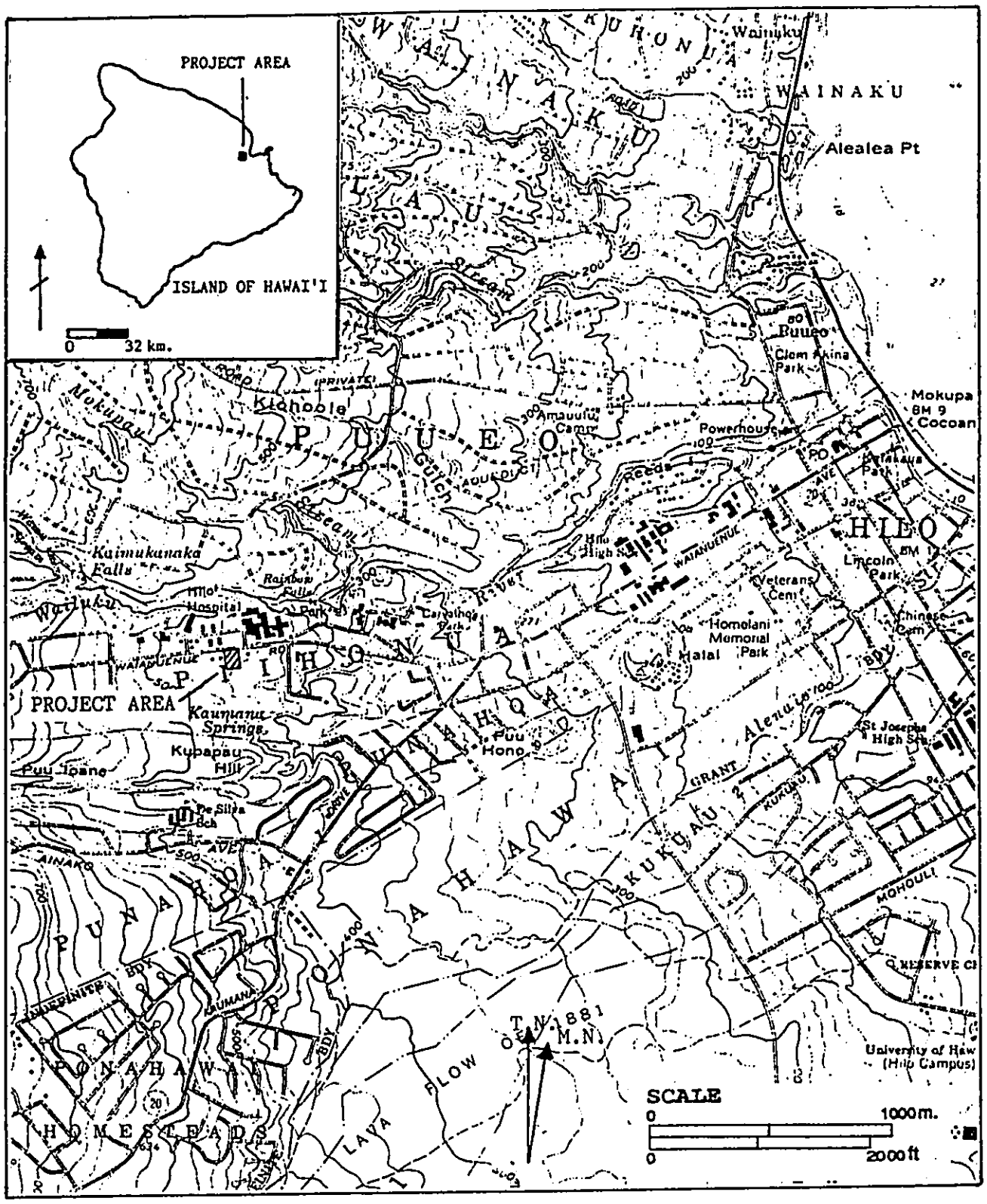


FIGURE 1: USGS HILO QUADRANGLE SHOWING PROJECT AREA (SHADED)

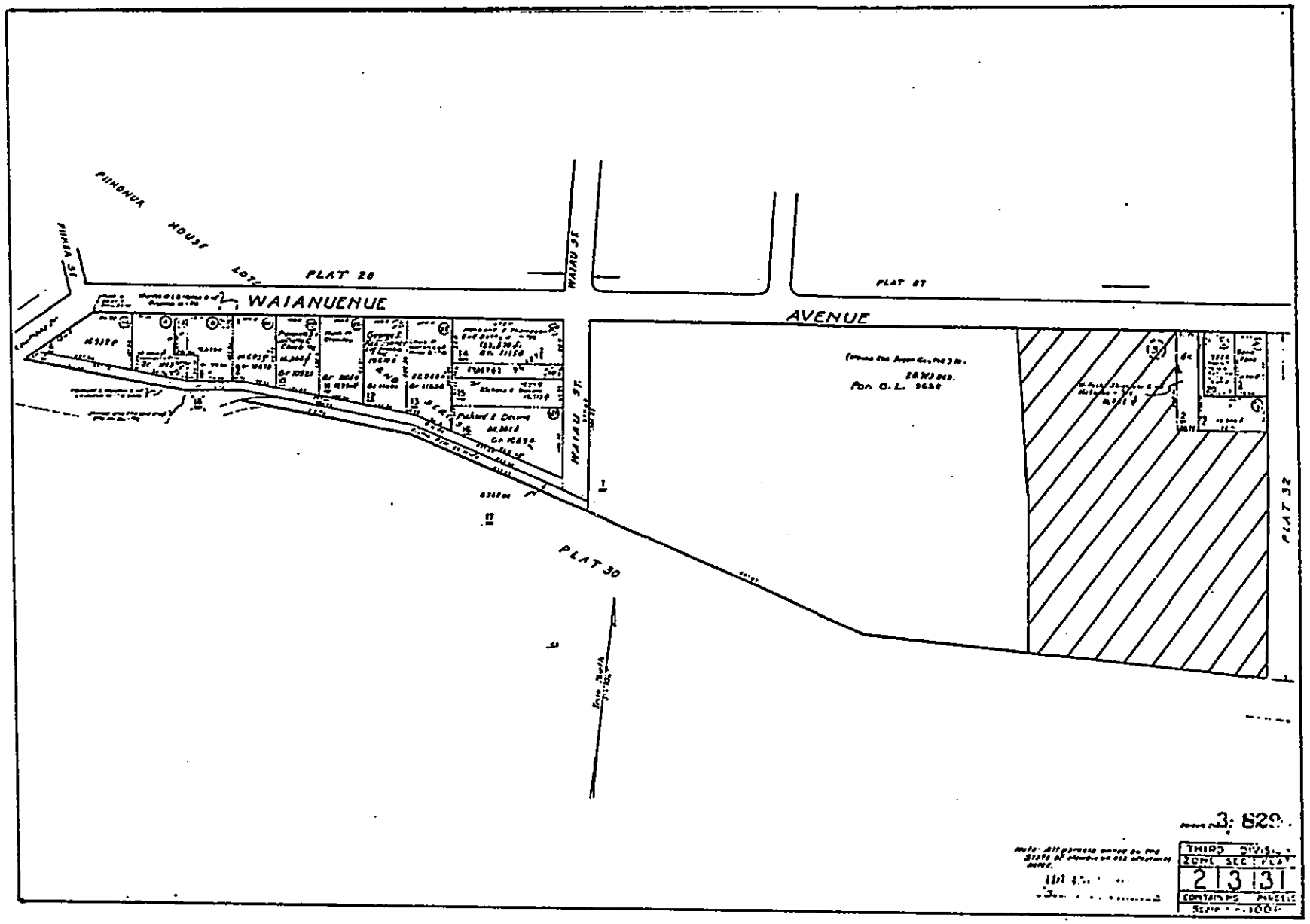


FIGURE 2: TAX MAP KEY 3-2-3-31:1 SHOWING PROJECT AREA. (SHADED)

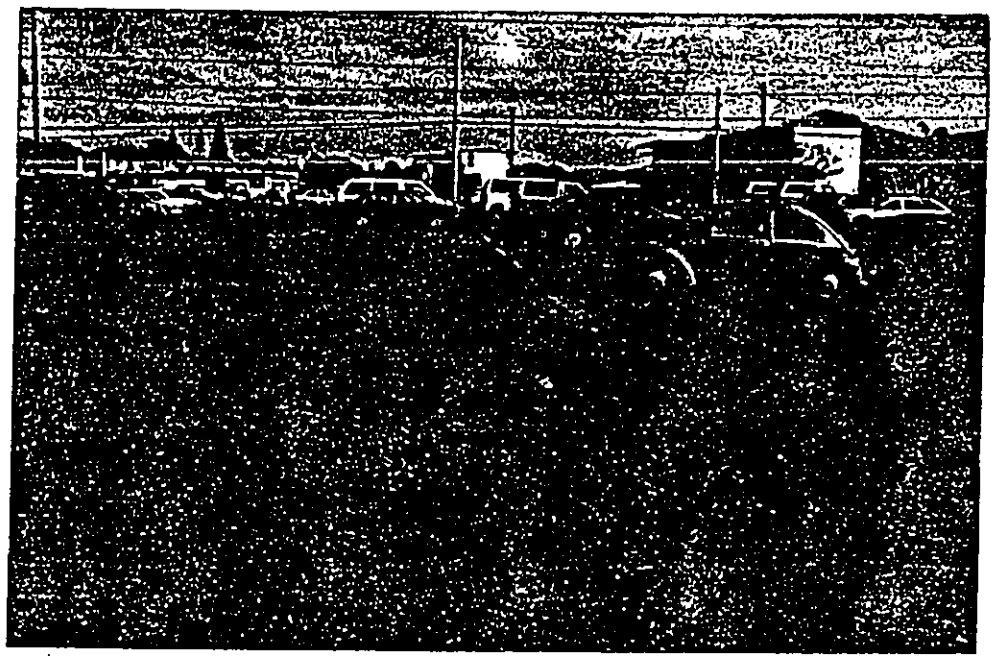


FIGURE 3: GENERAL VIEW OF GRAVEL PARKING LOT IN PROJECT AREA, LOOKING NORTH

FIGURE 4: VIEW OF TREE LINE IN PROJECT AREA, LOOKING SOUTH .

7450), a portuguese oven (site 7482), Hilo County Jail (site 7457), a section of free standing wall associated with sugarcane production (site 18,443), and a short retaining wall also associated with sugar cane production (site 18,444).

No previous archaeological work has been carried out in the project area. The closest previous work to the present project area was done by Spear (1992) on a parcel less than a quarter of a mile to the east. Spear's work recorded two historic sites. Reports have also been generated for work done along nearby Alenaio Stream (Kelly and Athens 1982, Wickler 1990, Wickler and Ward 1992). The work associated with Alenaio Stream found no evidence of pre-Contact cultural deposits during testing and no artifacts earlier than the last quarter of the 19th century.

A broader view of the settlement history of the Hilo area and the archaeological potential of the present project area can be found in McEldowney (1979). McEldowney researched archaeological and historical materials and proposed zones of early historic-period land use. The present project area falls into Zone II an Upland Agricultural Zone (McEldowney 1979:18-25). This zone contained "Scattered huts, emphasized by adjacent garden plots and small groves of economically beneficial trees species, dotted this expanse up to 1,500 ft elevation" (McEldowney 1979:18). Dry-land taro was planted more extensively in the upland zone than on the coast and bananas were more numerous. Wet-land taro occurred along small streams, tributaries, and rivers (McEldowney 1979:19). Thus, we might expect pre-Contact archaeological features to include agricultural and habitational features.

However, historic period alterations of the environment and settlement patterns, especially those caused by sugar cane production and managed cattle ranches have greatly affected the preservation of pre-Contact archaeological features in the Hilo area.

Hudson, who carried out the earliest archaeological survey of the Hilo region, noted that no archaeological remains were to be found in the city (Hudson 1932:226). Goodfellow and Fager found that Hudson's statement was generally supported by archaeological field work undertaken in the South Hilo District during the last decade (Goodfellow and Fager 1992:4).

Due to the extensive historic alterations in the Hilo area it is more likely that remains of post-Contact archaeological features would be encountered in the project area.

METHODOLOGY

The purpose of this inventory survey was to complete a surface reconnaissance of the project area and identify and test any likely subsurface deposits. The surface survey was conducted by walking transects across the project area with the surveyors no more than 5 m apart because of the difficulty in viewing the ground.

Records were kept through the use of a black and white photo record and fieldnotes. All project materials are stored at the office of Scientific Consultant Services, Kaneohe, Hawai'i.

FIELDWORK RESULTS

The surface survey found no evidence of significant archaeological features. Except for a narrow and shallow drainage, the ground surface was very flat. No architectural features were present nor were there any surface indications of sub-surface features.

DISCUSSION

The project area falls into McEldowney's Upland Agricultural Zone. Pre-Contact features that were felt to be possible included agricultural and habitational features. No such features were identified in the project area. Post-Contact alterations of the landscape may include the narrow drainage although it is not clearly a humanly manufactured feature.

Based on the results of this project it is recommended that no further archaeological work be required.

REFERENCES CITED

Award Books

n.d. Award Books (with maps of each LCA parcel), on file, Division of Land Management, State of Hawai'i.

Goodfellow, Susan and Mikele Fager

1992 "Archaeological Inventory Survey Kaumana Property, Land of Ponahawai, South Hilo District, Island of Hawaii (TMK:3-2-5-03:27)", PHRI, January.

Hudson, Alfred E.

1932 "Archaeology of East Hawaii", Ms. in Dept. of Anthropology, Bishop Museum, Honolulu.

Kelley, Marion and J. Stephen Athens

1982 "Archaeological and Historical Studies for the Alenaio Stream Flood Damage Reduction Study, Hilo, Hawaii", Report prepared for U.S.Army Crops of Engineers, Pacific Ocean Division, Ft. Shafter, Hawai'i. Dept. of Anthropology, Bishop Museum, Honolulu.

McEldowney, Holly

1979 "Archaeological and Historical Literature Search and Research Design: Lava Flow Control Study, Hilo, Hawai'i", Dept. of Anthropology, Bishop Museum, Prepared for the U.S. Army Engineer District, Pacific Ocean.

Spear, Robert L.

1992 "An Archaeological Survey for the H.C.E.O.C. Project, Hilo, Island of Hawai'i (TMK:2-3-32:1B)", Scientific Consultant Services, Kaneohe, HI.

Wickler, Stephen

1990 "Archaeological Subsurface Test Excavations for Alenaio Stream Flood Damage Reduction Measures, Hilo, Island of Hawai'i", Report prepared for U.S. Army Corps of Engineers, Pacific Ocean Division, Ft. Shafter, Hawai'i, IARI, Inc., Honolulu.

Wickler, Stephen and Jerome Ward

1992 "Archaeological and Paleoenvironmental Investigations , Alenaio Stream Flood Control Project, Hilo, Hawai'i Island", Report prepared for U.S. Army Corps of Engineers, Pacific Ocean Division, Ft. Shafter, Hawai'i, IARI, Inc., Honolulu.

APPENDIX C

Traffic Assessment Report

TRAFFIC ASSESSMENT REPORT
HILO HEALTHCARE CENTER
HAWAII COUNTY ECONOMIC OPPORTUNITY COUNCIL FACILITY

HILO, HAWAII

prepared by: Julian Ng, Inc.
February 1993

The potential traffic impacts of two projects along the south side of Waianueanue Avenue in the vicinity of Hilo Hospital (Exhibit 1) were assessed to determine the cumulative impacts of the projects, and to identify any additional improvements that may be needed to Waianueanue Avenue. The site for the proposed Hilo Healthcare Center, west of the main Hilo Hospital parking lot and on the opposite side of the street from the hospital, is presently used for employee parking. The site for the Hawaii County Economic Opportunity Council (HCEOC) facility, located on the same side of the street but closer to downtown Hilo, is presently undeveloped.

Existing Traffic Conditions

Waianueanue Avenue in the vicinity of the proposed projects is a two-lane roadway, generally following an east-west orientation with a posted speed limit of 35 miles per hour. It provides vehicular access to the Hilo Hospital complex and the adjoining related medical uses. Waianueanue Avenue also is the primary access for nearly 200 residences in the upper Kaumana/Piihonua areas of Hilo and for two visitor attractions, the Rainbow Falls and Pe`epe`e Falls ("Boiling Pots") lookouts of the Wailuku River State Park. Access to County offices and the existing HCEOC offices located at the old hospital is by way of Rainbow Drive, which intersects Waianueanue Avenue approximately 300 feet east of the proposed HCEOC facility.

In the vicinity of Hilo Hospital, numerous driveways provide access into parking and loading areas on the hospital (north) side of the street. On the south of the street are several single-family residences, a paved parking lot for the hospital, and two graveled lots used by hospital employees. A traffic signal assists pedestrians crossing the street at a crosswalk in front of the paved parking lot. Also nearby on the north side and to the west of the hospital are the Hilo Medical Group offices and a protestant church.

Farther west is a residential area. Alternative routes are available to reach Kaumana Drive, via Akolea Drive or Lahe Street/Ainako Avenue. For most residents of the area, however, Waianueanue Avenue provides a direct link to downtown (and the rest of) Hilo.

To the east, the two-lane Waianueanue Avenue intersects with Kaumana Drive/Waianueanue Avenue, a four-lane roadway running southwest to northeast. A recent traffic count taken by the State Highways Division at this intersection shows a daily volume of about 8,700 vehicles per day (vpd) on the two-lane west leg. Peak hourly volume was about 700 vehicles per hour (vph). The traffic count data for the west leg of this intersection are shown in Table 1.

Table 1
TRAFFIC COUNTS

Station 18-B, Waianueanue Avenue west of Kaumana Drive

	Eastbound	Westbound
24-hour (July 14-15, 1992)	4,124	4,544
AM Peak Hour (7:15-8:15 AM)	282	380
PM Peak Hour (3:15-4:15 PM)	374	321

Source: State of Hawaii, Department of Transportation, Highways Division, *Traffic Survey Data (Individual Stations) - Island of Hawaii 1992.*

Traffic volumes on Waianueanue Avenue fronting the HCEOC site are less because of movements to Rainbow Drive and are estimated to be between 70% and 95% of the volumes just west of Kaumana Drive. In front of the Hilo Healthcare Center site, volumes are further lessened by parking areas for employees and visitors of the Hilo Hospital complex. For an estimated 25% of the traffic generated by Hilo Hospital traveling beyond (farther west), volumes would be between 35% and 80% of those counted near Kaumana Drive.

Future Traffic

Historically, traffic on Waianueanue Avenue has increased. Regression analysis ("best-fit") of two-way 24-hour counts taken over the past ten years (Table 2 - a probable machine malfunction produced unacceptable results in 1990) provides a compounded growth rate of 2.4% per year.

Table 2
TRAFFIC TREND

Station 18-B, Waianueanue Avenue west of Kaumana Drive

Count taken:	March 1982	July 1984	October 1986	April 1988	July 1992
24-hour count:	6,519	7,232	7,496	6,959	8,668

Source: State of Hawaii, Department of Transportation, Highways Division, *Traffic Survey Data (Individual Stations) - Island of Hawaii 1992.*

Project Traffic

The proposed Hilo Healthcare Center will provide long-term intermediate care and skilled nursing facilities for the elderly. The facility will have 44,365 square feet of floor area with 120 beds and employ up to 70 persons in three shifts. Traffic estimates were based on tabulated data and suggested methods for estimating traffic generation for various land uses, including nursing homes, from the Institute of Transportation Engineers (ITE). Various methods were used, applying average rates or equations to the floor area, the number of occupied beds, or the number of employees, to produce daily traffic estimates (sum of in and out) ranging from 282 to 312 vpd, AM Peak Hour volumes of between 18 and 26 vph, and PM Peak Hour volumes of between 16 and 34 vph. The highest of these estimates are less than 5% of the existing traffic counted at the west leg of the Waianueanue Avenue/Kaumana Drive intersection.

The HCEOC facility will relocate the present offices in the old hospital off of Rainbow Drive north of Waianueanue Avenue to new offices south of Waianueanue Avenue. This action is not expected to increase traffic volumes in the area, but will relocate one terminus of some of the trips. Driveway volumes in the AM Peak Hour were estimated to be 41 vph based on the number of employees and 59 vph based on floor area, using the ITE's equations for office buildings; afternoon volumes were estimated to be 46 vph (employee) or 61 vph (floor area).

The entering and exiting traffic estimates for each site include employees, deliveries, and other visitors. The highest estimates described above were used in the traffic assignments. The distribution of the driveway movements were estimated to be 97% to the east (most of Hilo) and 3% to the west (upper Kaumana and Piihonua) based on the locations of dwelling units in the South Hilo District. Exhibit 2 shows the traffic assignments for 1994 assuming both of the proposed projects are completed and in full use.

Capacity Analyses

The traffic volumes generated by each project are assumed to be served at a single driveway. Each driveway was analyzed using the Unsignalized Intersection Analysis procedure from the *Highway Capacity Manual* to determine peak hour conditions. The analysis determines the capacity of the left turn into the side street (or driveway) and the capacity of the exiting movement by estimating the number of adequate gaps available in the uncontrolled movements at the intersection (driveway). The volumes wishing to make these movements are deducted from the capacity, and the difference, or "reserve capacity" determines a level of service. Table 3 summarizes the level of service criteria. Table 4 summarizes the findings of the analyses, assuming that left and right turns from driveways share a single lane.

Table 3
LEVEL OF SERVICE CRITERIA

Reserve Capacity	Level of Service	Expected Delay to Controlled Movement
≥400	A	Little or no delay
300 - 399	B	Short traffic delays
200 - 299	C	Average traffic delays
100 - 199	D	Long traffic delays
0 - 99	E	Very long traffic delays

Source: *Highway Capacity Manual*, Table 10-3

Table 4
DRIVEWAY LEVELS OF SERVICE

	Reserve Capacity	Level of Service
AM Peak Hour		
Left turn into Hilo Healthcare Center	951	A
Shared driveway lane out of center	858	A
Left turn into HCEOC	862	A
Shared driveway lane out of HCEOC	807	A
PM Peak Hour		
Left turn into Hilo Healthcare Center	969	A
Shared driveway lane out of center	831	A
Left turn into HCEOC	849	A
Shared driveway lane out of HCEOC	653	A

As indicated above, each driveway would have adequate capacity to accommodate all movements at a good level of service. Little or no delay would be expected for the movements which would stop or yield to oncoming traffic.

The potential delay to through traffic behind vehicles waiting to make left turns into the driveway was analyzed to determine if auxiliary lanes are justified. These lanes would allow vehicles waiting to turn left to wait out of the through lane. The American Association of State Highway and Transportation Officials (AASHTO) refers to a 1967 research article which suggests a procedure to warrant, or justify, the

installation of left turn storage lanes on two-lane roadways. For a roadway with a 40 mile-per-hour operating speed, left turn lanes would be warranted if the probability that a left turning vehicle will delay vehicles following it exceeds 2 per cent. The analysis show that none of the traffic assignments would warrant separate left turn storage lanes.

Conclusions and Recommendations

The highest estimates of traffic generated by the proposed Hilo Healthcare Center were used in an analysis which found that there will be little or no delay at a single driveway for the project. Separate left turn lanes are not warranted by the peak hour traffic volumes at the driveway. The project has the potential of increasing traffic volumes on Waianueanue Avenue, west of Kaumana Drive, by less than five percent, compared to a historic average growth rate of 2.4% per year.

The HCEOC facility will change traffic movements in the area but is not expected to increase traffic on Waianueanue Avenue. Some of the traffic now using Rainbow Drive would relocate to the project driveway. Analysis of the unsignalized intersection formed by the new facility's driveway and Waianueanue Avenue found that there will be little or no delay to driveway movements, and while peak hour volumes are higher than at the Hilo Healthcare Center, a separate left turn storage lane on Waianueanue Avenue would not be warranted.

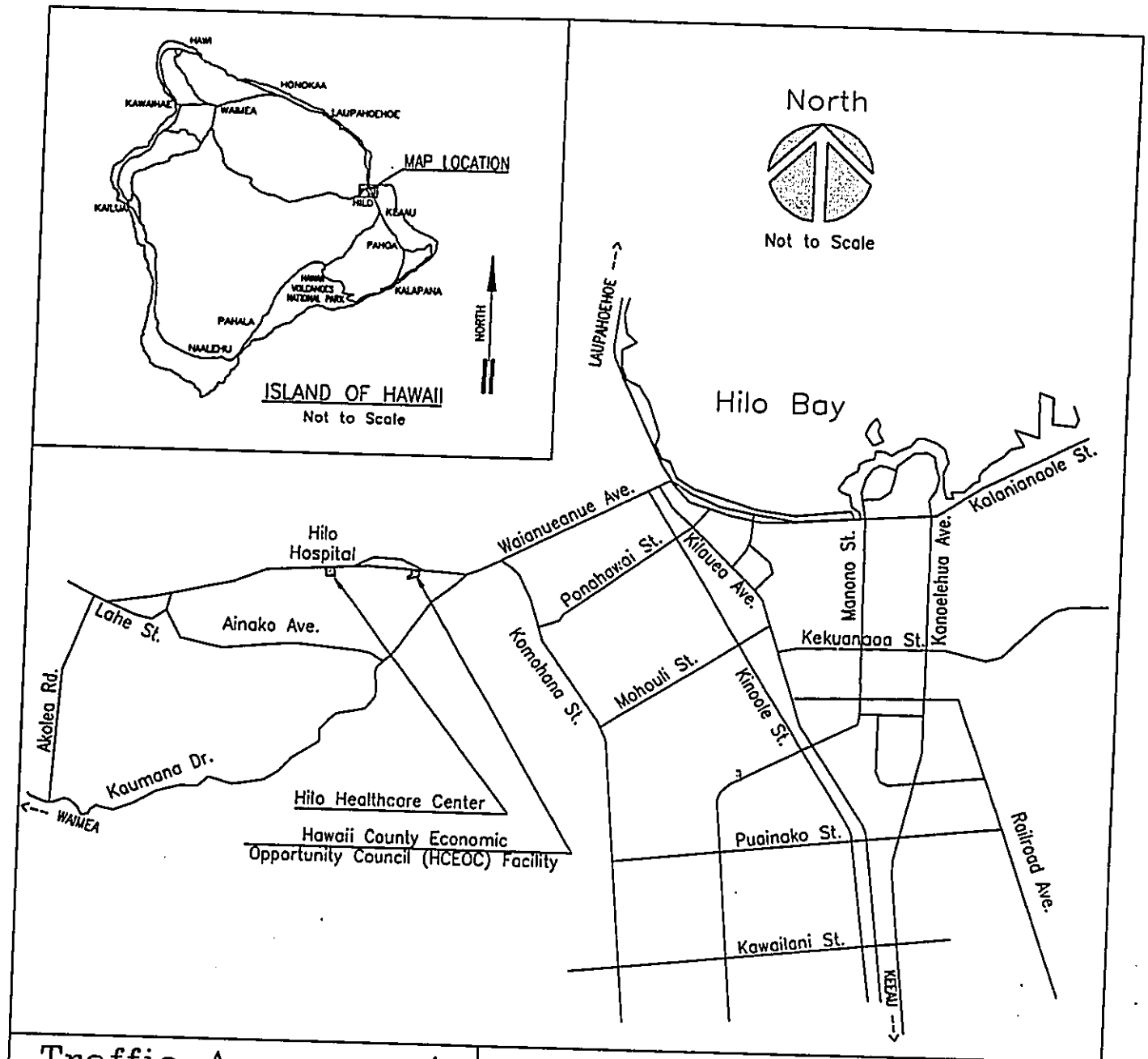
Each connection should be designed to accommodate the largest vehicle (including emergency vehicles) expected to use the driveway. The driveways should be located such that adequate sight distances are available along Waianueanue Avenue and relationships with intersecting roads or existing driveways on the opposite side of the street are appropriate.

References

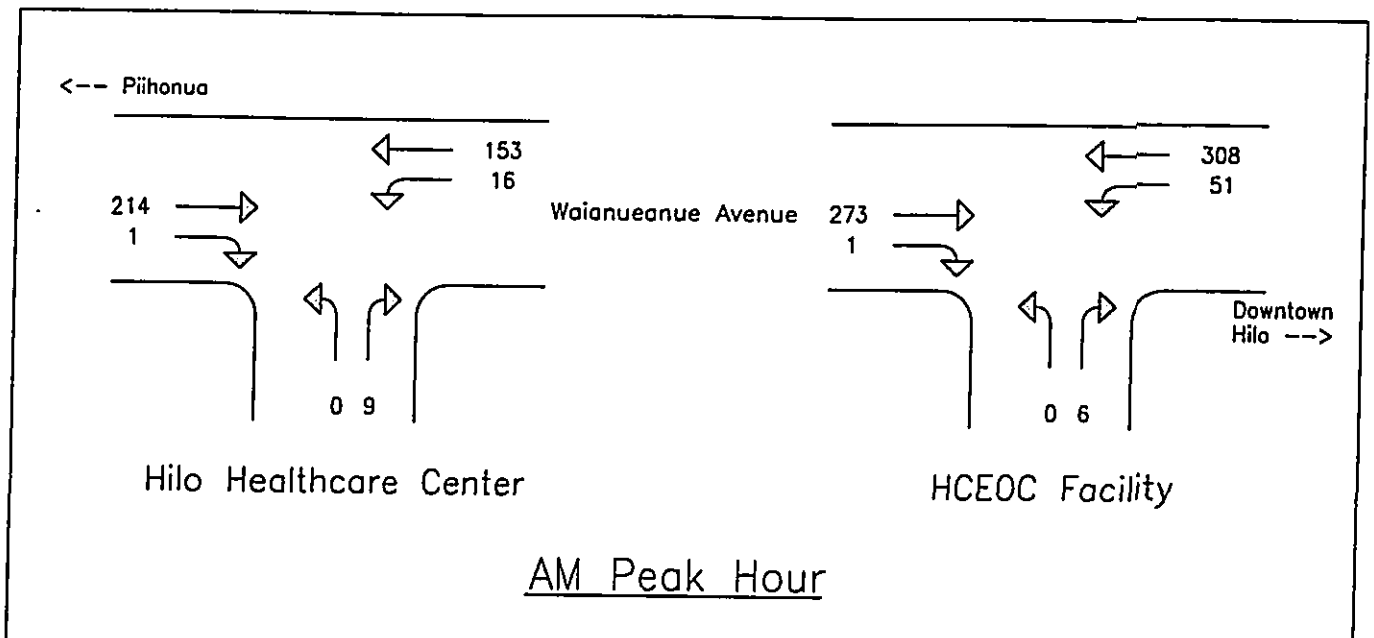
1. Transportation Research Board, National Research Council, *Highway Capacity Manual*, Special Report 209, Washington, D.C. 1985.

2. American Association of State Highway and Transportation Officials, *A Policy on Geometric Design of Highways and Streets*, 1990.

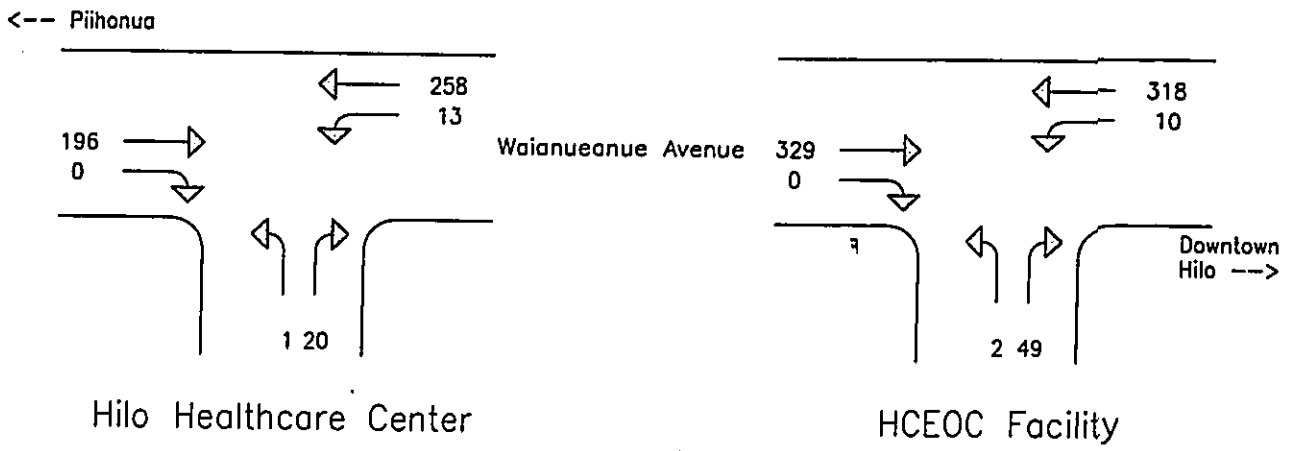
3. M.D. Harmelink, "Volume Warrants for Left-Turn Storage Lanes at Unsignalized Grade Intersections". *Highway Research Record No. 211*, 1967.



Traffic Assessment Hilo Healthcare Center HCEOC Facility	Location Map Hilo, Hawaii prepared by: Julian Ng, Inc. February 1993	Exhibit 1



AM Peak Hour



PM Peak Hour

Traffic Assessment Hilo Healthcare Center HCEOC Facility	Traffic Assignments 1994 with projects prepared by: Julian Ng, Inc. February 1993	Exhibit 2

APPENDIX D

Comments to the Draft Environmental Assessment and Responses

COMMENTS AND RESPONSES TO THE DRAFT ENVIRONMENTAL ASSESSMENT

The notice for the Draft EA was published in the September 23, 1993 OEQC Bulletin. The 30-day public comment period ended on October 23, 1993. Comments to the Draft EA were received from the agencies listed below. Those who responded with a comment that required a response are marked with a double asterik (**). Those who sent "no comment", "no impact", or standard form letters are marked with a single asterik (*); no responses were sent.

1. State
   - a. Department of Land and Natural Resources*
   - b. Department of Health*
   - c. Department of Transportation*
   - d. UH Manoa, Environmental Center**
2. County
   - a. Department of Public Works**
   - b. Fire Department*
   - c. Tax Office*
   - d. Police Department*

University of Hawaii at Manoa

Environmental Center
A Unit of Water Resources Research Center
Crawford 317 • 2550 Campus Road • Honolulu, Hawaii 96822
Telephone: (808) 956-7361

October 22, 1993
EA:00035

Mr. Rodney Nakano and Ms. Susan Gagorik
Planning Department
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. Nakano and Ms. Gajorik:

Draft Environmental Assessment (EA)
Hilo Healthcare Center
Hilo, Hawaii

Hilo Medical Investors, Ltd. proposes to construct a long-term intermediate care and skilled nursing facility. The facility will be designed and operated to meet the certification standards for Medicare and Medicaid, as well as State licensure requirements. The proposed facility will consist of a one-story 45,000 square foot building with approximately 120 beds in 58 semi-private rooms and four private rooms. The proposed facility is targeted primarily for the dependent elderly and non-elderly individuals who require intermediate or skilled nursing care.

The Environmental Center has conducted an in-house review of the document with the assistance of Andrew Tomlinson.

General Comments

The Environmental Center recognizes the growing need to provide health care for the aging segment of Hawaii's population. As such, we concur with the intent of the applicant to provide intermediate and skilled care facilities in Hilo. However, the content of the draft EA does not meet the requirements for a draft EA as prescribed by Chapter 343, Hawaii Revised Statutes and Section 11-200-10, Department of Health Administrative Rules, HAR. While the document is generally well prepared it fails to adequately provide a complete description and assessment of the proposed channel and retention basin.

08359

Specifically, the document merely states that due to the proposed project's location in a 100-Year Flood Zone a channel and retention basin will be constructed to divert water around the structure. Furthermore, the document states that water will be discharged from the retention basin into neighboring communities. The applicant fails to state how the diversion of water will potentially affect the surrounding environment.

Construction of a channel and retention basin could have significant impacts for neighboring properties, the nearby Wailuku River, and the healthcare facility itself. Due to the climatic conditions in Hilo it appears that a retention basin could function as a permanent pond and/or possibly create flooding of neighboring properties.

Therefore, the applicant needs to describe the channel, retention basin, and the system under which water will be recharged into the ground or emptied into a river or stream. The applicant also needs to describe how much water will accumulate in the basin under varying climatic conditions, including a 100-year flood. The applicant also should explain how water will be eliminated. Will an injection well be constructed to eliminate excess surface water?

Conclusion

While the proposed project may not have potentially significant environmental impacts, it is difficult to make an accurate determination with the incomplete information regarding the channel and basin. We recommend that the draft EA be revised. The final EA should include a discussion of the channel and retention basin and their potential cumulative environmental impacts.

Thank you for the opportunity to comment on this draft EA. We hope our comments will be useful in the preparation of the revised document, and we look forward to reviewing it in the future.

Sincerely,

Jacquelin N. Miller

Jacquelin N. Miller
Associated Environmental Coordinator

cc: OEQC
Menezes, Tsukazaki, Yeh, and Moore
Roger Fujioka
Andrew Tomlinson

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street, Hilo, HI 96720 · Phone/Fax (808) 959-0189

October 26, 1993

Ms. Jacquelin N. Miller, Associate Environmental Coordinator
Environmental Center
University of Hawaii at Manoa
Crawford 317, 2550 Campus Road
Honolulu, HI 96822

RE: Draft Environmental Assessment for Hilo Healthcare Center-- Response to Comments
Hilo, Hawaii

Dear Ms. Miller:

This response to your comments will address (1) the adequacy of the description of the flood hazard mitigation measure, (2) the impact of the proposed flood control improvements, and (3) the adequacy of the Environmental Assessment.

Adequacy of the Description of the Flood Hazard Mitigation Measures

We wish to clarify the mitigation measures relating to flood control. Under present conditions, stormwater flows into the property from the northwest corner of the property and exits at the southeast corner. The stormwater flows to the neighboring property where it continues in the flow path shown in the flood insurance rate map. *The proposed improvements will maintain the volume, velocity, and inflow/outflow locations of the stormwater flow under present conditions.* The purpose of the retention basin is to reduce the flow velocity which is necessary because the proposed channel will concentrate and accelerate the stormwater flow. When the EA stated that the stormwater flow would discharge into the neighboring properties, it referred to the present flow conditions.

In describing the flood control mitigation measure, the EA specified two conditions:

1. The performance standard for the flood control improvement would be to maintain the present flow conditions (volume, velocity, and location) at the outflow point from the project site; and

2. The federal standards and procedures governing flood improvements (i.e., FEMA) were identified (§4.7 of the EA) to assure implementation and accountability in reviewing the design details.

Since the flood improvements had not yet been designed in detail at the time the EA was prepared, and since local and federal regulations contain detailed standards to address the specifics of design in terms of public safety and environmental impacts, it is believed that a conceptual description of the improvements together with the performance standard would provide sufficient assurance and accountability that proper measures would be implemented.

For your information, the estimated design flow of the flood improvements based upon a 100-year

storm is approximately 710 cfs. The size of the earthlined retention basin is approximately one-half acre. The stormwater would flow into the retention basin and would be slowed by the ponding water. The water level in the basin would rise and overflow over a weir at a controlled velocity. When the stormflow ceases, any water remaining in the basin would either drain to a nearby drywell or percolate through tiny holes at the base of the weir.

Impact of the Proposed Flood Control Improvements

Since the proposed improvements must maintain the status quo at the outflow point of the project site, there will be no adverse impacts to Wailuku River and the neighboring properties. If all other properties within this flood plain proposed improvements based on the same performance standards of this project, the impacts would be less adverse than the typical flood control channel alternative that collects the regional stormwater flow and "efficiently" conveys a greater volume of flow to a stream. In contrast, the performance standard set by this project requires each property to maintain the natural flood flow and not add to the flow. This performance standard relates to offsite-generated flows only; stormwater flows generated by onsite impervious surfaces must be contained and discharged onsite through drywells or other means.

Adequacy of the Environmental Assessment

We cannot respond to your judgement that the Environmental Assessment did not meet the content requirements of the EIS Regulations (*Hawaii Administrative Rules* §11-200-10) as your comments did not specify which of the ten listed requirements was omitted. Your comments only referred to one mitigation measure-- i.e., the flood hazard mitigation measure. For the reasons explained above, we believe the level of detail in describing this particular mitigation measure was adequate. However, in response to your comments, we have amended the text of the Final Environmental Assessment to provide additional descriptive details on the flow volume and retention basin design (see attached).

We apologize if the description of the mitigation measure was not clear. Please call me if you need further information.

Yours truly,

Roy R. Takemoto

cc: Planning Department
Hilo Medical Investors, Ltd.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF HAWAII
HILO, HAWAII

DATE October 11, 1993

Memorandum

TO : Planning Department

FROM : Galen H. Kuba, Acting Division Chief, Engineering Division

SUBJECT: Use Permit Application (USE 93-11)
Applicant: Hilo Medical Investors, Ltd.
Location: Piihonua, South Hilo, Hawaii
TMK: 2-3-31: 01 por. and 2-3-32: 01 por.

We have reviewed the subject application and our comments are as follows:

1. Building shall conform to all requirements of code and statutes pertaining to building construction. The setback meets Housing Code requirements.

2. All development generated runoff shall be disposed of on site and shall not be directed toward any adjacent properties.

3. Applicant shall be informed that if drywells are included in the subject development, Chapter 23, Underground Injection Control (UIC), Administrative Rules, Dept. of Health, prohibit any person from operating, constructing or modifying an injection well (drywell) unless authorized by a permit issued by the Director of Health, State of Hawaii. Furthermore, should dedication of roadways including drywells be contemplated, the Dept. of Public Works will not approve dedication of roadways prior to compliance with Chapter 23, UIC, Administrative Rules.

4. A portion of the subject parcel is in Flood Zone "A". Applicant shall submit a flood study prior to the construction of any proposed improvements.

5. Waianuenue Avenue is a County maintained roadway with a 60 foot right-of-way with 18 foot wide pavement and 4 foot grassed shoulders. Applicant shall provide pavement widening, curb, gutter and sidewalk improvements meeting Public Works standards along the frontage of the subject development.

STT:st

cc: TRF
BLDG
ENG

C7631

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street, Hilo, HI 96720 Phone/Fax (808) 959-0189

October 25, 1993

Mr. Galen Kuba, Acting Division Chief
Engineering Division
Department of Public Works
County of Hawaii
25 Aupuni Street
Hilo, HI 96720

RE: Use Permit Application and Environmental Assessment (USE 93-11)
Applicant: Hilo Medical Investors, Ltd.
Location: Piihonua, South Hilo, Hawaii
TMK: 2-3-31:01 por. and 2-3-32:01 por.

Your comments will be addressed during the design phase of the project as follows:

1. *Building and Housing Code.* The building design will conform to all code requirements, as verified by your Department in the review of construction plans for the building permit.

2. *Drainage.* The submittals for the grading and building permits will show all development-generated runoff to be disposed onsite with drywells and not directed toward any adjacent properties.

3. *UIC.* The design of the proposed drywells will not trigger the Underground Injection Control requirements.

4. *Flood Study.* A flood study will accompany the grading or building permit submittals.

5. *Roadway Improvements.* The applicant's engineer will discuss with your department the extent of roadway improvements required along the frontage of the project.

Yours truly,

Roy R. Takemoto

cc: Hilo Medical Investors, Ltd.
Planning Department

Planning Department
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Ms. Goldstein:

Subject: Use Permit Application (USE 93-11): Hilo Medical Investors, Ltd., Hilo, Hawaii, TMK: 2-3-31: por. 1; 2-3-32: por. 1

We have reviewed the application information for the subject project transmitted by your memorandum dated September 9, 1993, and have no comments to offer at this time.

We will forward our Historic Preservation Division comments as they become available.

Thank you for the opportunity to comment on this matter.

Please feel free to call Steve Tagawa at our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,

KEITH W. AHUE

0689

Stephen K. Yamashiro
Mayor

Virginia Goldstein
Director

Norman Olesen
Deputy Director

County of Hawaii

PLANNING DEPARTMENT

25 Aupuni Street, Room 109 • Hilo, Hawaii 96720-4252
(808) 961-8288 • Fax (808) 961-8615

September 9, 1993

9/27/93
Found no environmental health concerns with regulatory implications in the submittal. Please address the water, solid waste and sewage control commitments in the construction plans.
Harold Matsumura

MEMORANDUM

TO: SEE LISTING BELOW

FROM: PLANNING DIRECTOR

SUBJECT: USE PERMIT APPLICATION (USE 93-11)
APPLICANT: HILO MEDICAL INVESTORS, LTD.
TAX MAP KEY: 2-3-31: PORTION OF 1; 2-3-32: PORTION OF 1

The attached application for a Use Permit is being forwarded for your review. May we please have your written comments by October 8, 1993. Otherwise, we will assume that you have no comments or objections on the request.

Thank you very much.

RKN:mjh
0741D
Attachment

xc: Department of Public Works-Hilo
Parks & Recreation
Fire Department
Office of Housing & Community Development
State Highways
Soil Conservation
Department of Water Supply
Police Department
Tax Office
Department of Land & Natural Resources
Department of Health
HELCO

0701

Stephen K. Yamashiro
Mayor

RECEIVED
DEPT. OF TRANS.
93 SEP 14 P 3:49
HIGHWAYS DIVISION
HAWAII DISTRICT

Virginia Goldstein
Director

Norman Olesen
Deputy Director

County of Hawaii
PLANNING DEPARTMENT

25 Aupuni Street, Room 109 • Hilo, Hawaii 96720-4252
(808) 961-8288 • Fax (808) 961-8615

September 9, 1993

MEMORANDUM

TO: SEE LISTING BELOW

FROM: PLANNING DIRECTOR

SUBJECT: USE PERMIT APPLICATION (USE 93-11)
APPLICANT: HILO MEDICAL INVESTORS, LTD.
TAX MAP KEY: 2-3-31: PORTION OF 1; 2-3-32: PORTION OF 1

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RKN:mjh
0741D
Attachment

xc: Department of Public Works-Hilo
Parks & Recreation
Fire Department
Office of Housing & Community Development
State Highways
Soil Conservation
Department of Water Supply
Police Department
Tax Office
Department of Land & Natural Resources
Department of Health
HELCO

C6409
State Highways - Hawaii District
NOT APPLICABLE

Stephen K. Yamashiro
Mayor

Nelson M. Tsuji
Fire Chief

County of Hawaii
FIRE DEPARTMENT
466 Kinoole Street • Hilo, Hawaii 96720-2983
(808) 961-8297 • Fax (808) 961-6920

October 7, 1993

To: Virginia Goldstein, Planning Director

From: Nelson M. Tsuji, Fire Chief

SUBJECT: USE PERMIT APPLICATION (USE 93-11)
APPLICANT: HILO MEDICAL INVESTORS, LTD.
TAX MAP KEY: 2-3-31: PORTION OF 1; 2-3-32: PORTION OF 1

The Fire Department's requirements as stated in the Uniform Fire Code are:

Roadways:

"Sec. 10.207. (a) General. Fire apparatus access roads shall be provided and maintained in accordance with the provisions of this section.

"(b) Where Required. Fire apparatus access roads shall be required for every building hereafter constructed when any portion of an exterior wall of the first story is located more than 150 feet from fire department vehicle access.

"EXCEPTIONS: 1. When conditions prevent the installation of an approved fire apparatus access road, the chief may permit the installation of fire-protection system or systems in lieu of a road, provided the system or systems are not otherwise required by this or any other code.

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"2. When there are not more than two Group R, Division 3 or Group M Occupancies, the requirements of this section may be modified, provided, in the opinion of the chief, fire-fighting or rescue operations would not be impaired.

"(c) Permissible modifications. Clearances or widths required by this section may be increased when in the opinion of the chief, minimum clearances or widths are not adequate to provide fire apparatus access. For high-piled combustible storage, see Section 81.109.

"(d) Surface. Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be provided with a surface so as to provide all-weather driving capabilities." (20 tons)

"(e) Width. The minimum unobstructed width of a fire apparatus access road shall be not less than 20 feet.

"(f) Vertical Clearance. All fire apparatus access roads shall have an unobstructed vertical clearance of not less than 13 feet 6 inches.

"EXCEPTION: Upon approval vertical clearance may be reduced, provided such reduction does not impair access by fire apparatus and approved signs are installed and maintained indicating the established vertical clearance.

"(g) Turning Radius. The turning radius of a fire apparatus access road shall be as approved by the chief." (45 feet)

"(h) Turnarounds. All dead-end fire apparatus access roads in excess of 150 feet in length shall be provided with approved provisions for the turning around of fire apparatus.

"(i) Bridges. When a bridge is required to be used as access under this section, it shall be constructed and maintained in accordance with the applicable sections of the Building Code and using designed live loading sufficient to carry the imposed loads of fire apparatus.

"(j) Grade. The gradient for a fire apparatus access road shall not exceed the maximum approved by the chief." (15%)

"(k) Obstruction. The required width of any fire apparatus access road shall not be obstructed in any manner, including parking of vehicles. Minimum required widths and clearances established under this section shall be maintained at all times.

"(l) Signs. When required, approved signs or other approved notices shall be provided and maintained for fire apparatus access roads to identify such roads and prohibit the obstruction thereof or both."

Water Supply:

"Sec. 10.301. (c) Water Supply. An approved water supply capable of supplying required fire flow for fire protection shall be provided to all premises upon which buildings or portions of buildings are hereafter constructed. When any portion of the building protected is in excess of 150 feet from a water supply on a public street, there shall be provided, when required by the chief, on-site fire hydrants and mains capable of supplying the required fire flow.

"Water supply may consist of reservoirs, pressure tanks, elevated tanks, water mains or other fixed system capable of supplying the required fire flow. In setting the requirements for fire flow, the chief may be guided by the standard published by the Insurance Services Office, "Guide for Determination of Required Fire Flow."

"The location, number and type of fire hydrants connected to a water supply capable of delivering the required fire flow shall be provided on the public street or on the site of the premises to be protected as required and approved by the chief. All hydrants shall be accessible to the fire department apparatus by roadways meeting the requirements of Section 10.207.

"(d) Timing of Installation. When fire protection facilities are to be installed by the developer, such facilities including all surface access roads shall be installed and made serviceable prior to and during the time of construction. When alternate methods of protection, as approved by the chief, are provided, the above may be modified or waived.

"(e) All fire alarm systems, fire hydrant systems, fire extinguishing systems (including automatic sprinklers), Class I, II, and III (combination standpipe system) and combined systems, basement inlet pipes, and other fire protection systems and appurtenances thereto shall meet the approval of the fire department as to installation and location and shall be subject to periodic tests as required herein. Plans and specification shall be submitted to the fire department for review and approval prior to installation."

NELSON H. TSUJI
Fire Chief

NHT/mo

Stephen K. Yamashiro
Mayor

Virginia Goldstein
Director

Norman Olesen
Deputy Director

County of Hawaii

PLANNING DEPARTMENT
25 Aupuni Street, Room 109 • Hilo, Hawaii 96720-4252
(808) 961-8288 • Fax (808) 961-9615

September 9, 1993

MEMORANDUM

TO: SEE LISTING BELOW

FROM: PLANNING DIRECTOR

SUBJECT: USE PERMIT APPLICATION (USE 93-11)
APPLICANT: HILO MEDICAL INVESTORS, LTD.
TAX MAP KEY: 2-3-31: PORTION OF 1; 2-3-32: PORTION OF 1

The attached application for a Use Permit is being forwarded for your review. May we please have your written comments by October 8, 1993. Otherwise, we will assume that you have no comments or objections on the request.

Thank you very much.

RKN:mjh
0741D
Attachment

xc: Department of Public Works-Hilo
Parks & Recreation
Fire Department
Office of Housing & Community Development
State Highways
Soil Conservation
Department of Water Supply
Police Department
Tax Office
Department of Land & Natural Resources
Department of Health
HELCO

There are no comments at this time.

Sincerely,

Francis Ouye
Real Property Appraiser V

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Stephen K. Yamashiro
Mayor

Victor V. Vierra
Chief of Police

Francis C. DeMorales
Deputy Chief of Police

County of Hawaii

POLICE DEPARTMENT
349 Kapiolani Street • Hilo, Hawaii 96720-3998
(808) 935-3311 • Fax (808) 961-2702

September 15, 1993

TO : VIRGINIA GOLDSTEIN, PLANNING DIRECTOR

FROM : VICTOR V. VIERRA, CHIEF OF POLICE

SUBJECT: USE PERMIT APPLICATION (USE 93-11)
APPLICANT: HILO MEDICAL INVESTORS, LTD.
TMK: 2-3-31: PORTION OF 1; 2-3-32: PORTION OF 1

The above application has been reviewed and we foresee no adverse effect should it be granted.

EO:sk

cc: South Hilo Police

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