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JOHN WAIHEE
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November 15, 1988

OFFICE OF
QUALITY CONTROL

The Honorable Russel S. Nagata
Comptroller
Department of Accounting and
General Services
State of Hawaii

Dear Mr. Nagata:

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

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

With kindest regards,

Sincerely,

JOHN WAIHEE

cc: Hon. John C. Lewin
✓ Mr. Marvin T. Miura

**Site Selection Report
and Final Environmental
Impact Statement**

for

**The New Pahoa Elementary School
Pahoa, Hawaii**

Prepared For:

**State of Hawaii Department of
Accounting & General Services**

Prepared By:

Wilson Okamoto & Associates, Inc.

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SITE SELECTION REPORT AND
FINAL ENVIRONMENTAL IMPACT STATEMENT
FOR THE
NEW PAHOA ELEMENTARY SCHOOL
PAHOA, HAWAII

This environmental document is prepared pursuant
to Chapter 343, Hawaii Revised Statutes

Proposing Agency:

Department of Accounting and General Services
State of Hawaii

Accepting Authority:

Governor, State of Hawaii

Responsible
Official:



RUSSEL S. NAGATA, COMPTROLLER

9/23/88

DATE

Prepared by:

Wilson Okamoto and Associates, Inc.
Planners, Engineers, Architects
Honolulu, Hawaii

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PREFACE

This environmental document is prepared pursuant to the requirements of Chapter 343, Hawaii Revised Statutes, and Chapter 200 of Title 11, Administrative Rules, Environmental Impact Statement (EIS) Rules.

The document incorporates the methodology and results of the Site Selection Report which was undertaken to identify candidate school sites for the proposed new Pahoa Elementary School. The Site Selection Report identifies three (3) candidate sites, all of which are assessed with regard to EIS report requirements. In this regard, the Site Selection Report does not recommend a preferred site, but identifies the relative advantages and disadvantages of the sites to facilitate discussion and decision-making on a final site.

I. SUMMARY

A. Project Description

The State Department of Education (DOE) is proposing to construct a new elementary school and to designate a new corresponding service area to relieve projected overcrowding at Pahoia High and Elementary School.

This EIS discusses potential environmental impacts of three candidate school sites which have been identified through a site selection methodology which is documented herein. Through the site selection process, many of the potentially adverse environmental impacts were minimized. However, unavoidable impacts such as those related to construction operations remain and are discussed accordingly.

B. Candidate Sites

Based on a set of minimum site criteria and other additional criteria necessary for reducing the field of potential sites, three candidate sites were selected. The Former Pahoia Air Strip Site (Site 1) is located along Keaau-Pahoia Road, mauka of the Pahoia Air Strip which is not in use. Site 2, the Kahakai Boulevard Site, is located makai of Keaau-Pahoia Road and existing agricultural use, and mauka of residential use. The Pahoia By-Pass Road Site (Site 3) is situated mauka of Keaau-Pahoia Road, near Pahoia town.

C. Project Setting

Hawaii County, coextensive with the Island of Hawaii, is the largest county in the State, encompassing an area of 4,034 square miles. With a resident population of approximately 109,500 in 1985, Hawaii County is the second most populous County in the State.

The proposed service area has been designated within the existing Pahoia High and Elementary School service area. Pahoia is a chief town within the Puna District of the Island of Hawaii. Existing land uses in the Pahoia area are representative of land uses typically found in a rural community which is dependent on agriculture production. Tree crops, including papaya groves, and nursery products, including anthuriums and orchids are produced in the Pahoia area. A geothermal power station is located approximately 3 miles southeast of Pahoia town. Commercial uses are found in Pahoia with residences situated nearby. Much of the area is vacant, neither developed nor utilized for agriculture.

D. Relationships to Plans, Policies and Controls

Land use considerations pertinent to the candidate school sites are as follows:

- o State Land Use Classification
- o County General Plan
- o County Zoning

Plans, policies and controls are considered in the site evaluation process.

E. Probable Impacts

1. Regional impacts include those associated with the economy and social and cultural environments.
2. Short-term construction related site impacts include those associated with noise, air quality, traffic, and public health and safety.
3. Long-term site impacts include those associated with flora, fauna, and infrastructure.

F. Alternatives Considered

1. The "no action alternative is considered to be unacceptable as the existing school is presently operating beyond capacity, and continued population growth is projected for the region. Additionally, the elementary program at the existing school is already much too large for a tri-level school.
2. Busing to schools outside the service area, at Keeau and Mountain View, is similarly considered infeasible as these facilities are also experiencing growth problems and are operating at capacity.
3. Retaining the existing school for grades 7-12 while relocating grades K-6 to a new school is considered a less preferable alternative to the proposed action as a very large new elementary school would be required to accommodate the projected enrollment.
4. Expanding the capacity of the existing elementary school is not considered viable due to the lack of sufficient land area to accommodate required new facilities.

G. Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

1. Implementation of the proposed project will include local short-term uses of man's environment during the construction phase of the project. Over the long-term, however, the new school will assure the continued maintenance and enhancement of public education and social welfare by providing an essential educational service and facility that will meet the enrollment requirements of the region.

H. Irreversible and Irretrievable Commitments of Resources

1. Irretrievable resources committed to the project will include fuel, labor, funding and materials to implement construction of the new school. Development of the proposed project will involve the commitment of land for school use.

II. PROJECT NEED AND DESCRIPTION

The State Department of Education (DOE) is proposing to construct a new elementary school and to designate a new corresponding service area to relieve projected overcrowding at Pahoa High and Elementary School. The existing service area is shown in Figure 1. The proposal to build a new school is based on an assessment of existing facilities and projected needs as discussed below.

A. Existing Facilities

Pahoa High and Elementary School is a three level school complex, providing educational services for grades Kindergarten through 12th. Of the total student population of 1,716, 985 were in the elementary grades K-6, while 731 were at the secondary level in September, 1987.

The 25.26 acre campus is located on Keaau-Pahoa Road at the southern end of Pahoa town. It is divided by Homestead Road (Kaohe Road) with the 2.98 acre Elementary Division occupying the western portion and the Intermediate and High School in the eastern portion.

The elementary campus of 2.98 acres is designed for 500 students and is far below DOE standards for its current enrollment.

B. Projected Enrollment

The projected enrollment for the Elementary Division is 1,250 students in 2005. The projected growth is based on historic trends dominated by an increase in housing development in the subdivisions in the Pahoa area. As reflected in school enrollment, between 1970 and 1980, the total enrollment at Pahoa Elementary and High School increased by 227 percent, from 364 to 1,192. By 1991, growth is projected to reach 1,934, a twenty year increase of 431 percent.

The land area encompassed by the Pahoa service area makes it one of the largest in the State. It is larger than the entire Honolulu school district on Oahu. Within the school district are thousands of subdivided fee simple lots. While still sparsely populated by urban standards, and constrained by the availability of water, roads, electricity and communications, residential development in the area was nevertheless spurred in the 1970's by relatively low land prices. It is anticipated that this trend will extend into the future as land prices continue to remain low.

C. Limitations

The present campus is comprised of a large wooden building and 32 portable classrooms and is experiencing a problem

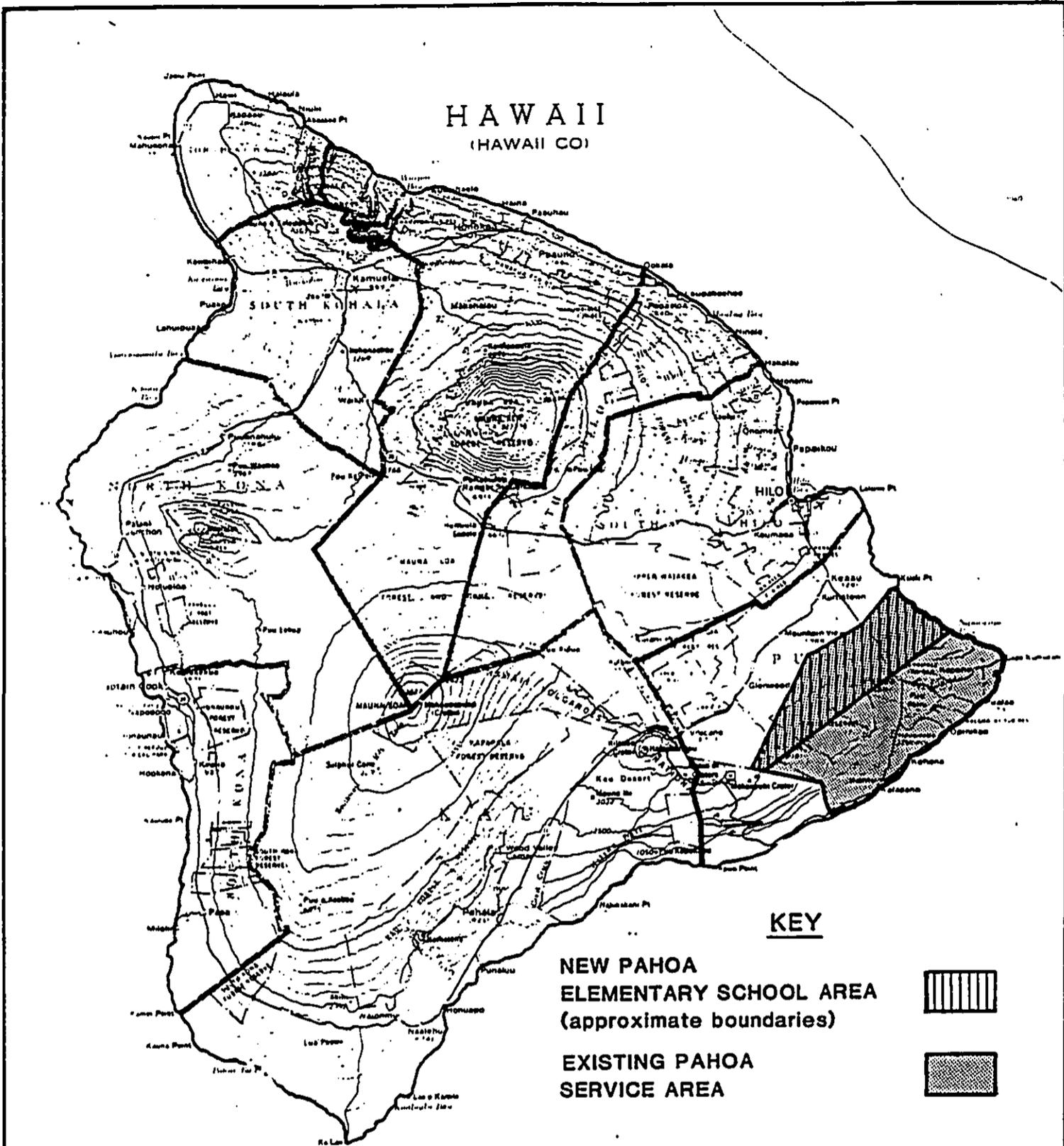


FIG. 1

**Existing Pahoa Service Area and
New Pahoa Elementary School Service Area**

NOT TO SCALE

JOB NO. 11-16-0034

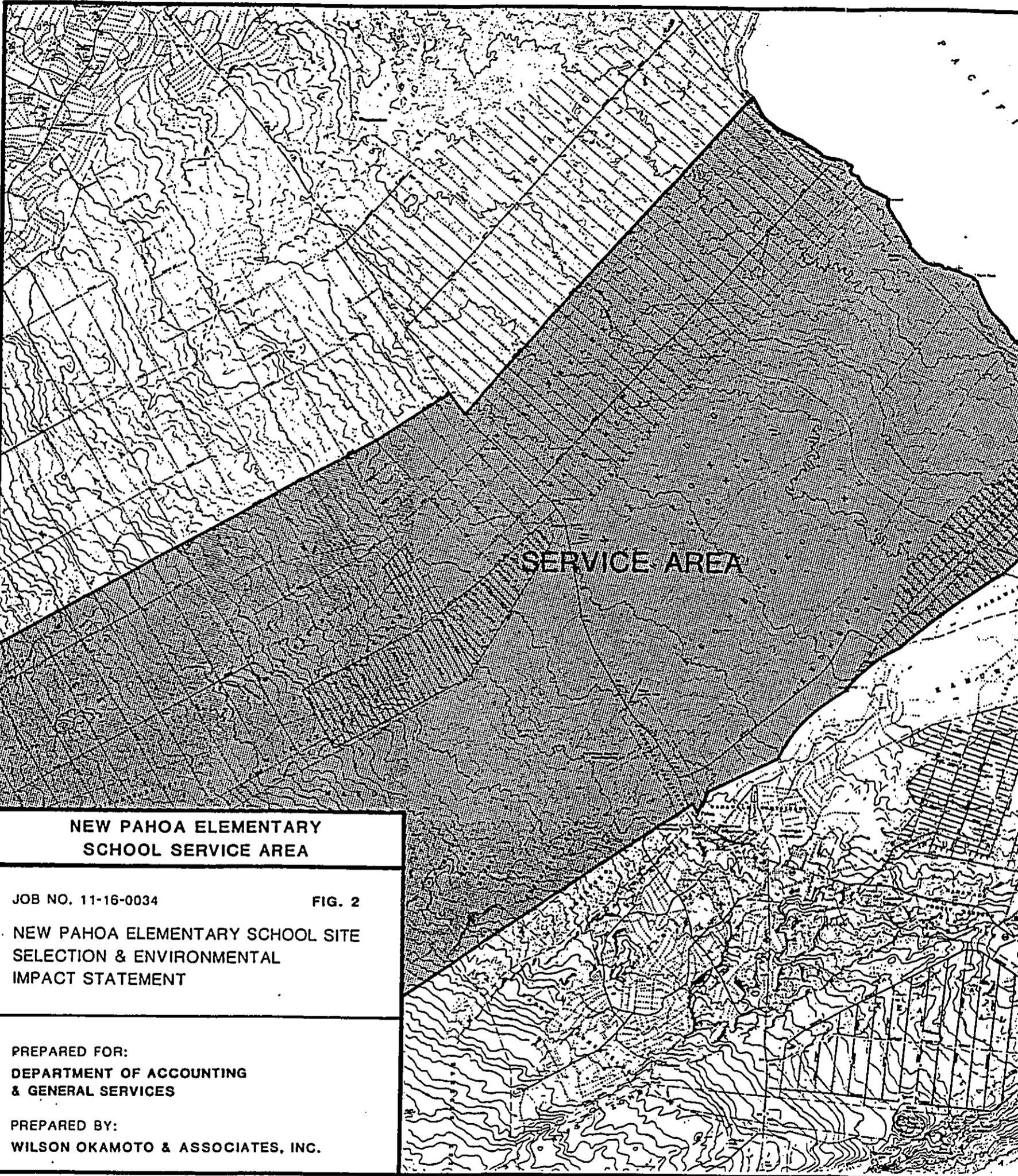
New Pahoa Elementary School Site Selection & Environmental Impact Statement

prepared for:

DEPARTMENT OF ACCOUNTING & GENERAL SERVICES

prepared by:

WILSON OKAMOTO & ASSOCIATES, INC.



**NEW PAHOA ELEMENTARY
SCHOOL SERVICE AREA**

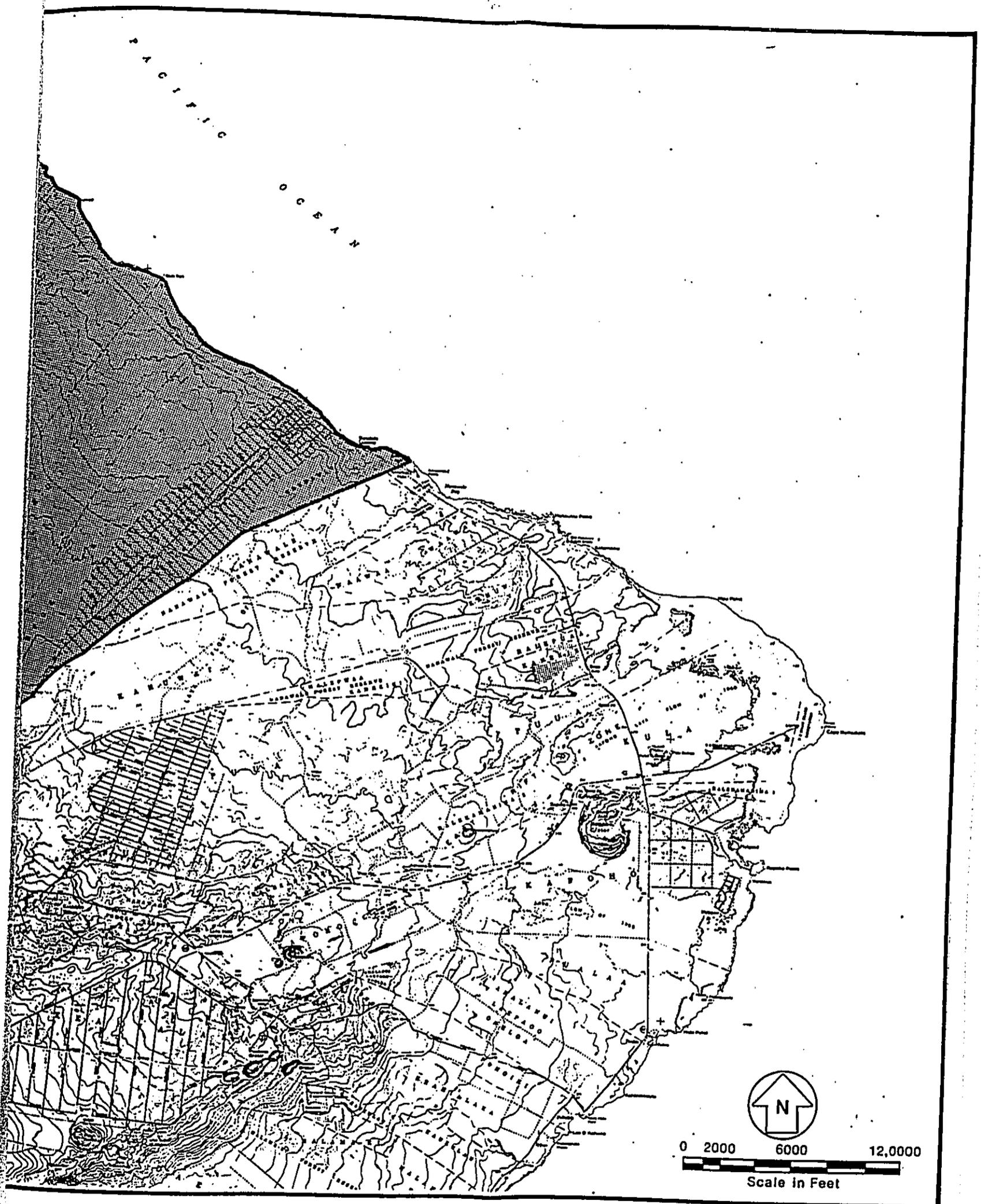
JOB NO. 11-16-0034

FIG. 2

NEW PAHOA ELEMENTARY SCHOOL SITE
SELECTION & ENVIRONMENTAL
IMPACT STATEMENT

PREPARED FOR:
DEPARTMENT OF ACCOUNTING
& GENERAL SERVICES

PREPARED BY:
WILSON OKAMOTO & ASSOCIATES, INC.



PACIFIC
OCEAN



0 2000 6000 12,000
Scale in Feet

accommodating short-range growth due to limited land space. Before- and after-school traffic congestion occurs along Kaohe Road. The road accesses the school parking lot used by the high school students, the school bus loading area, and is the primary drop-off and pick-up area for the elementary students. Much pedestrian crossing also occurs during these times.

Tri-level schools such as Pahoa were established due to projected limited enrollment at all grade levels. In this configuration, school administrators can effectively and efficiently manage the various program and support needs, provided that enrollment is limited to design levels. Pahoa High and Elementary School was never intended to accommodate the over 900 elementary students currently enrolled.

The current design capacity of the campus is 1,500 students (1,000 secondary and 500 elementary). The long-range projection (year 2005) is for 1,000 secondary and 1,260 elementary students.

Several alternatives to relieve present overcrowding and projected growth were considered. Busing to other schools was not deemed feasible as both Keaau and Mountain View schools are also at capacity and experiencing growth problems. Relocating all students in grades K-6 to a new school is considered a less preferable alternative to the proposed action as a very large new school would be required to accommodate the projected enrollment. Both the State Board of Education and Legislature have been concerned about very large elementary schools. Expansion of the elementary division is not considered viable due to the lack of sufficient land area to accommodate required new facilities.

Therefore, the DOE recommends construction of a new elementary school. The new elementary school is projected to accommodate 350 students when it is opened and will be designed to accommodate 750 students with additional potential for accommodating 900 students at peak enrollment. At the same time, the present elementary school will be maintained, with enrollment fixed at 500 students.

D. Proposal

The DOE proposes to construct a new elementary school and has designated a new corresponding service area within the existing service area (see Figures 1 and 2).

The new elementary school will ultimately be comprised of 42 classrooms, including 33 permanent classrooms and 3 portable classrooms to accommodate a design enrollment of 750 students, and another 6 portable classrooms to accommodate a peak enrollment projection of 900 students.

The cost of the proposed elementary school, including planning and facility construction, is estimated to be approximately \$11,850,000 (in 1988 dollars).

The proposed elementary school will not change the feeder system of students graduating from elementary to intermediate to high school in the existing service area. All elementary students from the existing campus and the new campus will feed into the secondary school program at Pahoā.

TABLE 1
 PREDOMINANT FLORA FOUND IN THE OPEN AREA SURROUNDING PAHOA

<u>Common Name</u>	<u>Scientific Name</u>
1. Koa Haole	<u>Leucaena latisiliqua</u>
2. Lantana	<u>Lantana camara</u>
3. Guava	<u>Psidium guajava</u>
4. Strawberry Guava	<u>Psidium cattleianum</u>
5. Ironwood	<u>Casuarina spp.</u>
6. Christmas Berry Tree	<u>Schinus terebinthifolius</u>
7. Jamaica Vervain (Oi)	<u>Stachytarpheta spp.</u>
8. Wiliwili	<u>Erythrina spp.</u>
9. Morning Glory	<u>Ipomoea sp.</u>
10. Philippine or Wild Orchid	<u>Spathoglottis plicata</u>
11. Passion Fruit, Lilikoi	<u>Passiflora spp.</u>
12. Glory-Bush	<u>Tibouchina semidecandra</u>
13. Ti Plant	<u>Cordyline terminalis</u>
14. Ohia Lehua	<u>Metrosideros collina</u>
15. Hawaiian Tree Fern	<u>Cibotium spp.</u>
16. False Staghorn Fern	<u>Gleicheniaceae Dicranopteris sp.</u>
17. Small Tree Fern	<u>Sadleria cyatheoides</u>
18. White Ginger	<u>Hedychium coronarium</u>
19. Yellow Ginger	<u>Hedychium flavescens</u>

Adapted from: U.S. Department of Transportation, Federal Highway Administration and State of Hawaii, Department of Transportation, Land Transportation Facilities Division, Final Environmental Impact Statement, Keaau-Pahoia Road, Pahoia By-Pass, Project No. RS-130(17), February, 1979.

near the edge of the lake. Slopes surrounding the crater are densely forested.

6. Soils and Agricultural Potential

There are two distinct soil associations within the existing service area. The soil association prevalent in the northern half of the service area is identified as the Lava Flows association. This association describes soils which are gently sloping to steep, excessively drained, nearly barren lava flows which are located on uplands. This soil association is used primarily for grazing, wildlife habitat and recreation.

The majority of the southern half of the existing service area, including Pahoa town, is located on soils of the Kekake-Keei-Kiloa association. This association is characterized by very shallow, gently sloping to steep, well-drained organic soils over a'a or pahoe-hoe lava, located on uplands. Uses of this soil association include pasture, woodland, watershed, recreation, and macadamia nut and papaya cultivation.

The State Department of Agriculture has identified Agricultural Lands of Importance for the State of Hawaii (ALISH) and categorizes these into three groups. "Prime" agricultural lands are those which have the soil quality, growing season and moisture supply needed to produce sustained high yields of crops economically, when treated and managed according to modern farming methods. "Unique" agricultural lands have a special combination of soil quality, location, growing season and moisture supply currently used to produce sustained high quality and/or high yields of a specific crop when treated and managed according to modern farming methods. "Other" important agricultural lands include agricultural lands which have not been rated "prime" or "unique". The Pahoa area consists of rural and urban developments which are not classified as agricultural lands. "Other" agricultural lands are located immediately south, southwest and southeast of Pahoa town. Scattered areas of "prime" agricultural lands are found nearby Pahoa to the southwest and northeast.

7. Natural Hazards

The Pahoa area, located about 5 miles north of the Kilauea East Rift Zone, is considered to be within a relatively high volcanic hazard area. Rift zones are described as "long, narrow belts of structural weakness that include cracks, fissures, craters, spatter cones and cinder cones" in the U.S. Department of the Interior, Geological Survey's

1976 publication entitled Natural Hazards on the Island of Hawaii. Pahoa town is within the "E" designation with respect to volcanic hazards. The "E" designation describes an area within which 0.5 to 3.0 percent of the land has been buried by lava during various 20-year intervals (since 1800), leaving 97.0 to 99.5 percent of the land unaffected. The "E" designation is discussed in the 1976 U.S. Department of the Interior publication, as follows:

"Area E includes the flanks of Kilauea and Mauna Loa that lie directly downslope from the summit areas and rift zones where lava flows originate. Land labeled E is susceptible to burial by lava flows erupted within the summit and rift areas labeled F. In addition, vents along minor rift zones on Mauna Loa have erupted a few times within area E. Degree of risk within this area varies widely, but in general, it becomes less with increasing distance from the summits and major rift zones."

The Hawaii County General Plan Facilities Map also indicates Kilauea and Mauna Loa rift zones, and fault zones (see Section IV.A.3.)

With respect to flood hazard, the majority of the service area is designated Zone X (areas determined to be outside of the 500-year flood plain) on the Federal Flood Insurance Rate Map (FIRM). Portions of the service area near the shoreline are within 100-year flood areas or Coastal High Hazard areas (tsunami inundation areas) as delineated on Federal Flood Boundary and Floodway Maps (FLOODWAY).

Since the makai communities in the Pahoa area are generally served by a single road off of the State highway, these communities rely on these roads as evacuation routes in the event of an emergency.

Recent brush fires in the area of Kahakai Boulevard have drawn public attention to possible fire hazards. The Hawaii County Civil Defense Agency, however, does not identify the area as particularly hazardous in this regard.

8. Scenic Characteristics

The gentle slopes of the Pahoa area affords little or no scenic views. On a clear day, however, Mauna Kea and Mauna Loa may be seen. In general, the undeveloped nature and agricultural use of the surrounding area contribute to the open space and scenic natural resources of Pahoa.

9. Archaeological/Historic Sites

As indicated in the Final Environmental Impact Statement, Keaau-Pahoia Road, Pahoia By-Pass (U.S. Department of Transportation and State of Hawaii Department of Transportation, February 1979), the potential for historical/archaeological sites in certain areas around Pahoia exists. Although the report documents that the Pahoia Historic and Commercial District, Hawaii Island Site No. 7388, is adjacent to the present roadway in Pahoia town, this district is not listed on the State or National Register of Historic Places. Historic sites identified by the State's Hawaii Register of Historic Places in the service area and the nearby region are listed on Table 2.

As documented in the Final Environmental Impact Statement, Keaau-Pahoia Road, Pahoia By-Pass (U.S. Department of Transportation and State of Hawaii, 1979), an archaeological reconnaissance survey was conducted in the vicinity of alternate by-pass road alignments. Two sites, an old slaughter house and a modified lava tube, were found east of the existing Pahoia High and Elementary School and Pahoia-Kalapana Road.

10. Geology/Hydrology

The Island of Hawaii is the youngest island in the Hawaiian group. The island was formed by five volcanoes: 1) Kohala, 2) Mauna Kea, 3) Hualalai, 4) Mauna Loa, and 5) Kilauea. The Kilauea volcano, which formed the Pahoia area, originated on the southern slopes of Mauna Loa. Lava flows from Kilauea are primarily olivine basalt. Volcanic activity continues at Kilauea, forming new land mass in the Kalapana-Kapoho region south of Pahoia.

The basalts which compose the service area are extremely permeable and there is no surface water available, even during periods of precipitation. The water table within the service area is located near sea level. There are no perennial streams within the Pahoia area.

Pahoia is at least 6 miles inland from the shoreline. Normally, the filtration of rainfall and surface runoff through the ground purifies the water prior to subterranean transport to the shoreline areas.

11. Topography

The topography of the Island of Hawaii reflects its relatively recent volcanic origin. In general, the service area can be described as gently sloping. Pahoia town is situated about 20.5 miles south of Hilo at an elevation of

TABLE 2
HISTORIC SITES IN THE PUNA REGION

SITE NAME	HAWAII REGISTER REGISTERED	NATIONAL REGISTER RECOMMENDED	NATIONAL REGISTER REGISTERED	TMK
Kurtistown Jodo Mission	4-29-74			1-7-17:60
Honolulu Landing Habitation Complex	1-7-74			1-4-3:19
Makuu Petroglyphs	1-7-74			1-5-10:9, 15, 16
Kapoho Petroglyphs	1-7-74			1-4-2:16
Ahalanui Complex 1	1-7-74			1-4-2:73, 49
Ahalanui Complex 2	1-7-74			1-4-2:7
Laepaoo Enclosure	1-7-74			1-4-2:7
Pohoiki Warm Spring	1-7-74			1-3-8:5
Hale Park Complex	1-7-74			1-3-8:4, 16
Keahialaka Spring and Pond	1-7-74			1-3-8:15
Mackenzie Petroglyphs	1-7-74			1-3-8:1 1-3-7:26
King's Highway (Mackenzie State Park)	1-7-74			1-3-7:26
Kumakahi Grave Sites	1-7-74			1-4-2:1
St. Benedict's Catholic Church			5-31-79	1-5-6:1
Opihikao Evangelical Church Residence	8-15-87	8-15-87		1-3-4:18

Source: State of Hawaii, Hawaii Historic Places Review Board, Hawaii Foundation for History and the Humanities, Hawaii Register of Historic Places, June 1979 and 9-24-79 addition, revised December 1987.

approximately 600 feet above sea level. Located about 6 miles west of the shoreline, Pahoa is situated about 22 miles northeast of Kilauea Volcano which formed the area. Lands with slopes of 20 percent or more are found south of Pahoa town.

12. Water Quality

There are 123 perennial streams on the Island of Hawaii, none of which are within the service area. An intermittent stream is located near the Hawaiian Acres subdivision.

The coastal waters offshore of the service area are designated Class AA by the State of Hawaii Department of Health.

C. Socioeconomic Characteristics

1. Population

The resident population of Hawaii County has increased from 63,468 in 1970 to 92,053 in 1980. In 1985, the resident population of Hawaii County was estimated at 109,500. The percent change in resident population of the County was 45.0 percent from 1970 to 1980 and 19.0 percent from 1980 to 1985.

The service area for the proposed school is within the Puna District of Hawaii County. The 1970, 1980 and estimated 1985 resident population of the Puna District was 5,154, 11,751 and 17,522, respectively. The percent change in resident population of the District was 128.0 percent from 1970 to 1980 and 49.1 percent from 1980 to 1985. The resident population of Pahoa town in 1980 was 923 persons.

2. Employment and Income

The industries which employed the most Hawaii County workers in 1980 were: 1) retail trade, 2) professional and related services, and 3) agriculture, forestry, fisheries and mining. The unemployment rate for Hawaii County in 1980 was 6.2 percent. The median household income for the County was \$16,975 in 1979.

3. Public Services

a. Recreation

The existing service area offers various recreational opportunities. In Pahoa, recreational facilities include the Pahoa Community Center and the Pahoa High and Elementary School.

b. Schools

The Pahoia High and Elementary School serves the existing Pahoia service area. There are no other public educational institutions within the service area.

The Malamalama School (grades K to 8), is a private educational institution located in Hawaiian Paradise Park. The Kamehameha Schools Early Education program (K.E.E.P.) is available for Pahoia School students from grades K to 3.

c. Police Protection

The Pahoia service area is served by the Keaau Station of the Hawaii County Police Department. The station is located in Keaau, approximately 11 miles northwest of Pahoia. It has a staff of 26 personnel, with 4 officers on duty at a time.

A police substation is planned for development in Pahoia town. The substation is anticipated to be operational by mid-1988.

d. Fire Protection

Fire protection for the existing service area is provided by the Pahoia Station of the Hawaii County Fire Department which is located in Pahoia town. The Station has one tanker truck and one engine pumper. A staff of 4 persons provides 24-hour protection.

e. Health Care Facilities

There are no hospitals serving residents within the existing Pahoia service area. Hospitals are located in Hilo and Kau. The Pahoia Family Health Center, a branch of the Hilo Medical Group, is a clinic located in the Pahoia Village Center.

f. Transportation

The existing service area is served by the Keaau-Pahoia-Kalapana-Kapoho Road, a State highway. The Keaau-Pahoia-Kalapana-Kapoho Road provides service for commuters traveling between the Keaau, Kapoho and Kalapana areas. The highway is referred to as the Keaau-Pahoia Road, north of Pahoia, and the Pahoia-Kalapana and Pahoia-Kapoho Roads, south of Pahoia.

Construction of a by-pass road, Keaau-Pahoa Road (Pahoa By-Pass), is proposed by the State of Hawaii to alleviate heavy traffic conditions through Pahoa town. This roadway would extend from the vicinity of the intersection of the existing Keaau-Pahoa Road and Kahakai Boulevard, and would connect to the existing Pahoa-Kalapana and Pahoa-Kapoho Roads in the vicinity of the existing Pahoa High and Elementary School. The Keaau-Pahoa Road (Pahoa By-Pass) is scheduled for completion in 1989.

The County bus transit system provides service for the Island of Hawaii.

Air service for the Island of Hawaii is provided by State airports at Hilo and Keahole. These airports serve as terminals for inter-Island and freight traffic. Charter and air taxi services are also available.

Deep-water ports servicing Hawaii County are located at Hilo and Kawaihae. Hilo Harbor provides Roll On-Roll Off container service. Both ports provide barge service.

D. Infrastructure

1. Water

Water for the existing service area is supplied by the Hawaii County Department of Water Supply, a privately-owned water supply company in the Hawaiian Beaches Subdivision, and individual catchment systems. A system of transmission and distribution mains (which include line sizes of 12, 8 and 6-inches) are located in the service area. Storage facilities include County-maintained storage tanks of 0.1, 0.3 and 0.5 million gallons (mg) in the Pahoa area. Water consumption within the County system in the Pahoa area is approximately 0.4 million gallons per day (mgd).

2. Sewerage

The existing service area is serviced by individual cesspools. In compliance with State and County rules and regulations, a facility such as the proposed school will require an individual wastewater treatment and disposal system.

3. Electrical/Telephone

Electrical power for residential and commercial use in Hawaii County is provided by the Hawaii Electric Light

Company, Inc., a subsidiary of the Hawaiian Electric Company, Inc. High voltage distribution lines connect substations, including the Hawaiian Beaches and Kapoho Substations.

Telephone service for the existing service area, as for the rest of the State, is provided by the Hawaiian Telephone Company.

4. Drainage

Existing storm drainage facilities in the service area consist primarily of localized culverts. In general, the overlying soil in the region allows for percolation of rainwater into the ground.

IV. RELATIONSHIP TO PLANS, POLICIES AND CONTROLS

A. Plans

1. Hawaii State Plan

The Hawaii State Plan establishes a statewide planning system that provides goals, objectives, and policies which detail priority directions and concerns of the State of Hawaii. The proposed project is consistent with the following State objective and policy:

- o Planning for the State's socio-cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations.
- o To achieve the education objective, it shall be the policy of this State to:

Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.

2. State Education Functional Plan

The State Education Functional Plan is prepared in compliance with Chapter 226, Hawaii Revised Statutes, by the State Department of Education. This State functional plan helps to implement the Hawaii State Plan, provide high priority directions for the Department of Education, and improve the quality of public education in Hawaii.

The proposed project is consistent with the following State policies, State priority guidelines, Board of Education concerns, and/or State Education Functional Plan Advisory Committee concerns regarding educational support services:

- o Ensure the provision of adequate and accessible educational services and facilitates that are designed to meet individual and community needs.
- o Provide a safe and secure environment for schools and libraries.

3. Hawaii County General Plan

The Hawaii County General Plan is the policy document for the long-range comprehensive development of the Island of Hawaii. With respect to the proposed project, the April

1987 Draft of the General Plan notes that the State Department of Education is currently conducting a site selection study to meet the present and future elementary student projection needs. The General Plan discusses the fourfold increase in the Pahoia complex student population within the past 15 years, due to the in-migration to subdivision areas. As documented in the General Plan, a course of action for the Puna district is to "Encourage the implementation for relocation and development of a new elementary complex in Pahoia."

The general location of various land uses in relation to each other are indicated on the General Plan Land Use Pattern Allocation Guide Map (LUPAG) to guide the direction and quality of future developments. The Pahoia town area is designated Medium and Low Density Urban Development, and Alternate Urban Expansion. The surrounding region is designated primarily Orchards and Conservation, with scattered Urban Development and Agricultural uses.

The General Plan Facilities Map for the Puna District indicates geological features, public and cultural facilities and public utilities, safety and transportation. Kilauea and Mauna Loa rift zones and fault zones are indicated on this map.

B. Land Use Policies

1. State Land Use Designation

The State Land Use Law regulates the classification and uses of State lands to accommodate growth and development, and to retain the natural resources of the area. All State lands are classified by the State Land Use Commission, with consideration given to the General Plan of the County, as either Urban, Rural, Agricultural or Conservation. Pahoia town is within the State Urban District. The surrounding area is primarily designated Agricultural with scattered Urban, Rural and Conservation designations.

2. County Zoning

The Zoning Code of the County of Hawaii, identified as Chapter 25, guides development within the County and is administered within the framework of the Hawaii County General Plan. Zoning maps prepared by the County indicate land use district designations. Zoning districts in Pahoia town are primarily village commercial, single family residential and agriculture. The majority of the area surrounding Pahoia town is zoned agriculture, with scattered residential and open, conservation districts.

C. Landownership

In 1986, approximately 8.9 percent of the lands on the Island of Hawaii were owned by the Federal government while State ownership accounted for 31.5 percent and private ownership 59.6 percent. County ownership of lands on the Island of Hawaii is about 0.05 percent.

V. IDENTIFICATION OF CANDIDATE SITES

A. Site Selection Methodology

A site selection study was performed to determine the most suitable sites for the proposed Pahoia Elementary School. General guidelines set forth by the DOE, (Board of Education Policy 6700) for site selection and facility layout formed the general basis for the selection of potential elementary school sites. These guidelines recommend the following:

- o Sites in a quiet location are preferred over sites adjacent to existing and foreseeable noise generators such as airports, freeways, and heavy industries.
- o Sites upwind of noisy sources are preferred over sites downwind of noisy sources.
- o Sites exposed to the wind to provide natural ventilation of facilities are preferred over sites without natural ventilation because of the cost of mechanical ventilation.
- o Sites in medium rainfall areas are preferred over sites in a low or high rainfall area.
- o Sites shaded by tall trees or mountains during part of the school day are preferred over sites without such shading.
- o Sites free from specular heat reflections from water are preferred over sites subject to such reflections.

While the above guidelines were generally observed, the site selection process recognized the large region encompassed by the new school service area and the need to systematically locate areas which would be sufficient, suitable, and acquirable for development into a school site. In this regard, three levels of analysis were established involving: 1) minimum criteria, 2) site delineation criteria, and 3) detailed site criteria.

The first step in the site selection methodology is a broad assessment of the new service area to identify potential areas for the school. The second step delineates candidate sites within the potential school areas. The third step assesses the advantages and disadvantages of each candidate site with respect to environmental and community concerns, and cost considerations, including those for land acquisition, on-site and off-site development and bus subsidies.

1. Minimum Criteria Evaluation

Potential school site areas were broadly identified through selected minimum criteria. These include those established

by the DOE, some of which were modified, and new criteria, developed through review and analyses of conditions most likely to enhance the viability and compatibility of potential site areas for educational activities. The minimum criteria used for evaluation are discussed below along with the rationale for development of these criteria.

a. Natural Hazards

The following DOE-established minimum criteria regarding potential tsunami, flood and landslide hazards were not modified:

Criteria: The site must not be in a tsunami inundation zone as established by an authorized agency recognized by the State of Hawaii.

Criteria: The site must not be in a major flood plain if adequate drainage provisions cannot be made at reasonable cost.

Criteria: The site must not be located within a known or potential landslide area.

In addition to the natural hazards discussed above, portions of the region are considered to be within relatively high volcanic hazard areas. A new criteria was, therefore, developed as follows:

Criteria: The site must not be located within rift or fault zones.

b. Central Location Along Major Roadway

The service area population for the proposed elementary school is uniquely distributed. A majority of the student population, approximately 70 percent, reside in the Hawaiian Beaches, Hawaiian Parks and Hawaiian Shores subdivisions along the eastern extent of Kahakai Boulevard. Most of the remainder, approximately 30 percent, reside in the large area north of Ainaloa Drive. To minimize the distance students must commute to school, the campus should not be located at either extremes of these two population groups. To address this concern, the school should be located between the centers of the two major populated areas.

In addition, the school should be located along a major roadway to facilitate transportation. Major roads are considered to be public roads with a minimum right-of-way of 50 feet. These roads are depicted in Figure 3.

III. PROJECT SETTING

A. Regional Overview

Hawaii County, coextensive with the Island of Hawaii, is the largest county in the State, encompassing an area of 4,034 square miles. With a resident population of approximately 109,500 in 1985, Hawaii County is the second most populous County in the State.

Hawaii County's principal industries are sugarcane growing and milling, tourism, diversified agriculture and cattle ranching, and astronomy. The only coffee industry in the United States, and the largest orchid growing enterprise in the world are also located on the Island of Hawaii. The export of macadamia nuts, papayas, tropical flowers and foliage are expanding industries.

There are no separate municipal governments within Hawaii County, and like Hawaii's other Neighbor Island Counties, the County is governed by a Mayor-County Council form of government.

The City of Hilo is the seat of the County Government, as well as the fourth largest city in the State. Kailua, Captain Cook, Honokaa and Pahala are major population centers on the Island of Hawaii.

The existing and proposed service area are located within the Puna District of the Island of Hawaii. The towns of Pahoa and Keaau are the major population centers of the District. Smaller towns located along Mamalahoa Highway include Mountain View, Kurtistown and Glenwood, as well as the many subdivisions which have access off of the highway south of Hilo to Volcano. South of Pahoa on Kaimu-Kapoho Road are the towns of Opihikao, Kehena, Kaimu and Kalapana.

B. Service Area

1. Existing Land Uses

The chief towns within the Puna District of the Island of Hawaii are Pahoa and Keaau. Existing land uses in the Pahoa area are representative of land uses typically found in a rural community which is dependent on agriculture, including tree crops and nursery production. Large acreages of wasteland also exist. Papaya groves, anthurium and orchid farms are also located in the Pahoa area. A geothermal power station is located approximately 3 miles southeast of Pahoa town. Commercial uses are found in Pahoa with residential uses situated nearby.

2. Climate

The climate of the Island of Hawaii is characterized by wide variations in temperature and rainfall as a result of the range of elevation and location found on the island. Located on the windward side of the island, the Pahoa area receives a relatively large amount of rainfall annually, averaging between 150 to 175 inches. The annual temperature varies between 75° to 80° F. Tradewinds, which blow from the northeast, are predominant.

3. Flora

Flora characteristic of the undeveloped Pahoa area are closed guava forests with shrubs. Flora found within the area include guava (Psidium quajava), Boston fern (Nephrolepis exaltata bostoniensis), Hilo grass (Paspalum conjugatum), basket grass (Oplismenus hirtellus), false staghorn fern (Dicranopteris linearis), kukui (Aleurites moluccana) and hala (Pandanus odoratissimus).

Vegetation in the Pahoa area includes agricultural crops. Flora predominant of the open areas surrounding Pahoa town are identified in Table 1.

4. Fauna

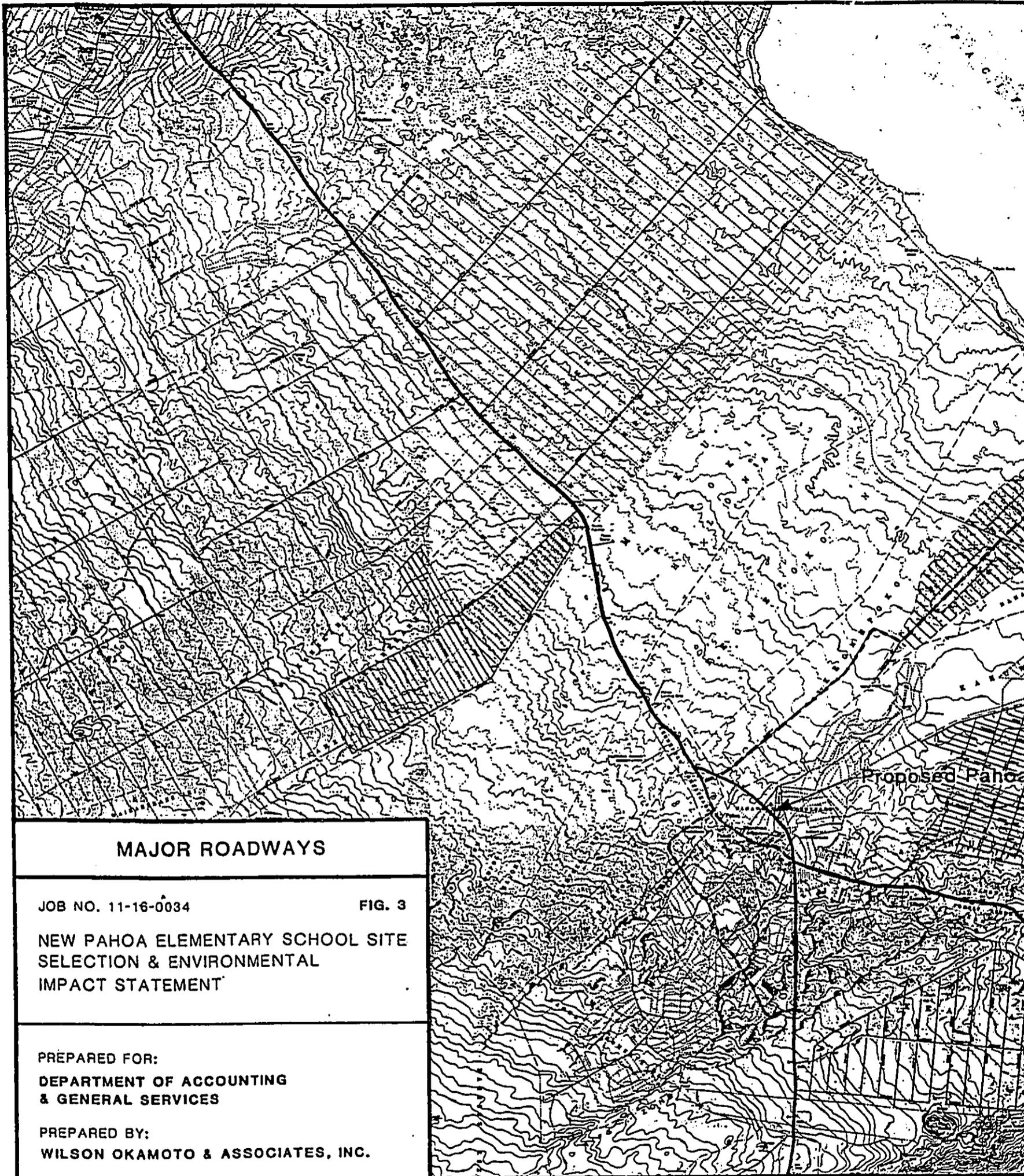
Fauna found in the Pahoa area include mongoose, house mice, Norway rats, roof rats and Polynesian rats. Domesticated dogs and cats are likely to be found in Pahoa. Feral dogs and cats may also inhabit the area.

Birds found in the vicinity include the cardinal, barred dove, spotted dove, i'iwi, mockingbird, mynah, golden plover, pueo, ricebird, house sparrow and white-eye.

5. Wetlands

The Kapoho Fishpond and Green Lake are two wetland sites located in the Kapoho area. Kapoho Fishpond is located in a bay near Kapoho Point at the eastern extent of the existing service area. This pond is a coastal tidepool that was walled off historically. The water within Kapoho Fishpond is highly saline, although partially spring fed. The water level within the pond fluctuates with tidal influence. The wetland at this site occupies the area immediately inland from the fishpond walls.

Green Lake is located about one mile west of Kapoho Fishpond, in Kapoho Crater. Dense algal growth and floating waterweed covers the majority of the surface area



MAJOR ROADWAYS

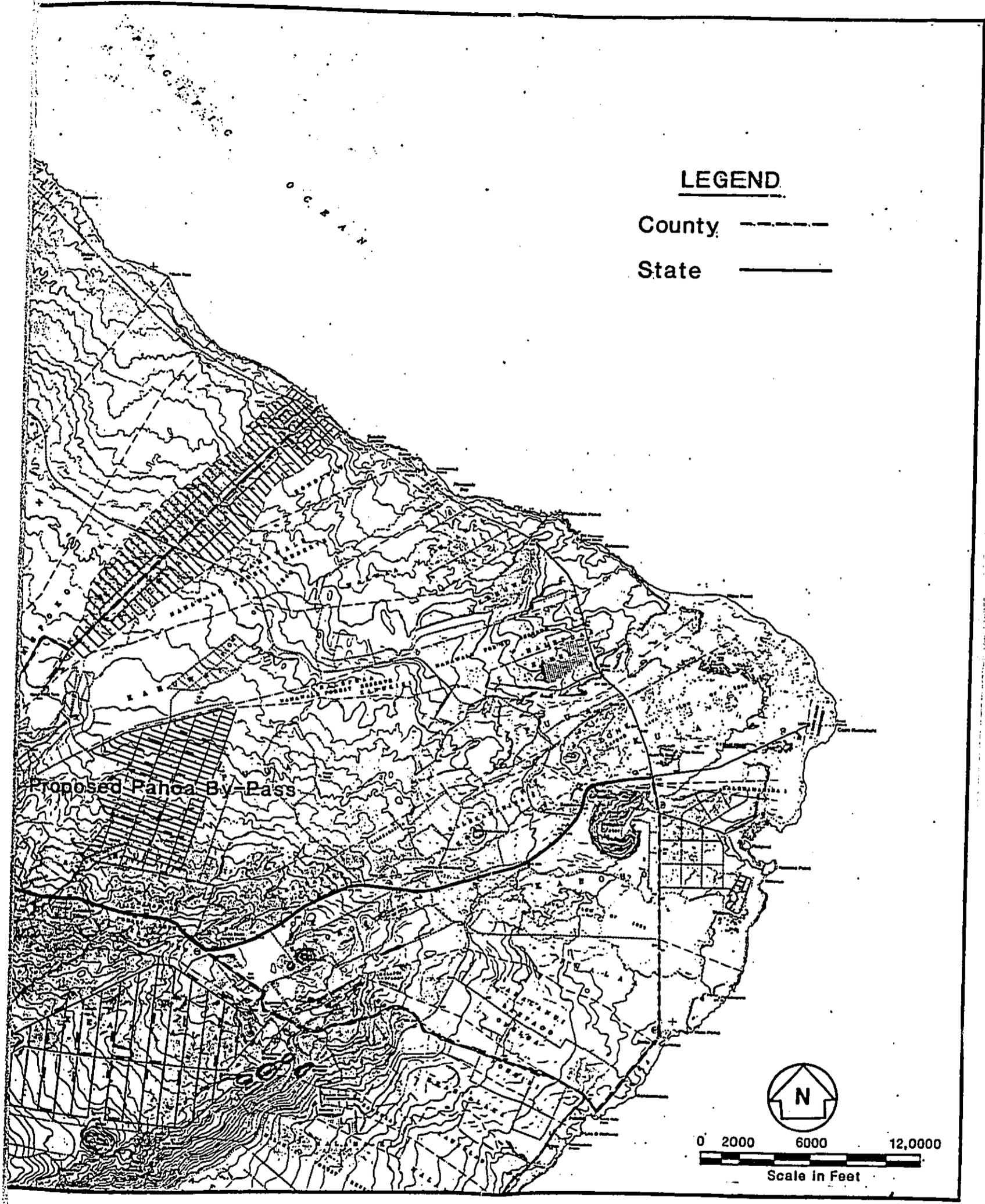
JOB NO. 11-16-0034

FIG. 3

NEW PAHOA ELEMENTARY SCHOOL SITE
SELECTION & ENVIRONMENTAL
IMPACT STATEMENT

PREPARED FOR:
DEPARTMENT OF ACCOUNTING
& GENERAL SERVICES

PREPARED BY:
WILSON OKAMOTO & ASSOCIATES, INC.



LEGEND

County - - - - -

State - - - - -

Proposed Pahoa By-Pass



0 2000 6000 12,000
Scale in Feet

Criteria: The school site must be located along a major roadway between the centers of population served by the school.

c. Historical

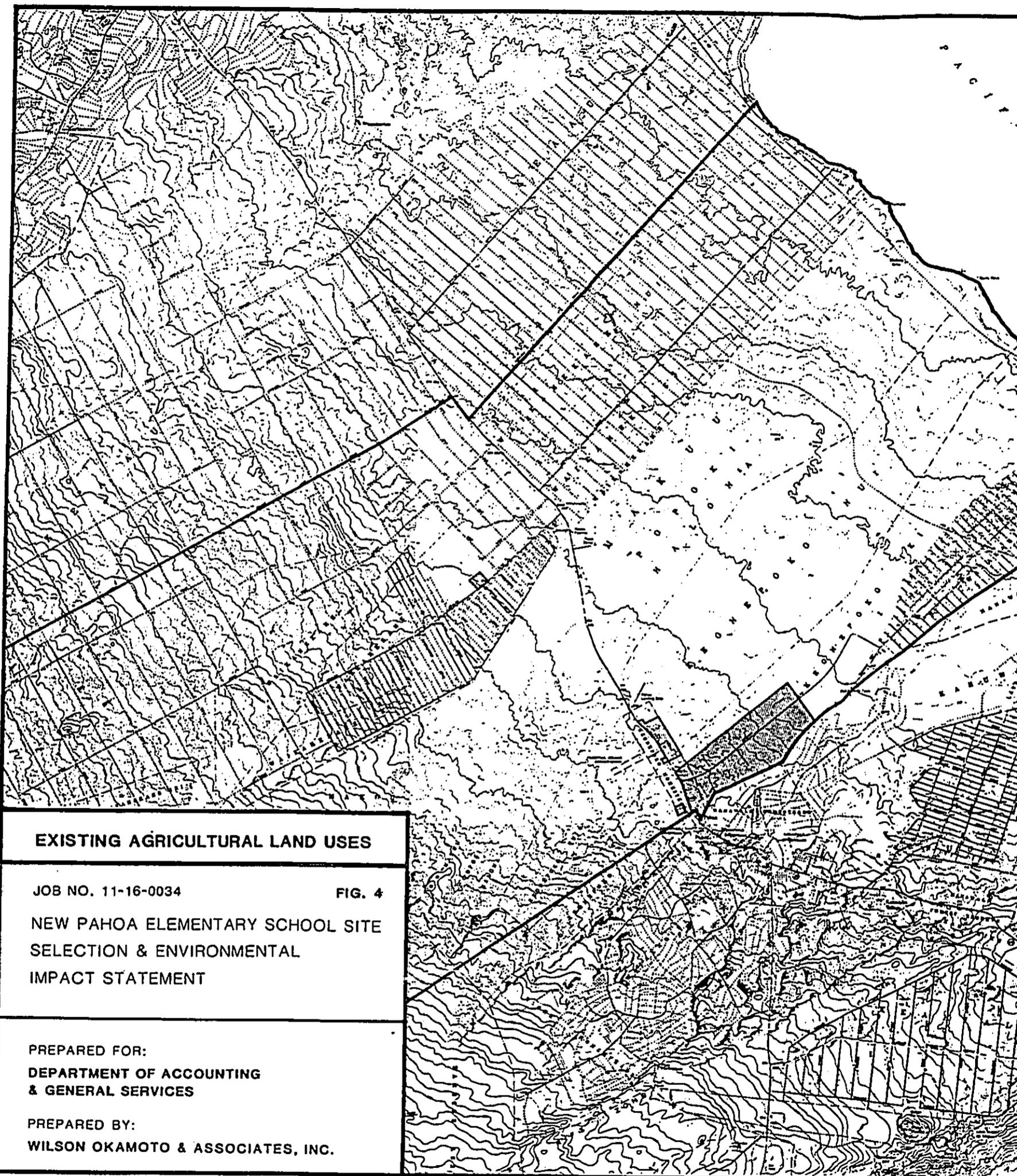
The minimum criteria regarding historic sites, similar to that developed by the DOE, would be used to determine preliminary site areas:

Criteria: The acquisition and development of the site must be such that no buildings or sites designated as historic and deserving of preservation by the State Historic Preservation Office will be destroyed.

d. Agricultural Nuisances

The rural town of Pahoa is historically an agricultural community, economically based on sugar production. Since the closing of the sugar mill, however, agriculture has shifted to much smaller scale production of diversified crops, including anthuriums, papayas and truck crops. Recently, the State established an agricultural subdivision along Kahakai Road to promote diversified agriculture. Agricultural activities such as these pose a potential nuisance to schools, primarily in relation to the spraying of pesticides which are associated with odor and potential health problems. Existing agricultural land uses within the new school service area are shown on Figure 4.

Toward protecting agricultural activities from nuisance complaints by encroaching development, such as the proposed school, the State Legislature enacted the Hawaii Right-to-Farm Act (Chapter 165, Hawaii Revised Statutes). The Act limits the circumstances under which an agricultural activity may be deemed a nuisance. Essentially, any agricultural activity established for a year or more would be protected from being deemed a nuisance. To avert potential conflict with existing agricultural activities, potential school sites should be located at a sufficient distance from such activities. While the State has no standards for determining what this minimum distance is, the State of California has established one-fourth mile as the minimum distance between agricultural operations and uses such as schools and hospitals. For the purposes of this site selection study, this

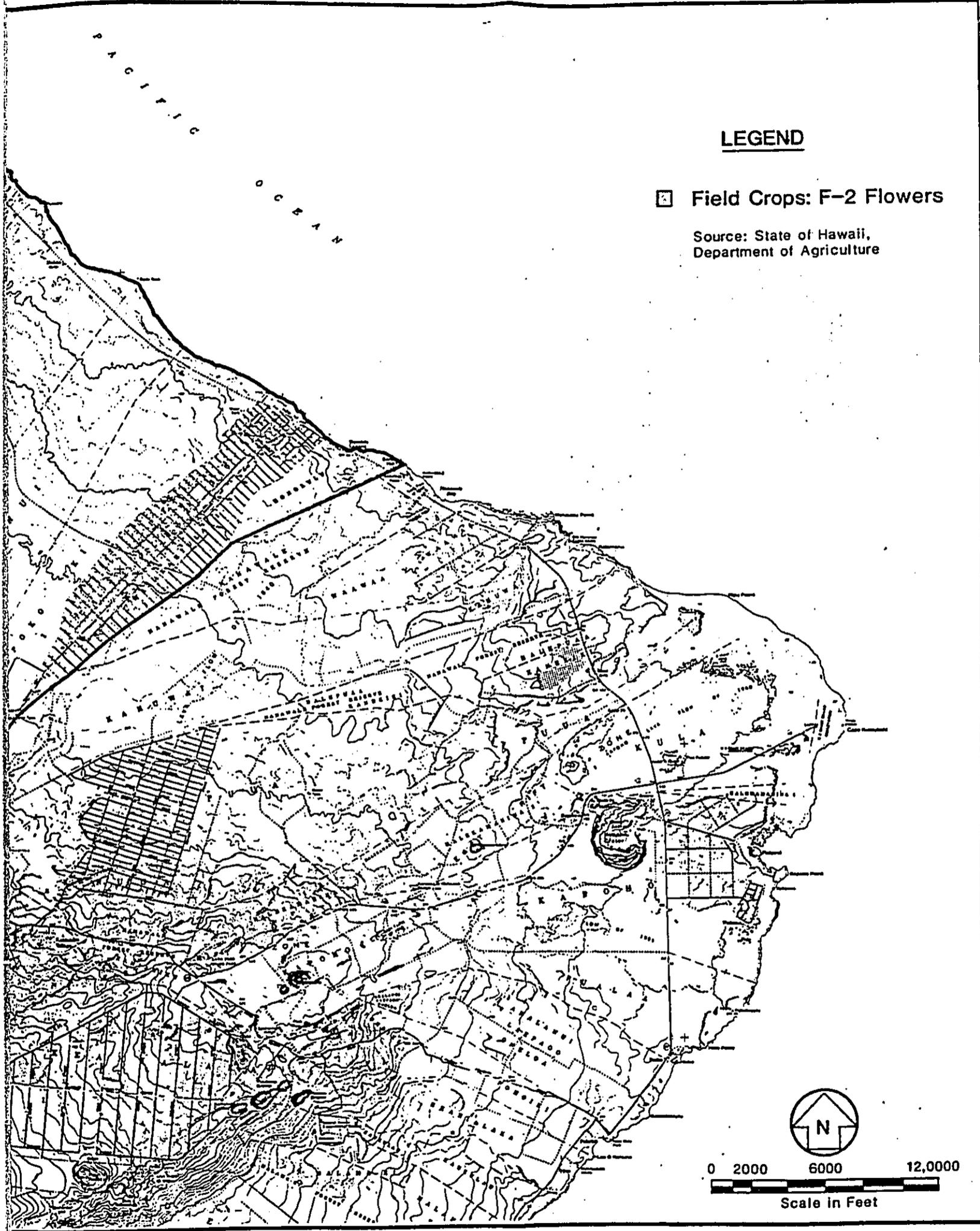


EXISTING AGRICULTURAL LAND USES

JOB NO. 11-16-0034 FIG. 4
NEW PAHOA ELEMENTARY SCHOOL SITE
SELECTION & ENVIRONMENTAL
IMPACT STATEMENT

PREPARED FOR:
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LEGEND

▨ Field Crops: F-2 Flowers

Source: State of Hawaii,
Department of Agriculture



0 2000 6000 12,000
Scale in Feet

distance is considered suitable and sufficient. Occasionally, however, periods of adverse wind conditions could subject a school more than one-fourth mile away from an agricultural operation to short-term dust, noise or pesticide problems.

Criteria: The site must be located at least one-fourth mile away from existing agricultural operations.

e. Water Service

Development of a school within portions of the new service area would require extensive water system development or extension. To minimize costly development of service connections for water, the site should be located near an existing water line corridor. A distance of 1,500 feet is regarded as the maximum feasible distance the school should be located from water service lines. Figure 5 depicts the alignment of water lines in the service area.

Criteria: The site must be located within 1,500 feet of an existing water line.

Application of the above minimum criteria resulted in the delineation of broad preliminary site areas as shown on Figure 6.

2. Site Delineation Criteria

Following identification of broad preliminary site areas in the first step of site evaluation, candidate sites were delineated within these areas. The criteria used to delineate these sites include modified DOE minimum criteria as well as new criteria which reflect conditions unique to the service area.

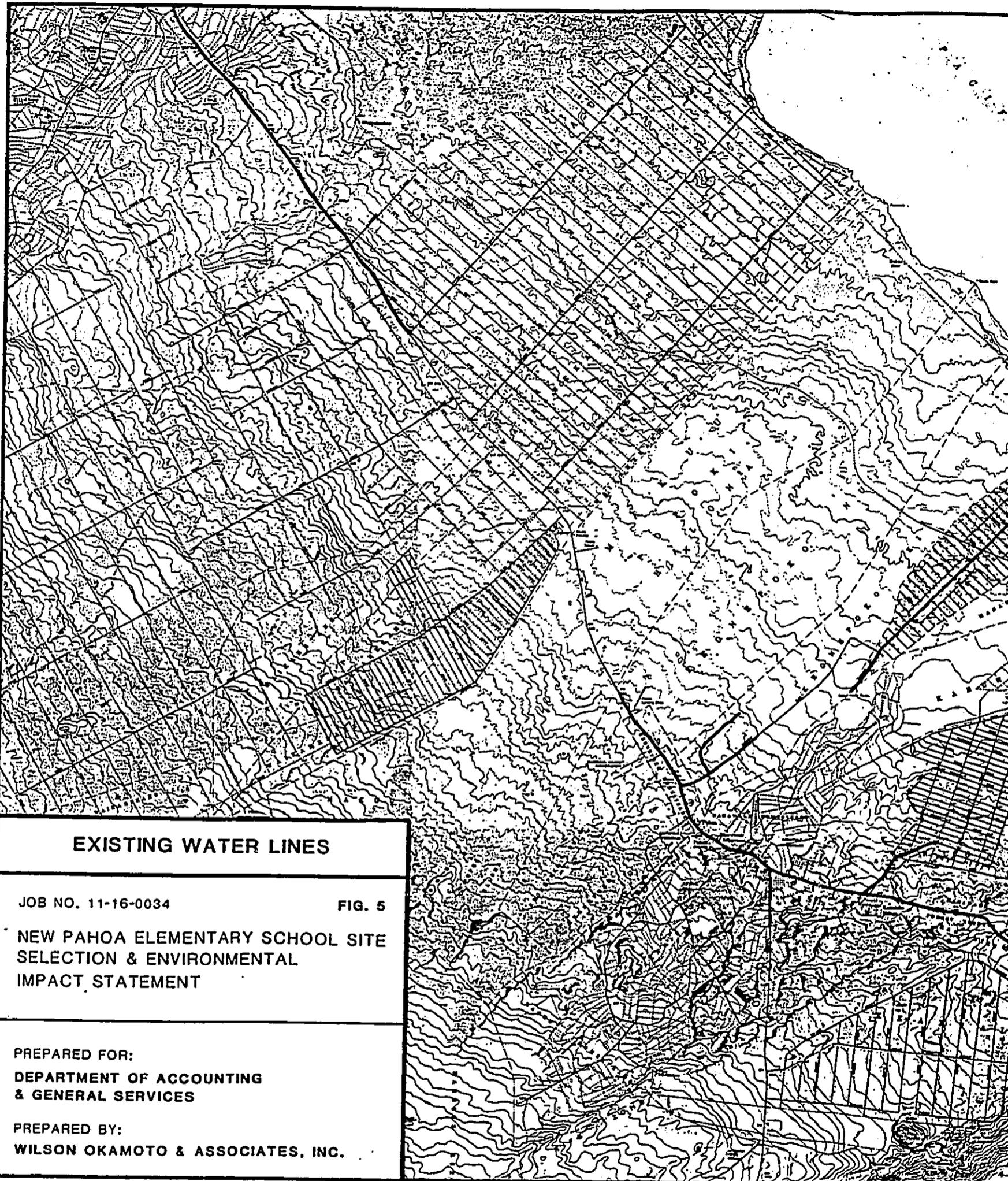
a. Acreage

The DOE maximum elementary school area is 8 acres. Thus, all candidate sites are 8 acres in size.

Criteria: The candidate sites shall be 8 acres in size.

b. Shape

According to DOE criteria, the length to width ratio of the site must not exceed 2.5 to 1.0. A ratio of 1.5 to 1.0 was considered optimal for a new school.



EXISTING WATER LINES

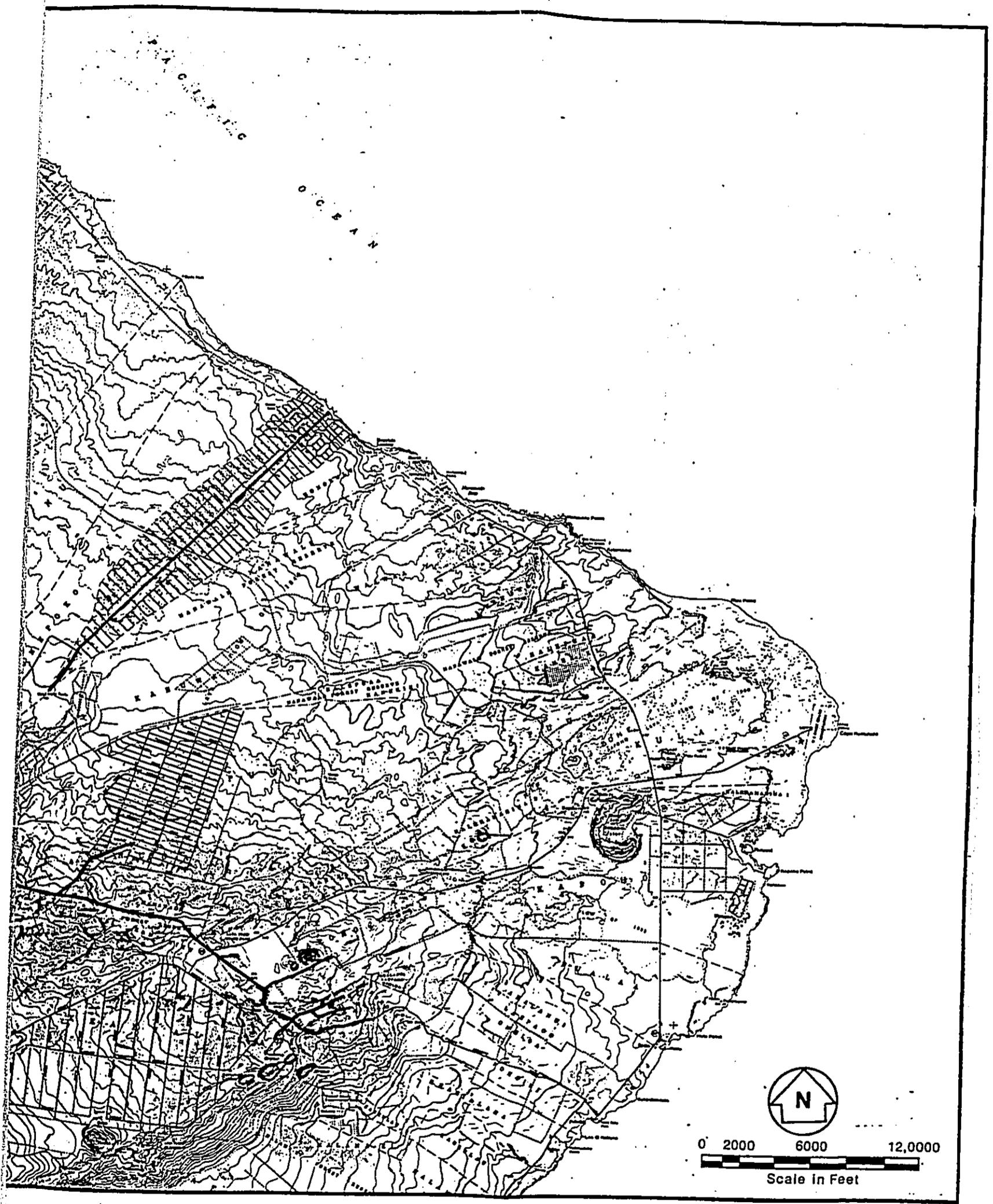
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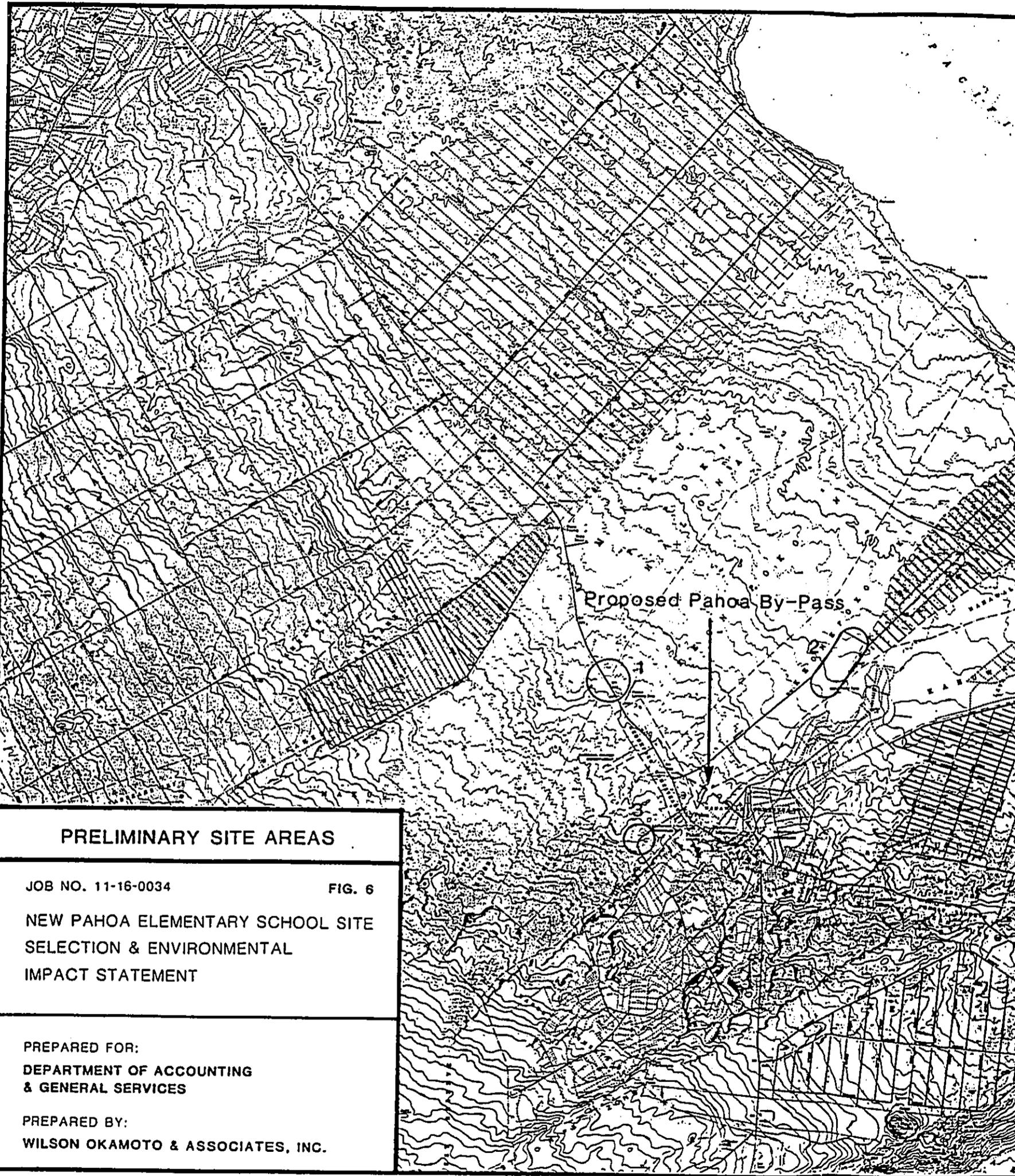
FIG. 5

NEW PAHOA ELEMENTARY SCHOOL SITE
SELECTION & ENVIRONMENTAL
IMPACT STATEMENT

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PRELIMINARY SITE AREAS

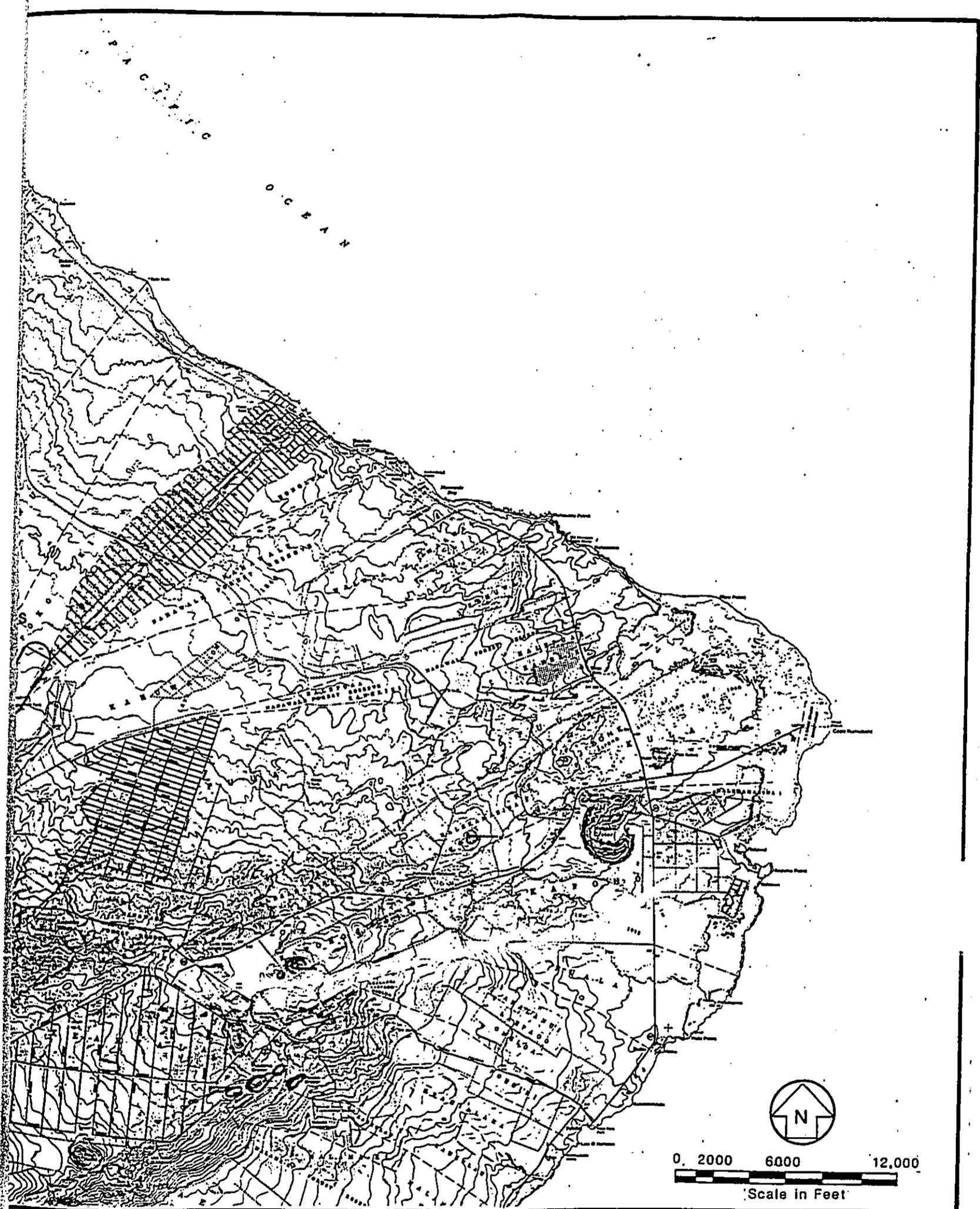
JOB NO. 11-16-0034

FIG. 6

**NEW PAHOA ELEMENTARY SCHOOL SITE
SELECTION & ENVIRONMENTAL
IMPACT STATEMENT**

**PREPARED FOR:
DEPARTMENT OF ACCOUNTING
& GENERAL SERVICES**

**PREPARED BY:
WILSON OKAMOTO & ASSOCIATES, INC.**



PACIFIC
OCEAN



0 2000 6000 12,000
Scale in Feet

Criteria: The candidate sites shall have a length to width ratio of 1.5 to 1.0.

c. Timing

The DOE-established minimum criteria for timing was not modified:

Criteria: The acquisition of the site must be possible early enough to allow enough construction time to meet DOE's scheduled school opening date.

d. Displacement

The DOE specifies that the school site must be obtained without mass relocation of families. Due to the large available land area, acquisition of a site owned by the State or by only one landowner is preferred.

Criteria: The candidate site should be unoccupied.

Criteria: Ownership of the candidate site must be held by the State or a single landowner.

e. Noise Sources

Highway traffic noise is detrimental to the learning environment. To address this concern regarding broad preliminary site areas encompassing a highway, a new criteria was developed to setback the school location from a highway to reduce potential noise nuisances. This new criteria specifies that schools should be located at least 500 feet away from highways to minimize noise nuisances.

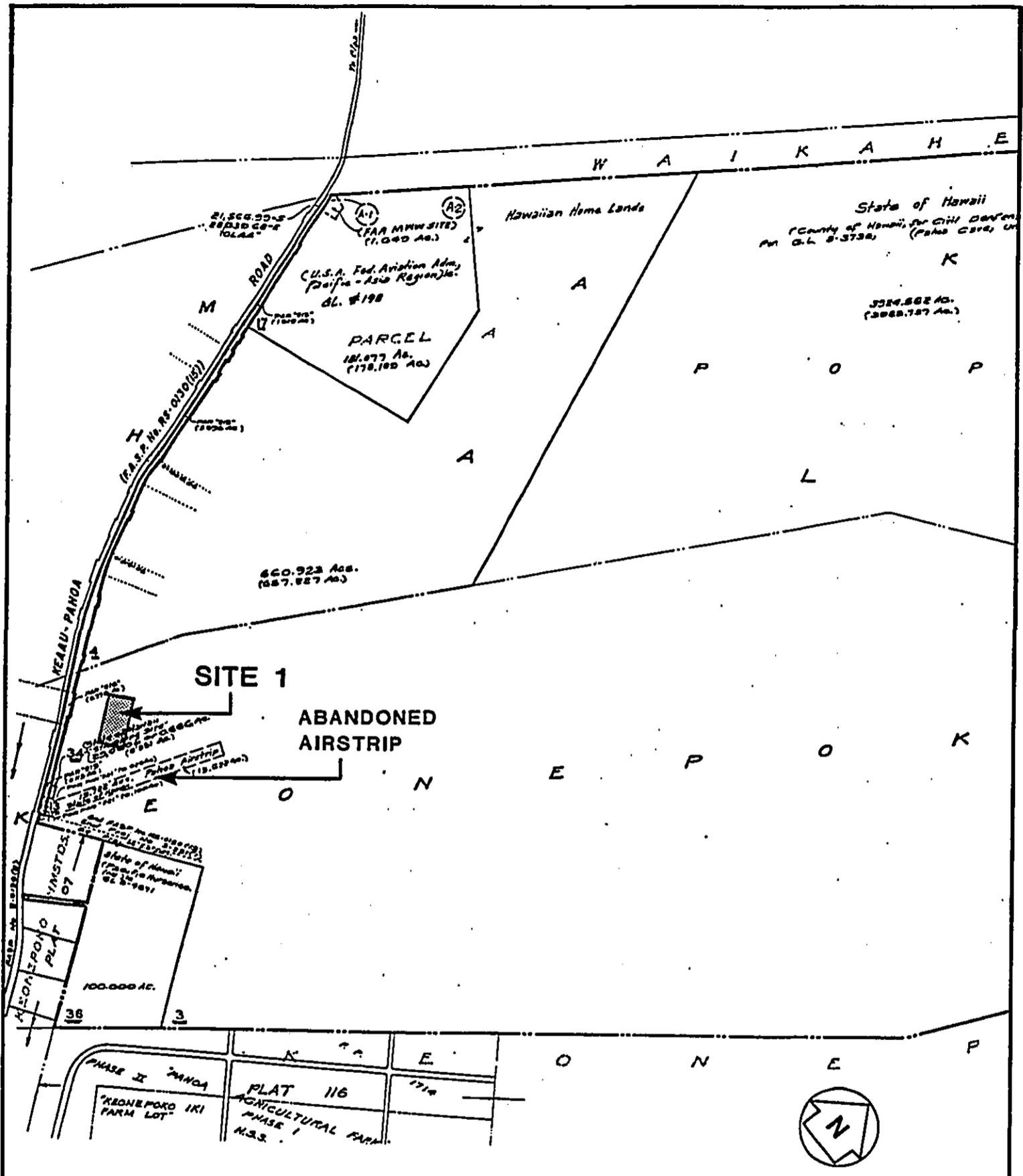
Criteria: The candidate site will be located at least 500 feet away from a highway to minimize noise nuisances.

B. Candidate Sites

Based on the site delineation criteria, the following candidate sites were delineated within the preliminary site areas.

1. Candidate Site 1

Adjacent to the abandoned Pahoia Air Strip, Site 1 (TMK: 1-5-10: por. 3) is approximately 500 feet makai of Keaau-Pahoia Road (see Figure 7). Site 1 is about 5,000 feet northwest of the proposed Pahoia By-Pass. Keonepoko Homesteads lands which support existing agricultural



Site 1

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New Pahoa Elementary School Site Selection & Environmental Impact Statement

prepared for:

DEPARTMENT OF ACCOUNTING & GENERAL SERVICES

prepared by:

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FIG. 7

operations are located 1,400 feet south of Site 1 and could occasionally expose the site to associated odors during adverse wind conditions.

Located on State-owned land, this site is currently undeveloped and is overgrown with trees, shrubs and grasses.

2. Candidate Site 2

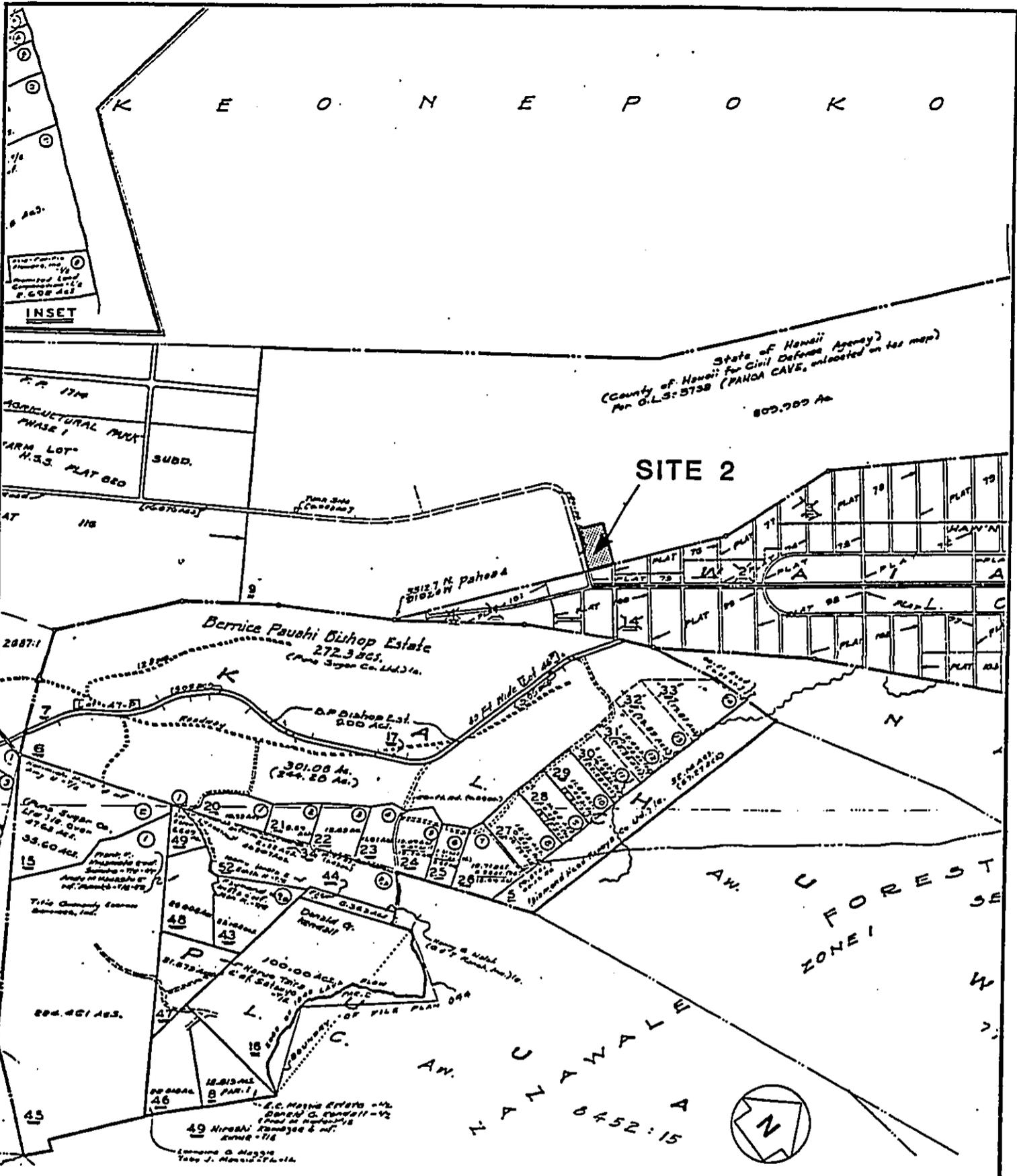
Candidate Site 2 (TMK: 1-5-09: por. 9) is located along Kahakai Boulevard and is 5,000 feet makai of an existing agricultural park (see Figure 8). Site 2 is about 2.3 miles makai of the proposed Pahoia By-Pass.

Site 2 is situated on State-owned land. Vegetation within the undeveloped site includes grasses, shrubs, flowers and a few trees.

3. Candidate Site 3

Candidate Site 3 (TMK: 1-5-08: por. 1,6) is situated along the County's Pahoia By-Pass Road (see Figure 9). This site is located about 2,200 feet mauka of the Keaau-Pahoia Road and 900 feet north of the County's Solid Waste Transfer Station. Site 3 is situated approximately 2,500 feet south of the connection of Keaau-Pahoia Road and the proposed Pahoia By-Pass. The site is 1,400 feet downwind of an existing agricultural operation and could occasionally be exposed to dust, noise or pesticide drift associated with agricultural operations during adverse wind conditions.

Site 3 is located on State-owned lands. This undeveloped site is overgrown with trees and shrubs.



Site 2

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New Pahoia Elementary School Site Selection & Environmental Impact Statement

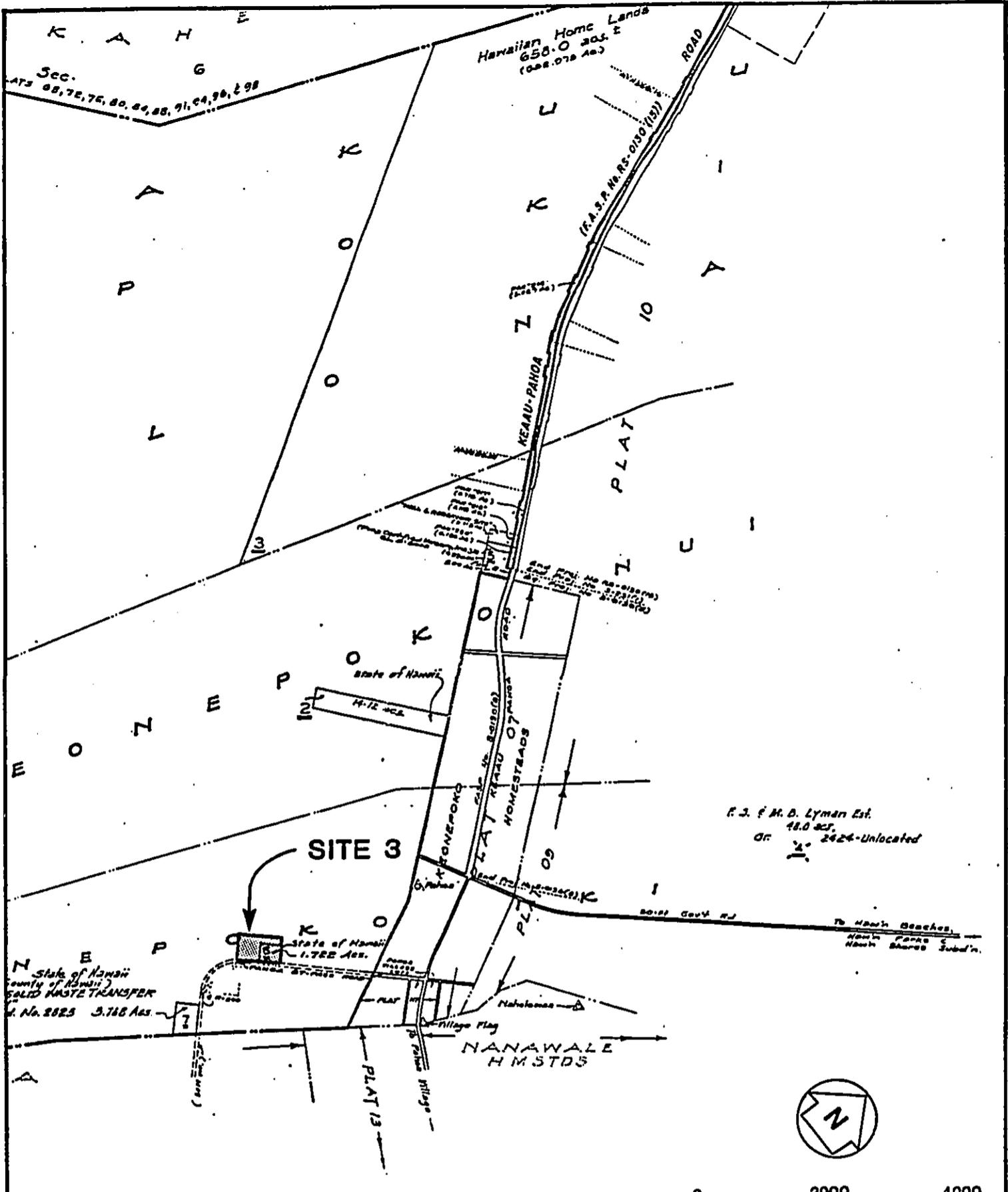
FIG. 8

prepared for:

prepared by:

DEPARTMENT OF ACCOUNTING & GENERAL SERVICES

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Site 3

JOB NO. 11-16-0034

New Pahoa Elementary School Site Selection & Environmental Impact Statement

FIG. 9

prepared for:

prepared by:

DEPARTMENT OF ACCOUNTING & GENERAL SERVICES

WILSON OKAMOTO & ASSOCIATES, INC.

VI. DETAILED EVALUATION OF CANDIDATE SITES

A. Detailed Site Evaluation Criteria

Having met the minimum and additional criteria which formed the first and second levels of site selection, respectively, the candidate sites were evaluated with respect to three separate evaluation considerations which comprised the third level of analysis, as follows:

- o School Site Criteria
- o Community Criteria
- o Cost Considerations

School site criteria are physical parameters which identify site development and school operational constraints and opportunities. Community criteria are factors which enable evaluation of school development in terms of governmental/land use compatibility and the relationship of the school to its surrounding community. Finally, cost considerations involve an assessment of school development and operational costs.

School site criteria and community criteria and their associated rating scales are outlined below.

1. School Site Criteria

a. Environmental Characteristics

- o Slope: (Computed by analyzing the overall slope of the site and taking an average)

Good - The average slope of the site is between 1 and 3 percent.

Fair - The average slope of the site is between 4 and 10 percent.

Poor - The average slope of the site is greater than 10 percent.

- o Soil:

Good - The site is composed of non-rocky soil with a depth greater than 10 feet or coral or rocky soil with a depth greater than 15 feet. These soils would facilitate installation of underground utilities, lot grading and road building.

Fair - The site is composed of non-rocky soil with a 6 to 10-foot depth or coral or rocky soil with a depth of 11 to 15 feet.

Poor - The site is composed of (1) non-rocky soil with a 0 to 5-foot depth or (2) coral or rocky soil with a depth of less than 11 feet or (3) marshy soil or (4) lava.

o Natural Beauty:

Good - The site has some natural beauty in the form of trees, plants, rock formations, etc. which can be preserved and integrated into the school campus. The site is not crossed by overhead utility lines.

Fair - The site generally lacks natural beauty but still has the potential for beautification through proper landscaping. The site is not crossed by overhead lines.

Poor - The site has no natural beauty whatsoever. The site is crossed by overhead lines.

b. Roadways and Utilities

o Adequacy of Roadways:

Good - The site has adequate roadways to meet ultimate school needs. The minimum road right-of-way required is 60 feet.

Fair - The site is served by roadways requiring widening or other improvements to meet the interim and ultimate needs of the school. The minimum road right-of-way required is 50 feet.

Poor - The site is proximate to a roadway with a right-of-way less than 50 feet.

o Adequacy of Water Service:

Good - The site has adequate water pressure and capacity available to meet ultimate school needs.

Fair - The existing water service is insufficient but adequate service can be provided by the addition of transmission improvements and/or increasing storage capacity which will meet interim and ultimate needs of the school.

Poor - The site will require extensive development of a water system, including source development, to specifically meet school needs.

o Adequacy of Power and Communications:

Good - The site has, or is proximate to, adequate existing power and communications lines which are available to service the school.

Fair - The site requires some off-site improvements which will provide for adequate power and communications to serve interim and ultimate needs of the school.

Poor - The site has insufficient power or communications available and will require extensive off-site improvement of these services to serve school needs.

c. Accessibility

o Pedestrian Access:

Good - The site has pedestrian access from two sides.

Fair - The site has pedestrian access from one side.

Poor - The site has no pedestrian access.

o Pedestrian Safety:

Good - Adequate and safe walkways/shoulders to the site are available.

Fair - Safe walkways/shoulders to the site may be provided along the school access road.

Poor - The site may require traffic signals and/or pedestrian overpasses in addition to walkway/shoulder improvements.

o Automobile Access:

Good - The site will have roadways along one short side and one long side.

Fair - The site will have roadways along one long side or two short sides.

Poor - The site will have a roadway only along one short side.

o Traffic Flow:

Good - The site is proximate to a highway passing through the service area.

Fair - The site is adjacent to a major roadway.

Poor - Access to the site is via a dead end roadway.

2. Community Criteria

a. Government

o State Land Use District Map Designation:

Good - The site is within the Urban District.

Fair - The site is within the Rural District.

Poor - The site is in the Agricultural or Conservation District.

b. Community Effects

o Proximity to Commercial Centers:

Good - The site is more than a half mile from those commercial enterprises that may attract students during school hours.

Fair - The site is reasonably far (0.25 to 0.5 mile) from potentially distracting commercial enterprises.

Poor - The site is within a quarter mile of potentially distracting commercial enterprises.

o Aesthetic Value:

Good - The site is not an aesthetic asset to the community and will not interfere with scenic vistas when it is developed as a school.

Fair - The site has little aesthetic value to the community or may partially obstruct scenic vistas when it is developed as a school.

Poor - The site is an aesthetic asset to the community or will obstruct scenic vistas when it is developed as a school.

3. Cost Considerations

a. Land Acquisition

Determination of the relative costs associated with land acquisition involve consideration of the following items:

- i. Land Acquisition - Estimated fair market value of the building, land, and easement obtained by using the Tax Office appraised value of the building and land together with an analysis of recent sales in the area.
- ii. Relocation of Displacees - Relocation payments to all tenants, owners, farms, and businesses that are displaced.

b. Off-Site Development

The following items are considered in the cost analysis to account for the differences in off-site development required for each candidate site:

- i. Utilities - Cost of providing additional lines for or increasing sizes of existing utility system facilities due to additional loads imposed by the school.
- ii. Drainage - Cost of constructing additional drainage facilities to accommodate added storm runoff resulting from development of the school.
- iii. Access Roads - Cost of constructing necessary access roadways to the site if none are available.

c. On-Site Development

To account for the differences in required on-site improvements for each candidate site, the following items were included in the cost analysis:

- i. Grading and Clearing - Cost of grading necessary to adapt the existing topography for buildings, play areas, and other facilities; cost of removing existing structures and heavy foliage.

- ii. Utilities - Additional costs of making utility connections.
- iii. Drainage - Cost of constructing major drainage facilities.
- iv. Foundation - Additional foundation cost due to adverse subsurface conditions.
- v. Soundproofing - Cost of soundproofing classrooms if predicted noise levels inside the classroom will exceed allowable limits.

B. Summary of Evaluations

This section summarizes the results of the evaluation based on school site criteria, community criteria and cost considerations. Evaluation ratings and detailed explanations of cost considerations are presented in Appendix A. It should be noted that the intent of the Site Selection Report is not to recommend a single preferred site. Rather, results are intended for use as a basis for discussing the relative advantages and disadvantages of each site in order to facilitate selection of a preferred site.

I. Summary of School Site Criteria Evaluation

The results of the school site criteria evaluation are summarized in Table 3.

With respect to environmental considerations, all sites were rated "poor" due to on-site soils which consist of pahoehoe lava that may present difficulty during installation of underground utilities, lot grading and other construction operations. The average slopes of the Former Pahoehoe Air Strip and Pahoehoe By-Pass Road Sites (Sites 1 and 3) are steeper than that of the Kahakai Boulevard Site (Site 2). All three candidate sites were considered to possess natural beauty in the form of trees, plants, etc. which can be preserved and integrated into the school campus. The sites are not crossed by overhead utility lines.

With regard to roadways and utilities, the Pahoehoe By-Pass Road Site (Site 3) would require the most extensive development of infrastructure. All three candidate sites would require water service development. The Former Pahoehoe Air Strip and Pahoehoe By-Pass Road Sites (Sites 1 and 3) would require some off-site power and communications improvements. The Pahoehoe By-Pass Road Site (Site 3) received a "fair" rating with respect to the adequacy of roadways criteria which is based primarily on right-of

TABLE 3
SUMMARY OF SCHOOL SITE CRITERIA EVALUATION

<u>Criteria Evaluation</u>	<u>Former Paho Air Strip SITE 1</u>	<u>Kahakai Boulevard SITE 2</u>	<u>Paho By-Pass Road SITE 3</u>
<u>Environmental</u>			
Good	1	2	1
Fair	1	0	1
Poor	1	1	1
<hr/>			
<u>Roadways & Utilities</u>			
Good	1	2	0
Fair	2	1	3
Poor	0	0	0
<hr/>			
<u>Accessibility</u>			
Good	1	1	0
Fair	2	3	4
Poor	1	0	0
<hr/>			
<u>TOTALS</u>			
Good	3	5	1
Fair	5	4	8
Poor	2	1	1

-way width. The other two candidate sites received "good" ratings with respect to adequacy of roadways.

Automobile access to all three candidate sites is available along one long side of the sites. With regard to pedestrian safety, safe walkways/shoulders to all candidate sites are not available. The Former Pahoa Air Strip Site (Site 1) lacks pedestrian access. Two pedestrian accessways may be available to service the Kahakai Boulevard Site (Site 2). Pedestrian access to the Pahoa By-Pass Road Site (Site 3) is available along one side of the site. Traffic flow was considered "good" at the Former Pahoa Air Strip Site (Site 1) which is proximate to a State highway, and "fair" at the other two candidate sites.

2. Summary of Community Criteria Evaluation

The results of the community criteria evaluation are summarized in Table 4.

All three candidate sites are within the State Land Use Agricultural District where State law allows the County Planning Commission to issue a Special Permit for the establishment of a public school. Neither a General Plan amendment nor a zone change will be required for school development at any of the three candidate sites. A public hearing in conjunction with the Special Permit will afford the public an opportunity to comment on the selected school site.

Potential effects of developing the school at any of the three candidate sites are not likely to be adverse to the community. Students are not likely to be distracted by the presence of nearby commercial centers. The Former Pahoa Air Strip and Pahoa By-Pass Road Sites (Sites 1 and 3) are not considered to be aesthetic assets to the community and will not obstruct scenic vistas if developed as schools.

The Kahakai Boulevard Site (Site 2) may have little aesthetic value to the community but may partially obstruct scenic vistas if it is developed as a school.

3. Summary of Cost Considerations

Cost estimates discussed in this section are for purposes of comparing the relative costs of the alternative sites and determining the least costly alternative site. Off-site development and on-site development costs are addressed for this purpose. A more detailed explanation of cost parameters is presented in Appendix A.

TABLE 4
SUMMARY OF COMMUNITY CRITERIA EVALUATION

<u>Criteria Evaluation</u>	<u>Former Paho Air Strip SITE 1</u>	<u>Kahakai Boulevard SITE 2</u>	<u>Paho By-Pass Road SITE 3</u>
<u>Governmental</u>			
Good	0	0	0
Fair	0	0	0
Poor	1	1	1
<hr/>			
<u>Community Effects</u>			
Good	2	1	2
Fair	0	1	0
Poor	0	0	0
<hr/>			
<u>TOTALS</u>			
Good	2	1	2
Fair	0	1	0
Poor	1	1	1

Land acquisition costs were not addressed for this study as all three candidate sites are State-owned lands of the same size (8 acres). Therefore, a determination of the relative costs associated with land acquisition could not be considered. There will also be no relocation costs associated with the proposed project.

An allowance for bus transportation is provided for students who reside more than one mile in walking distance from school. The number of students within walking distance of the three candidate sites is considered insignificant with respect to the anticipated design enrollment. As nearly all students will qualify for bus subsidy, a relative bus subsidy cost for the three candidate sites could not be calculated. Therefore, bus subsidy costs for the three candidate sites were not assessed.

A summary of off-site and on-site development costs for each candidate site is provided in Table 5. With respect to off-site improvements, the Pahoa By-Pass Road Site (Site 3) would incur the highest cost for development.

All sites will require development of off-site water service improvements. Improvements consist of additional storage capacity and transmission lines for the Former Pahoa Air Strip and Kahakai Boulevard Sites (Sites 1 and 2). The Pahoa By-Pass Road Site (Site 3) will require off-site water transmission improvements.

While off-site electrical power/communications and roadway costs are not anticipated at the Kahakai Boulevard Site (Site 2), improvements are anticipated at the other two candidate sites.

On-site improvement costs, based on a typical layout plan, are assumed to be the same for all three candidate sites.

4. Overall Evaluation Summary

Overall results obtained from the criteria evaluation and cost estimates are summarized in Table 6.

TABLE 5
COST ESTIMATE SUMMARY*

	Former Paho Air Strip <u>SITE 1</u>	Kahakai Boulevard <u>SITE 2</u>	Paho By-Pass Road <u>SITE 3</u>
<u>Development Costs</u>			
Off-Site Improvements	\$0.75	\$1.23	\$1.55
On-Site Improvements	<u>0.99</u>	<u>0.99</u>	<u>0.99</u>
Subtotal	\$1.74	\$2.22	\$2.54
Contingencies (20%)	0.35	0.44	0.51
<hr/>			
Total Estimated Cost	\$2.09	\$2.66	\$3.05
<hr/>			

*Costs, expressed in millions of 1988 dollars, are for planning evaluation purposes only.

TABLE 6
SUMMARY OF CRITERIA EVALUATION AND COST ESTIMATES*

		Former Paho Air Strip SITE 1	Kahakai Boulevard SITE 2	Paho By-Pass Road SITE 3
School Site Criteria Total	(G)	3	5	1
	(F)	5	4	8
	(P)	2	1	1
Community Site Criteria Total	(G)	2	1	2
	(F)	0	1	0
	(P)	1	1	1

G = Good
F = Fair
P = Poor

Cost Considerations (cost expressed in millions of 1988 dollars)

Development Costs

Off-Site Improvements	\$0.75	\$1.23	\$1.55
On-Site Improvements	<u>0.99</u>	<u>0.99</u>	<u>0.99</u>
Subtotal	\$1.74	\$2.22	\$2.54
Contingencies (20%)	0.35	0.44	0.51
Total Estimated Cost	\$2.09	\$2.66	\$3.05

*Cost estimates are intended to provide relative cost requirements for each site.

VII. PROBABLE IMPACTS AND MITIGATIVE MEASURES

A. Short-Term Site Impacts

This section describes anticipated short-term impacts which may affect candidate sites or lands proximate to the candidate sites as a result of the school development. Short-term impacts are those associated with construction activities such as grading, utility installation, construction of structures and landscaping.

The significance of short-term impacts for the three candidate sites will depend on the types of uses nearby each of the sites. The Kahakai Boulevard Site (Site 2), for example, is situated near residential use. In this regard, construction activities at this site may result in a relatively higher degree of disruption and nuisance.

The Former Pahoia Air Strip and Pahoia By-Pass Road Sites (Sites 1 and 3), on the other hand, are located in undeveloped areas where impacts to the immediate surrounding environs are anticipated to be less significant.

The following sections describe, in general, the anticipated noise, air quality, water quality, erosion, traffic, public health and safety, and archaeological impacts associated with construction.

1. Noise

Noise levels will increase during construction. There are no residences or other urban uses proximate to the candidate sites which are anticipated to be affected by noise, with the exception of the Kahakai Boulevard Site (Site 2). Residences nearby this site may be anticipated to be affected by noise during construction. Noise will be generated by construction equipment, including heavy vehicles required to excavate and remove spoil material and import construction materials, and other power equipment.

It shall be the contractor's responsibility to minimize construction noise impacts through compliance with all applicable regulations. In this regard, the contractor shall be responsible for properly maintaining all construction equipment to minimize noise during construction operations. Construction activities will be limited to daylight hours.

2. Air Quality

Ambient air quality is expected to temporarily decrease as a result of dust generated during construction activities,

particularly during grading operations. In keeping with State Department of Health and County rules and ordinances, the contractor will be required to implement measures minimizing airborne particulates. Adherence to approved erosion control plans and use of methods such as water sprinkling will reduce the potential for adverse air quality impacts during site work.

Emissions from construction equipment could also degrade ambient air quality. With proper maintenance by the contractor, however, the adverse impacts of emissions from equipment can be minimized.

3. Water Quality

Construction of the proposed elementary school development should not adversely affect the water quality of the area. There are no streams or coastal waters proximate to any of the three candidate sites.

4. Traffic

During construction, trucks, heavy equipment and other construction-related vehicles will use existing roads to haul away and import materials. Traffic along local roadways may occasionally encounter minor delays. Of short duration, such delays will be primarily limited to periods of vehicle ingress and egress to and from the project site. The contractor shall be responsible for providing necessary traffic controls and precautions to maintain traffic safety on roadways bordering the construction site.

5. Public Health and Safety

Necessary measures to assure public health and safety will be provided throughout all phases of construction. During non-work hours (nights, weekends, holidays) construction areas will be secured by adequate safety signs and other safety devices as required by State and County regulations.

6. Flora/Fauna

There are no known rare or endangered species of flora or fauna within or in the immediate vicinity of the candidate sites.

7. Economy

The short-term economic impacts resulting from construction include expansion of job opportunities to local

construction personnel. Local material suppliers and retail businesses may also benefit from the increased construction activities.

B. Long-Term Impacts

1. Flora

No rare or endangered species of flora are known to exist at any of the candidate sites. Any loss of vegetation due to necessary clearing and grubbing will be effectively mitigated by landscaping of the new school campus.

2. Fauna

No rare or endangered species of fauna are known to inhabit any of the three candidate sites. Impact to existing fauna is anticipated to be minimal and unavoidable. Landscaping associated with new school development should provide an adequate nesting and feeding environment for the birds that are commonly found within the area. Displacement of mammals such as mice and rats is not regarded as an adverse impact.

3. Traffic

Additional traffic will be generated by the New Pahoa Elementary School. Conditions along local roadways were qualitatively evaluated for traffic congestion, traffic hazards, and alternate access routes.

Access to the Former Pahoa Air Strip Site (Site 1) would be off of Keaau-Pahoa Road, a State highway. A school at this site would create more local traffic congestion than one adjoining a sparsely-travelled local roadway. Alternate routes to the site are not available. Implementation of traffic control measures at the intersection of the school access road and Keaau-Pahoa Road should be considered to minimize potential traffic hazards.

An elementary school at the Kahakai Boulevard Site (Site 2) would increase traffic along Kahakai Boulevard, the proposed access to the site. Kahakai Boulevard is the primary road serving an existing agricultural park, and the Hawaiian Beaches, Hawaiian Parks and Hawaiian Shores subdivisions from Keaau-Pahoa Road. While Kahakai Boulevard is more heavily travelled than other local roadways, local traffic congestion created by a new school is anticipated to be less than if the school were adjoining a highway, such as Keaau-Pahoa Road. Implementation of traffic control measures at the intersection of Kahakai Boulevard and Keaau-Pahoa Road should be considered to

minimize potential traffic hazards. Use of an alternate access to the site, a roadway within the Hawaiian Parks and Hawaiian Beaches subdivisions, is not recommended due to a narrow right-of-way width.

Access to the Pahoa By-Pass Road Site (Site 3) would be along Pahoa By-Pass Road, a sparsely-travelled local roadway which extends mauka from Keaau-Pahoa Road. A school at this site would create less local traffic congestion than one adjoining a heavily-travelled roadway. Alternate routes to the site are not available. The speed limit along Keaau-Pahoa Road at its intersection with Pahoa By-Pass Road is lower than that for its intersections with accessways to the other two sites. However, to minimize potential traffic hazards, implementation of traffic control measures should be considered at the Pahoa By-Pass Road intersection with Keaau-Pahoa Road.

4. Public Health and Safety

The candidate sites are generally free of flood, tsunami, erosion and landslide hazards. All three candidate school sites are within areas designated Zone X (areas determined to be outside of the 500-year flood plain) on the Federal Flood Insurance Rate Map (FIRM).

5. Surrounding Land Uses

Development of a school at any of the three candidate sites is considered compatible with surrounding land uses which consist primarily of undeveloped lands. School use is considered compatible with residential uses which are located nearby the Kahakai Boulevard Site (Site 2) and approximately one-fourth mile makai of the Pahoa By-Pass Road Site (Site 3). Moreover, the Former Pahoa Air Strip Site (Site 1) is located near 177 planned homesteads by the Department of Hawaiian Home Lands, State of Hawaii.

The County's Solid Waste Transfer Station, located about 900 feet downwind of Site 3, is not anticipated to adversely impact school use. Sites 1 and 3 may occasionally experience dust, noise or pesticide drift under adverse wind conditions due to agricultural use located about 1,400 feet from the sites. Site 2 is not anticipated to be affected by existing agricultural operations.

6. Displacement

All three candidate sites are undeveloped. Therefore, no homes or other facilities will be displaced to develop the school on these sites.

7. Agriculture

All three candidate sites are within the State Agricultural District but are not used for any agricultural purpose. The sites are not classified according to the Agricultural Lands of Importance to the State of Hawaii (ALISH) system. The Soil Conservation Service Soil Survey identifies the soils at the sites as Pahoehoe lava flow (rLW) which was limited agricultural potential in its natural state. The Land Survey Bureau Overall Productivity Rating for the three sites is E306, indicating poor agricultural productivity potential. Construction of a school at any of the three sites will have little or no impact on agricultural resources in the area.

8. Off-Site Infrastructure

Preliminary evaluation of off-site infrastructure systems, such as drainage, water, and sewerage systems were conducted for each of the candidate sites. None of the candidate sites requires off-site drainage improvements. Runoff can be accommodated by percolation into the ground. On-site drainage improvements will be designed to maintain existing drainage patterns as much as possible.

Existing water facilities are available to service the proposed school. Nonetheless, all sites will require off-site water improvements. Improvements consist of additional storage capacity and transmission lines for the Former Pahoa Air Strip and Kahakai Boulevard Sites (Sites 1 and 2). The Pahoa By-Pass Road Site (Site 3) will require off-site water transmission improvements.

There is no County sewerage system in the Pahoa area. All homes are served by cesspools. The new school will, therefore, require an individual wastewater treatment and disposal system. The design average wastewater flow for the new school with a peak enrollment of 900 students is presently estimated at 30,000 gallons per day based on the Design Standards of the Division of Wastewater Management, Volume 1 (City and County of Honolulu, Department of Public Works, February 1984). The proposed wastewater treatment and disposal system will meet all applicable requirements of Act 282, SLH 1985 as amended by Act 302, SLH 1986. The final selection of a wastewater treatment and disposal system will be determined during the project design phase in consultation with and approval of the State of Hawaii Department of Health. One alternative is to install a system with a septic tank and a percolation blanket or leaching field.

9. Archaeology

An archaeological reconnaissance survey was conducted in accordance with guidelines of the State of Hawaii Department of Land and Natural Resources (DLNR) at each candidate site (see Appendix B). No historic sites were found at any of the candidate sites. Development of a school at any of the three alternative project sites will have "no effect" on significant historic sites. If historic sites are found during construction, the DLNR's Historic Sites Section will be contacted directly to assess the significance of the site and expedite any needed mitigation plans.

VIII. ALTERNATIVES TO THE PROPOSED ACTION

A. No Action

The existing school is presently operating beyond capacity, and continued population growth is projected for the region. Additionally, the elementary program at the existing school is already much too large for a tri-level school. Planning for the existing facility was based on Pahoa remaining rural with a small elementary school program. A "no action" alternative would, therefore, preclude the DOE's goal of ensuring the provision of adequate and accessible educational services and facilities.

B. Busing to Schools Outside the School Service Area

Busing to schools outside the service area, at Keeau and Mountain View, is similarly considered infeasible as these facilities are also experiencing growth problems and are operating at capacity.

C. Relocating the Elementary Program to a New School

Retaining the existing school for grades 7-12 while relocating grades K-6 to a new school is considered a less preferable alternative to the proposed action. A very large new elementary school would be required to accommodate the projected enrollment. Both the State Board of Education and Legislature have been concerned about very large elementary schools.

D. Expanding the Capacity of the Existing School

Expanding the capacity of the existing elementary school is not considered viable due to the lack of sufficient land area to accommodate required new facilities.

IX. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

A. Short-Term Uses

The implementation of the proposed project will include local short-term uses of man's environment during the construction phase of the project. Construction activities associated with the new Pahoa Elementary School will create minor disruptions and nuisances in the vicinity of the project site. Temporary economic benefits will result from construction expenditure and employment opportunities.

B. Long-Term Productivity

The new Pahoa Elementary School will assure the continued maintenance and enhancement of public education and social welfare by providing an essential educational service and facility that will meet the enrollment requirements of the region. Long-term economic benefits would be associated with employment required for the operation and maintenance of the school.

**XIII. SITE SELECTION REPORT AND ENVIRONMENTAL IMPACT STATEMENT PREPARATION
NOTICE COMMENTS AND RESPONSES**

The following agencies and government official provided comments on the Site Selection Report and EIS Preparation Notice. A total of 11 comment letters were received.

A double asterisk (**) indicates those which submitted written comments requiring substantive responses. The comment and response letters are reproduced in this section.

A single asterisk (*) indicates those which submitted written comments not requiring substantive responses. The comment letters are reproduced in this section.

A. FEDERAL AGENCIES

- **1. Department of the Army, U.S. Army Engineer District,
Honolulu
- *2. U.S. Department of Agriculture, Soil Conservation Service

B. STATE AGENCIES

- **1. Department of Agriculture
- **2. Department of Business and Economic Development
- *3. Department of Education
- **4. Department of Health
- **5. Department of Land and Natural Resources
- **6. Department of Transportation

C. COUNTY OF HAWAII AGENCIES

- **1. Department of Parks and Recreation
- **2. Department of Water Supply

D. GOVERNMENT OFFICIAL

- **1. Mr. Stephen Yamashiro, Chairman - Hawaii County Council

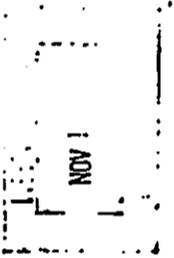
UNITED STATES
DEPARTMENT OF
AGRICULTURE

SOIL
CONSERVATION
SERVICE

P. O. BOX 50004
HONOLULU, HAWAII
96850

November 17, 1987

Mr. Russell S. Nagata
State Comptroller
Department of Accounting and
General Services
1151 Punchbowl Street
P.O. Box 119
Honolulu, HI 96810



Dear Mr. Nagata:

Subject: Pahoa Elementary School, EIS Consultation Phase

We have no comments to offer at this time but appreciate the opportunity to review the draft EIS on this project.

Sincerely,

A handwritten signature in dark ink, appearing to read "Richard N. Duncan".

RICHARD N. DUNCAN
State Conservationist

JOHN WAIHEE
GOVERNOR



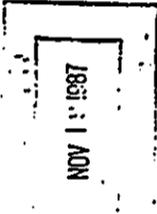
SUZANNE D. PETERSON
CHAIRPERSON, BOARD OF AGRICULTURE
DEPUTY TO THE CHAIRPERSON

Mr. Russel S. Nagata
November 17, 1987
Page -2-

State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 So. King Street
Honolulu, Hawaii 96814-2512

Mailing Address:
P. O. Box 22159
Honolulu, Hawaii 96822-0159

November 17, 1987



MEMORANDUM

To: Mr. Russel S. Nagata, State Comptroller
Department of Accounting and General Services (DAGS)

Subject: Pahoa Elementary School Environmental Impact
Statement (EIS) Preparation Notice
Department of Accounting and General Services
TRK: 1-5-08: 01 (por.) & 06
1-5-09: 09
1-5-10: 10 Pahoa, Hawaii
Acres: 8.0 (each site)

The Department of Agriculture has reviewed the subject EIS
Preparation Notice and has the following comments to offer.

The DAGS is considering three possible sites for a new
Pahoa elementary school to accommodate the projected
overcrowding at Pahoa High and Elementary School. All three
sites are within the State Agricultural District but are not
used for any agricultural purposes.

The proposed sites are not classified according to the
Agricultural Lands of Importance to the State of Hawaii (ALISH)
system.

The Soil Conservation Service Soil Survey identifies the
soils as Pahoehoe lava flow (RLM) which has limited agricultural
potential in its natural state.

The proposed sites have a Land Study Bureau Overall
Productivity Rating of E306. By this method of classification,
the sites have poor productivity potential for most agricultural
uses.

If any of the selected sites are chosen, it appears that
there would be little or no impact on the agricultural resources
of the area. However, we do note that there is an existing farm

operation 1,400 feet from proposed Site 3. A site downwind of a
farm may experience dust, noise or pesticide drift resulting a
from normal agricultural operations. This farm constitutes a
pre-existing farming activity and, as such, is protected by the
Hawaii Right-to-Farm Act (Chapter 165, HRS), which limits the
circumstances under which normal farming activities may be
deemed a nuisance.

Thank you for the opportunity to comment.

SUZANNE D. PETERSON
Chairperson, Board of Agriculture

cc: OEQC

JOHN WILSON
SECRETARY



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 118, HONOLULU, HAWAII 96818

RUSSEL S. NAKATA
COMPTROLLER
SEN ENYAU
SENATE COMPTROLLER

LETTER NO. (P) 2147.7

DEC 30 1987

Honorable Suzanne D. Peterson
Chairperson
Department of Agriculture
State of Hawaii
Honolulu, Hawaii

Dear Ms. Peterson:

Subject: New Pahoa Elementary School
EIS Consultation Phase

Thank you for your November 17, 1987 comments on the subject project.

The EIS document will be revised to include your comments on the Land Study Bureau Overall Productivity Rating and the ALISH soil classification of the alternative sites.

The location of Alternative Site 3 was set by applying a 0.25-mile minimum distance to the existing agricultural operation. This distance was selected after discussion with your staff, as a reasonable distance to avoid potential conflict. The EIS will, however, note the downwind location of Alternative Site 3 with respect to the existing agricultural operation, and disclose the possible dust, noise or pesticide drift that may be experienced at the site under adverse wind conditions.

Very truly yours,

RUSSEL S. NAKATA
State Comptroller



**DEPARTMENT OF BUSINESS
AND ECONOMIC DEVELOPMENT**

KAUNIALEUA BUILDING, 28 SOUTH KING ST., HONOLULU, HAWAII
MAILING ADDRESS: P.O. BOX 239, HONOLULU, HAWAII 96809

JOHN WAIHEE
OFFICER
ROGER A. ULVELING
DIRECTOR
NILEYAYE TOWILL
DEPUTY DIRECTOR
BARBARA KIMSTANTON
DEPUTY DIRECTOR

JOHN WAIHEE
OFFICER



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 114, HONOLULU, HAWAII 96810

RUSSEL S. NAGATA
COMPTROLLER
GER STUBBS
DEPUTY COMPTROLLER

LETTER NO. (P)1022-1

Ref. No. P-7729

December 3, 1987

MEMORANDUM

TO: The Honorable Russel S. Nagata, State Comptroller
Department of Accounting and General Services

FROM: Roger A. Ulveling

SUBJECT: EIS Preparation Notice, Konaheena Elementary and Pahoa Elementary Schools

We have reviewed the subject Environmental Impact Statement preparation notice and offer the following comments.

Hawaii's Coastal Zone Management policies advocate managing land and water uses to comply with State water quality standards in order to protect coastal waters. The notice indicates that possible school sites are within the Pahoa and Kailua-Kona areas. The coastal waters of these areas are designated Class AA by the Department of Health. Since there are no public sewer systems available to service the proposed schools, individual wastewater systems will be employed. The Draft Environmental Impact Statement should discuss this situation in detail and assess alternative approaches to sewage treatment and wastewater disposal to assure minimizing adverse impacts on coastal receiving waters.

Thank you for the opportunity to comment on these preparation notices.

Roger A. Ulveling
for Director

JAN 11 1988

Honorable Roger Ulveling
Director
Department of Business and
Economic Development
State of Hawaii
Honolulu, Hawaii

Dear Mr. Ulveling:

Subject: New Pahoa Elementary School
EIS Consultation Phase

Thank you for your December 3, 1987 comments on the subject project.

The EIS will be revised to indicate that an individual wastewater treatment system, such as the Cavittette system, will be required as part of the school sewer improvements to meet applicable State and County rules and regulations.

Russel S. Nagata
RUSSEL S. NAGATA
State Comptroller

CHARLES TOGUCHI
SUPERINTENDENT



STATE OF HAWAII
DEPARTMENT OF EDUCATION

P. O. BOX 224
HONOLULU, HAWAII 96810

November 17, 1987

OFFICE OF THE SUPERINTENDENT

MEMO TO: Honorable Russel S. Hagata, State Comptroller
Department of Accounting and General Services

FROM: Charles T. Toguchi, Superintendent *Charles T. Toguchi*
Department of Education

SUBJECT: PAHOA ELEMENTARY SCHOOL
EIS Consultation Phase

We have reviewed the Site Selection Report and EIS Preparation
Notice that was transmitted by your letter dated November 2, 1987.

We have no comments to offer at this time.

CIT:HO:JI

cc E. Imai, OBS
A. Garson, Hawaii Dist.

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

JOHN WAINES
DIRECTOR OF HEALTH



STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3318
HONOLULU, HAWAII 96811

JOHN WAINES
DIRECTOR OF HEALTH



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 116, HONOLULU, HAWAII 96810

RUSSEL S. NAGATA
COMPTROLLER

SEN KITA
SENY COMPTROLLER

LETTER NO. (P)1021

November 30, 1987

JAN 12 1988

MEMORANDUM

To: Honorable Russel S. Nagata, State Comptroller
Department of Accounting and General Services

From: Director of Health

Subject: EIS Consultation Phase
(1) Pahoa Elementary School
(2) Konaheena Elementary School

The primary concern is the wastewater generated from the schools and the proposed means of treatment and disposal of the wastewater. Our Underground Injection Control (UIC) rules, Chapter 23, Administrative Rules, Title 11, Hawaii State Department of Health restricts the disposal of wastewater in amounts greater than a thousand gallons (1,000) per facility in areas where drinking water sources need to be protected. It is the intent of the Department to support the treatment of wastewater from public facilities and restrict the use of cesspools for publicly owned facilities. We would like to recommend a meeting involving your engineering consultants with our UIC and wastewater staff and Chief Sanitarian, Hawaii District to discuss the wastewater concerns.

JOHN C. LEWIN, M.D.

cc: Chief Sanitarian, Hawaii

Honorable John Lewin
Director
Department of Health
State of Hawaii
Honolulu, Hawaii

Dear Dr. Lewin:

Subject: New Pahoa Elementary School
EIS Consultation Phase

Thank you for your November 30, 1987 comments on the subject project.

The EIS will be revised to indicate that an individual wastewater treatment system, such as the Cavittette system, will be required as part of the school sewer improvements to meet applicable State and County rules and regulations. DACS consultant will be meeting with your staff to discuss the project during the planning and design phases.

RUSSEL S. NAGATA
State Comptroller



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 631
HONOLULU, HAWAII 96808

WILLIAM W. PATTY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

LIBERT K. LANDOGAST
MEMBER

AGRICULTURAL DEVELOPMENT
PROGRAM
AGRICULTURAL RESOURCES
CONSERVATION AND AFFAIRS
CONSERVATION AND AFFAIRS
REVENUES ENHANCEMENT
CONSERVATION AND AFFAIRS
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

Honorable Russel S. Nagata - 2 - DOC. NO.: 2160E

Since this is an undertaking by a State agency, this project must comply with the State's historic preservation law (Chapter 6E). Also, if federal funds are involved, compliance with the National Historic Preservation Act must occur. In either case, coordination with our Historic Preservation Office (the Historic Sites Section) is needed to obtain concurrence that historic preservation review steps have been completed.

Thank you for your consideration of our concerns.

Very truly yours,

Honorable Russel S. Nagata, Comptroller
Department of Accounting and General Services
1151 Punchbowl Street
P.O. Box 119
Honolulu, Hawaii 96810

DOC. NO.: 2160E

FILE NO.: 88-224

DEC 14 1987

WILLIAM W. PATTY, Chairperson
Board of Land and Natural Resources

SUBJECT: Environmental Impact Statement (EIS) Preparation
Notice - New Pahoa Elementary School

Thank you for the opportunity to review the EIS preparation notice cited above. We offer the following comments:

Historic Sites Concerns:

Historic preservation concerns are covered on pp. III-9 & 10 and VII-4. The listing of historic sites in the Puna region (III-10) is a very incomplete list of the historic sites in this district and of the significant historic sites in this district. However, it is indicated that an archaeological survey will be conducted for the candidate sites and, if required, mitigative measures will be implemented. We will await the findings.

DAGS has coordinated with our office on the proposed scope of work. We have emphasized that the aim of this survey must be to determine if historic sites are present and, if so, to see that adequate information is gathered on each site to enable the evaluation of their significance according to Hawaii and National Register Historic Places. If significant sites are present, then the impacts to these sites must be stated. And if these sites will be effected, then an acceptable mitigation plan must be presented under mitigation measures.

JOHN WAINES
SECRETARY



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 111, HONOLULU, HAWAII 96810

RUSSELL S. NAGATA
COMPTROLLER

KEN KITAHU
DEPUTY COMPTROLLER

LETTER NO. (P)1045.8

JAN 15 1988

Honorable William W. Paty
Chairperson
Department of Land and
Natural Resources
State of Hawaii
Honolulu, Hawaii

Dear Mr. Paty:

Subject: New Pahoa Elementary School
EIS Consultation Phase

Thank you for your December 14, 1987 comments on the
subject project.

The listing of historic sites on page III-10 of the EIS
Preparation Notice reflects information contained in the
Hawaii Register of Historic Places which was published by
the Hawaii Historic Places Review Board in June 1979 plus
the September 24, 1979 addition. Your State Historic
Preservation Office will be consulted for a more complete
listing of historic sites.

The intent of the archaeological survey is to determine
if historic sites are present on the candidate school sites
and, if so, to gather information required to evaluate their
significance. If significant sites are present, then
potential impacts to these sites will be disclosed and a
mitigation plan developed, as appropriate.

The proposed project will comply with the State's
Historic Preservation Law (Chapter 65) and any archaeolo-
gical work will be coordinated with your Historic Preser-
vation Office to assure compliance.

We appreciate your input for this project.

Very truly yours,

RUSSELL S. NAGATA
State Comptroller

RUSSEL S. NAGATA
COMPTROLLER
EIN LITIAN
STATE COMPTROLLER
LETTER NO. (P)1019.8



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 119, HONOLULU, HAWAII 96810

JAN 11 1988

EDWARD Y. HIRATA
DIRECTOR
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
P.O. BOX 119, HONOLULU, HAWAII 96810



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
P.O. BOX 119, HONOLULU, HAWAII 96810

STP 8.2530

December 7, 1987

DEC

MEMORANDUM

TO: The Honorable Russel S. Nagata, Comptroller
Department of Accounting and General Services

FROM: Director of Transportation

SUBJECT: PAHOA ELEMENTARY SCHOOL
EIS CONSULTATION PHASE

A Traffic Impact Analysis Report should be conducted to determine the effects of the proposed school project on our highway facility. The study should also identify specific mitigation measures that the developer should implement. In this regard, all plans for work within the State highway right-of-way must be coordinated with and approved by our Highways Division.

Edward Y. Hirata
Edward Y. Hirata

Honorable Edward Hirata
Director
Department of Transportation
State of Hawaii
Honolulu, Hawaii

Dear Mr. Hirata:

Subject: New Pahoa Elementary School
EIS Consultation Phase

Thank you for your December 7, 1987 comments on the subject project.

We anticipate that highway improvements such as widening for traffic channelization in front of the school will be needed. However, the extent of the improvements will be made during the design phase of the project, following the selection of a school site.

We appreciate your input for this project.

Russel S. Nagata
Very truly yours,
RUSSEL S. NAGATA
State Comptroller

Daniel K. Carpenter
Mayor
Managing Director



DEPARTMENT OF PARKS & RECREATION
COUNTY OF HAWAII

Patricia G. Engelhard
Director

Ronald Okamura
Deputy Director

JOHN WILSON
DIRECTOR



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
DIVISION OF PUBLIC WORKS
P. O. BOX 119, HONOLULU, HAWAII 96819

RUSSELL S. NAGATA
COMPTROLLER
KEN SETAMU
SENIOR COMPTROLLER

LETTER NO. (P)2140.7

December 1, 1987

Dept. of Accounting & General Services
1151 Punchbowl Street
P. O. Box 119
Honolulu, HI 96810

RE: Pahoa Elementary School (Site Selection)
EIS Consultation Phase

We have reviewed the EIS Preparation Notice and foresee no adverse impact resulting from any of the proposed school sites on the County's recreational facilities or resources.

Thank you for the opportunity to review the document.

Pat Engelhard

Patricia Engelhard
Director

PE:GH:ai

DEC 29 1987

Ms. Patricia Engelhard
Director
Department of Parks and Recreation
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Ms. Engelhard:

Subject: New Pahoa Elementary School
EIS Consultation Phase

Thank you for your December 1, 1987 comments confirming that development of a school on the candidate sites will not have foreseeable adverse impact on the County's recreational facilities.

Very truly yours,

Teuane Tominaga

TEUANE TOMINAGA
State Public Works Engineer

MY:jk



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII
35 AUPUHI STREET • HILO, HAWAII 96720

JOHN WAIKES
Secretary



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
DIVISION OF PUBLIC WORKS
P. O. BOX 119, HONOLULU, HAWAII 96819

RUSSEL S. NAGATA
COMPTROLLER
ZEN ETJABU
MAHI COMPTROLLER

LETTER NO. (P) 2142.7

November 24, 1987

DEC 29 1987

Mr. Russel S. Nagata
State Department of Accounting
and General Services
P.O. Box 119
Honolulu, HI 96810-0119

Mr. H. William Sewake
Manager
Department of Water Supply
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

PROPOSED PAHOA ELEMENTARY SCHOOL
EIS CONSULTATION PHASE

The comments and requirements for the adequacy of water for the proposed school are as stated in the report done by Wilson Okamoto & Associates, Inc.

William Sewake
H. William Sewake
Manager

CS

cc - Wilson Okamoto & Associates, Inc.

Dear Mr. Sewake:

Subject: New Pahoa Elementary School
EIS Consultation Phase

Thank you for your November 24, 1987 comments confirming the adequacy of water for the proposed school, as documented in the Site Selection Report and Environmental Impact Statement Preparation Notice.

Very truly yours,

Teuane Toninaga

TEUANE TONINAGA
State Public Works Engineer

MY:jk

... Water brings progress...

STEPHEN YAMASHIRO
Chairman & Planning Chair
MS. N. 12 KALANI MURITTE
Hon. Hawaii



COUNTY COUNCIL

County of Hawaii
Hawaii County Building
25 Alapai Street
Hilo, Hawaii 96720

JAMES K. DAHLENG
FRANK R. LUI II
TAKASHIYONGOO
MERLEK LAI
LORRAINE R. JICHAKU
RUSSELL S. NAGATA
ROBERT N. HENKES
Council Members

JOHN WAINES
Secretary



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 111, HONOLULU, HAWAII 96810

RUSSEL S. NAGATA
Comptroller
SEN IYABU
STATE COMPTROLLER

LETTER NO. (P)214.7

November 13, 1987

Mr. Russel S. Nagata, State Comptroller
State of Hawaii
Dept. Of Accounting & General Services
P.O. Box 119
Honolulu, HI 96810

Dear Mr. Nagata:

This is to acknowledge receipt of your letter and the EIS Preparation Notice, informing the Hawaii County Council of your pending efforts for the Pahoa Elementary School.

Your communication has been referred to our Committee on Planning and will be deliberated upon at its meeting scheduled for Monday, November 23, 1987.

As requested, we will be responding to convey our thoughts on this project, and we thank you for this opportunity to do so.

Very truly yours,

STEPHEN K. YAMASHIRO
COUNCIL CHAIRMAN

cc: Committee on Planning

1. P. W. Eng. Appro. _____
2. Sign. _____
3. Sign. Br. _____
4. Sign. Br. _____
5. Sign. Br. _____
6. Sign. Br. _____
7. Sign. Br. _____
8. Sign. Br. _____
9. Sign. Br. _____
10. Sign. Br. _____

In Reply Refer
To: C-1340

DEC 30 1987

Honorable Stephen Yamashiro
Chairman
County Council
County of Hawaii
25 Alupuni Street
Hilo, Hawaii 96720

Dear Mr. Yamashiro:

Subject: New Pahoa Elementary School
EIS Consultation Phase

Thank you for your November 13, 1987 comments informing us of the Council's deliberation on the subject project. We look forward to hearing the Council's views.

Respectfully

RUSSEL S. NAGATA
State Comptroller

XIV. SITE SELECTION REPORT AND DRAFT ENVIRONMENTAL IMPACT STATEMENT
COMMENTS AND RESPONSES

The following agencies and government official provided comments on the Site Selection Report and EIS Preparation Notice. A total of 17 comment letters were received.

A double asterisk (**) indicates those which submitted written comments requiring substantive responses. The comment and response letters are reproduced in this section.

A single asterisk (*) indicates those which submitted written comments not requiring substantive responses. The comment letters are reproduced in this section.

A. FEDERAL AGENCIES

- *1. Department of the Navy
- *2. U.S. Department of Agriculture, Soil Conservation Service
- *3. U.S. Department of the Interior, Fish and Wildlife Service

B. STATE AGENCIES

- **1. Department of Agriculture
- *2. Department of Business and Economic Development
- *3. Department of Business and Economic Development, Housing, Finance and Development Corporation
- **4. Department of Business and Economic Development, Land Use Commission
- *5. Department of Defense, Office of the Adjutant General
- *6. Department of Education
- **7. Department of Hawaiian Home Lands
- **8. Department of Health
- **9. Department of Land and Natural Resources
- **10. Department of Land and Natural Resources, State Parks, Outdoor Recreation and Historic Sites
- **11. Department of Transportation
- **12. University of Hawaii, Environmental Center

C. COUNTY OF HAWAII AGENCIES

- *1. Department of Parks and Recreation
- **2. Planning Department



DEPARTMENT OF THE NAVY
 COMMANDER
 NAVAL BASE PEARL HARBOR
 BOX 110
 PEARL HARBOR, HAWAII 96813

RECEIVED

MAR 23 8 54 AM '88

DIV. OF P.B. WORKS
 PALS

IN REPLY REFER TO
 5090 (24B)
 Ser NSB/735
 2 2 MAR 1988

REPRODUCED AT GOVERNMENT EXPENSE

Dr. Marvin T. Miura, Interim Director
 Office of Environmental Quality Control
 465 South King Street
 Honolulu, HI 96813

Dear Dr. Miura:

DRAFT ENVIRONMENTAL IMPACT STATEMENT
 NEW PAHOA ELEMENTARY SCHOOL

The Draft Environmental Impact Statement for the New Pahoa Elementary School has been reviewed and we have no comments to offer. Since we have no further use for the EIS, it is being returned to your office.

Thank you for the opportunity to review the Draft.

Sincerely,

W.K. Liu

W. K. LIU
 Assistant Base Civil Engineer
 By direction of
 the Commander

Enclosure

Copy to:
 /Mr. Mark Yamabe
 Public Works Division
 Dept. of Accounting & General Services
 P. O. Box 119
 Honolulu, Hawaii 96810

UNITED STATES
DEPARTMENT OF
AGRICULTURE

SOIL
CONSERVATION
SERVICE

P. O. BOX 50004
HONOLULU, HAWAII
96850

April 18, 1988

Dr. Marvin T. Miura, Interim Director
Office of Environmental Quality Control
465 S. King Street, Room 104
Honolulu, HI 96813

Dear Dr. Miura:

Subject: Draft Environmental Impact Statement (DEIS) -
New Pahoa Elementary School, Pahoa, Hawaii

We have no comments to offer at this time, however, we would appreciate the opportunity to review the final EIS.

Sincerely,



RICHARD N. DUNCAN
State Conservationist

cc: Mr. Mark Yamabe, Public Works Division, Dept. of Accounting and General
Services, P.O. Box 119, Honolulu, HI 96810

RECEIVED
APR 29 03 06 AM '88
DIVISION OF WORKS
5205



United States Department of the Interior

FISH AND WILDLIFE SERVICE
300 ALA MOANA BOULEVARD
P O BOX 50187
HONOLULU, HAWAII 96820

RECEIVED

MAY 3 8 25 AM '88

U.S. DEPT. OF THE INTERIOR
SS
ROOM 6307

MAY 2 1988

Dr. Marvin T. Miura, Interim Director
Office of Environmental Quality Control
465 South King Street, Room 104
Honolulu, Hawaii 96813

Re: Draft Environmental Impact Statement, The New Pahoa
Elementary School, Pahoa, Hawaii

Dear Dr. Miura:

We have reviewed the referenced Environmental Impact Statement,
and have no comments to offer at this time.

We appreciate this opportunity to comment.

Sincerely yours,

Ernest Kosaka, Field Supervisor
Office of Environmental Services
Pacific Islands Office

cc: Dept. of Accounting & General Services



Save Energy and You Serve America!

JOHN WAIHEE
GOVERNOR



SUZANNE D. PETERSON
CHAIRPERSON, BOARD OF AGRICULTURE

ROBERT Y. TRUYEMURA
ACTING DEPUTY
TO THE CHAIRPERSON

State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 So. King Street
Honolulu, Hawaii 96814-2512

Mailing Address:
P. O. Box 22159
Honolulu, Hawaii 96822-0159



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 114, HONOLULU, HAWAII 96819

ROBERT S. HAGATA
COMPTROLLER
KEN ETIHAU
DEPUTY COMPTROLLER
LETTER NO. (P)1477.8

May 5, 1988

RECEIVED
MAY 3 10 53 AM '88

MAY 31 1988

Dr. Marvin T. Miura, Interim Director
Office of Environmental Quality Control
465 South King Street, Room 104
Honolulu, Hawaii 96813

Dear Dr. Miura:

Subject: Pahoa Elementary School Site Selection Report and
Draft Environmental Impact Statement (DEIS)
Department of Accounting and General Services
TMK: 1-5-08: por. 1, 6
1-5-09: por. 9
1-5-10: por. 3 Pahoa, Hawaii
Areas: approximately 8 acres each

The Department of Agriculture has reviewed the subject Report and DEIS and has no additional comments to offer. We would like to reiterate that proposed Site 3 is approximately 1,400 feet from an existing farm operation. A site downwind of a farm may experience dust, noise or pesticide drift resulting from normal agricultural operations. Chapter 165 (Hawaii Right-to-Farm Act) limits the circumstances under which normal farming activities may be deemed a nuisance.

Thank you for the opportunity to comment.

Sincerely,

Ry Paungmua

SUZANNE D. PETERSON
Chairperson, Board of Agriculture

cc: Mr. Mark Yamabe, Public Works Division, DAGS
OEQC

Honorable Suzanne D. Peterson
Chairperson
Department of Agriculture
State of Hawaii
Honolulu, Hawaii

Dear Ms. Peterson:

Subject: New Pahoa Elementary School
Public Review Phase

Thank you for your May 5, 1988 comments on the subject project.

As indicated in the EIS, we scrutinized the rationale of the Hawaii Right-to-Farm Act (Chapter 165, Hawaii Revised Statutes) and developed a site selection methodology that would eliminate sites having potential conflicts with existing agricultural activities. The discussions are included in Section V. Identification of Candidate Sites and more specifically in Sections V.A.1.d. Agricultural Nuisances, V.B.3. Candidate Site 3 and VII.B.5. Surrounding Land Uses. Therefore, we feel that Site 3 is a viable site. However, please be assured that your concerns will be considered in the selection of the site for the school.

We appreciate your input for this project.

Very truly yours,
Russell S. Hagata
RUSSELL S. HAGATA
State Comptroller





DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
BUILDING 230
FT. SHAFTER, HAWAII 96858-5440

JOHN WAINES
ENGINEER



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 119, HONOLULU, HAWAII 96810

RUSSEL S. NAGATA
COMPTROLLER
DEN ETIYAN
DEPUTY COMPTROLLER

LETTER NO. (P)1020.1

REPLY TO
ATTENTION OF:

November 19, 1987

Russel S. Nagata
State Comptroller
Department of Accounting and
General Services
P.O. Box 119
Honolulu, Hawaii 96810

Dear Mr. Nagata:

Thank you for the opportunity to review the Site Selection Report and Environmental Impact Statement Preparation Notice for the New Pahoa Elementary School, Pahoa, Hawaii. The following comments are offered:

- a. Since no construction work will be done in waters of the United States or adjacent wetlands, a Department of the Army permit is not required.
- b. According to the Flood Insurance Study for Hawaii County, the alternative sites are all located in Zone X, unshaded (areas outside of the 500-year flood plain).

Sincerely,

C. Cheung
Kisuk Cheung
Chief, Engineering Division

JAN 11 1988

Mr. Kisuk Cheung
Chief, Engineering Division
U. S. Army Engineer District, Honolulu
Department of the Army
Fort Shafter, Hawaii 96858-5440

Dear Mr. Cheung:

Subject: New Pahoa Elementary School
EIS Consultation Phase

Thank you for your November 19, 1987 comments that none of the alternative sites will require a Department of the Army permit application.

Very truly yours,
Russel S. Nagata
RUSSEL S. NAGATA
State Comptroller

JOHN W. PATY
CHAIRPERSON

RECEIVED

APR 25 1 20 PM 1988



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 831
HONOLULU, HAWAII 96808

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

LEWIS E. LANGRISH
SECRET

AGRICULTURE DEVELOPMENT PROGRAM
ADAPTIVE RESOURCES
CONSERVATION AND
CONSTRUCTION AFFAIRS
COUNCILS ENFORCEMENT
CONTRACTS
LAND AND NATURAL RESOURCES
LAND AND NATURAL RESOURCES
STATE PLANS
WATER AND LAND DEVELOPMENT

DOC. NO.: 3237E
FILE NO.: 88-432

APR 25 1988

Dr. Marvin T. Miura, Director
Office of Environmental Quality Control
465 South King Street, Room 104
Honolulu, Hawaii 96813

Dear Dr. Miura:

SUBJECT: Draft EIS -- New Pahoa Elementary School
Keonepoko Nui & Keonepoko Iki, Puna, Hawaii
THK: 1-5-10: part 3; 1-5-9: part 9; 1-5-8: part 1, 6

We have reviewed the document cited above and have the following comments to offer:

Our concern is on page VII-5. An archaeological survey of the three alternative project areas took place, and no historic sites were found. Thus, the project at any of these locations will have "no effect" on significant historic sites. We recommend that such wording be used in the EIS.

On page VII-5, it is indicated that if historic sites are found during construction "archaeological consultation will be sought immediately in accordance with DLNR guidelines". It is vital that DLNR's Historic Sites Section be contacted directly (548-7460) in such a case, since the significance of the site must be assessed and any needed mitigation plans will need to be expedited.

Thank you for the opportunity to comment on this project.

Very truly yours,

WILLIAM W. PATY, Chairperson
Board of Land and Natural Resources

cc: Mark Yamabe



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 116, HONOLULU, HAWAII 96810

MAY 31 1988

Honorable William Paty
Chairperson
Department of Land and
Natural Resources
State of Hawaii
Honolulu, Hawaii

Dear Mr. Paty:

Subject: New Pahoa Elementary School
Public Review Phase

Thank you for your April 25, 1988 comments on the subject project.

The EIS will be revised to include the following:

1. Development of a school at any of the three alternative project sites will have "no effect" on significant historic sites.

2. If historic sites are found during construction, the Historic Sites Section will be contacted directly to assess the significance of the site and expedite any needed mitigation plans.

We appreciate your input for this project.

Very truly yours,
RUSSEL S. NAGATA
State Comptroller



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 111, HONOLULU, HAWAII 96810

HUISE E HIRATA
COMPTROLLER
SEP 27 1988
OFFICE OF THE COMPTROLLER
LETTER NO. (P) 1775.1

SEP 1 1988

Honorable Edward Hirata
Director
Department of Transportation
State of Hawaii
Honolulu, Hawaii

Dear Mr. Hirata:

Subject: New Pahoa Elementary School
Public Review Phase

In response to your June 28, 1988 comments on the subject project, we provide the following:

1. TIAR - Previous experience with school projects of a similar nature indicates that traffic impacts can be mitigated with proper design measures such as widening the highway in front of the school for traffic channelization. However, the extent of traffic mitigation measures cannot be determined until more detailed information such as ingress and egress points, number of lanes, etc. are known. Therefore, we plan to do the TIAR in accordance with DOT requirements after the selection of a school site.

2. Drainage

- a. Site 2 is not located within a flood hazard area. In accordance with the Flood Insurance Rate Maps prepared by the Federal Insurance Administration of the Federal Emergency Management Agency, Site 2 is in Zone X - unshaded, an area determined to be outside of the 500-year flood plain.
- b. On-site drainage improvements will be designed to maintain existing drainage patterns as much as possible.

JOHN WAIKIE
DIRECTOR

19.002.1j(18)
2467

STP 8.2940

June 28, 1988

JUN 28 1988
11 11 AM
STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 111, HONOLULU, HAWAII 96810

Dr. Marvin Miura, Director
Office of Environmental Quality Control
465 South King Street, Room 115
Honolulu, Hawaii 96813

Dear Dr. Miura:

SITE SELECTION REPORT AND
DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS)
NEW PAHOA ELEMENTARY SCHOOL

We have the following comments on the subject proposal:

1. A Traffic Impact Analysis Report (TIAR) should be prepared and made part of the EIS. It should assess the traffic impacts of the generated project trips on our Kuaia-Pahoa Road and identify any mitigation measures required to alleviate traffic congestion as well as to improve safety where applicable. To expedite our review, the calculations in deriving values used in the TIAR should be submitted.
2. The existing drainage patterns should be maintained as much as possible. Potential drainage (flooding) hazard for Site #2 should be investigated. Corrective actions should be incorporated in the EIS and in the design plans as necessary.
3. Plans for all work within the State highway right-of-way must be submitted for our review and approval. The developer/applicant shall bear all cost for any improvements.

Thank you for this opportunity to provide comments.

Very truly yours,

Edward Y. Hirata

BT:ko
cc:

HWY-P, STP(dt) Edward Y. Hirata
Mr. Mark Yamabe, DAGS Director of Transportation

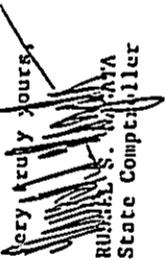
Honorable Edward Hirata
Page 2

Ltr. No. (P)1775.8

3. Approvals - Plans for all work within the State Highway Right-of-way will be submitted to the Department of Transportation for review and approval.

We appreciate your input for this project.

Very truly yours,


RUSSELL S. W. PAVA
State Comptroller



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 115, HONOLULU, HAWAII 96822

RUSSEL S. RUSSELL
COMPTROLLER
NEW YORK
STATE COMPTROLLER

LETTER NO. (P)1779.8

SEP 1 1988

Ms. Jacquelin M. Miller
Page 2

Letr. No. (P)1779.8

Ms. Jacquelin M. Miller
Associate Environmental Coordinator
University of Hawaii
2550 Campus Road, Crawford 317
Honolulu, Hawaii 96822

Dear Ms. Miller:

Subject: New Pahoa Elementary School
Public Review Phase

In response to your May 9, 1988 comments on the subject project, we offer the following:

1. Traffic - Previous experience with school projects of a similar nature indicates that traffic impacts can be mitigated with proper design measures such as widening the highway in the front of the school for traffic channelization. However, the extent of traffic mitigation measures cannot be determined until more detailed information such as ingress and egress points are known and a traffic analysis prepared. Therefore, we plan to do the traffic analysis after the selection of a school site.
2. Air Quality - Since the project should result in an overall reduction of commuting distances, air pollution from automobiles should decrease and result in better air quality around Pahoa High and Elementary School and its service area. However, air quality in the immediate vicinity of the new school is expected to increase because of the traffic generated by the school.

With respect to agricultural nuisances, the State has no standards for determining the desired minimum distance between schools and agricultural operations. However, discussions with the State Department of Agriculture have indicated that one-fourth mile is a reasonable minimum distance between agricultural operations and uses such as

schools and hospitals and is the current standard used for the State of California. Accordingly, we have used this distance to evaluate agricultural nuisances.

As indicated by the Atlas of Hawaii (University of Hawaii, Department of Geography, 2nd ed., 1983) the strong winds in the Pahoa area are from the northeast while the light winds are from the southwest. With respect to the strong winds, Sites 1 and 2 are not downwind of any existing agricultural land uses.

3. Wastewater - The State of Hawaii, Department of Health has been consulted to assure that concerns regarding wastewater treatment and disposal are properly addressed. Preliminary consultation indicates that possible wastewater treatment system alternatives may be a septic tank with a percolation blanket or leaching field. It is noted that septic tanks were recently installed at the existing Pahoa High and Elementary, and Unalua Intermediate Schools. The wastewater treatment and disposal system to be utilized will be selected during the project design phase and will comply with the Department of Health Rules and Regulations.

We appreciate your input for this project.

Very truly yours,

RUSSEL S. RUSSELL
State Comptroller

JOHN WAHNEI
Chief Clerk



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 119, HONOLULU, HAWAII 96822

RUSSELL S. MACHIDA
COMPTROLLER

KEW ENYASU
PROPERTY COMPTROLLER

LETTER NO. (P)1804.8

SEP 15 1988

Ms. Jacqueline N. Miller
Associate Environmental Coordinator
University of Hawaii
2550 Campus Road, Crawford 317
Honolulu, Hawaii 96822

Dear Ms. Miller:

Subject: New Pahoa Elementary School
Public Review Phase

This is a follow-up to our September 1, 1988 response to your comments regarding the subject matter. We would like to correct a misstatement made in the first paragraph of Item No. 2 of our response. The statement should have read, "However, air quality in the immediate vicinity of the new school is expected to decrease because of the traffic generated by the school."

We regret any misunderstandings that may have occurred.

If there are any questions on this matter, please have your staff contact Mr. Mark Yamabe of the Public Works Division at 548-7660.

Very truly yours,

RUSSELL S. MACHIDA
State Comptroller

Patrick K. Carpenter
Mayor

Ronald Ibarra
Managing Director



Patricia G. Engelhard
Director

Ronald Chamurs
Deputy Director

DEPARTMENT OF PARKS & RECREATION
COUNTY OF HAWAII

RECEIVED
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DIV. OF PUBLIC WORKS
DAGS

April 7, 1988

Dr. Marvin T. Miura, Interim Director
Office of Environmental Quality Control
465 South King St., Room 104
Honolulu, HI 96813

Subject: New Pahon School - Site Selection Report
and Draft EIS

Dear Dr. Miura:

We have reviewed the subject report and Draft EIS and have
no adverse comments to offer.

Thank you for the opportunity to review the document.

Sincerely,

Patricia Engelhard
Director

PE:GM:ai

encl. (report being returned)

cc: DAGS - Attn: Mr. Mark Yamabe

COPY

PLANNING DEPARTMENT
25 AUPUNI STREET

COUNTY OF HAWAII
HILO, HAWAII 96720

RECEIVED
APR 29 1988
PLANNING DEPARTMENT

Mr. Marvin Miura
Office of Environmental
Quality Control
465 S. King Street
Honolulu, HI 96813

Dear Mr. Miura:

EIS New Pahoa Elementary School

The following are our comments on the subject EIS.

General comments: Since the proposed action is the selection and construction of a new elementary school and the designation of a new corresponding service area, the EIS should include discussions of criteria for the designation of the new service area. The map included in the EIS should also include the complete service area so that it is possible to evaluate the selection of a new site in relation to both the existing and potential population. In this respect, we note that the evaluation of candidate sites did not include distances from potential population within the service area. For example, site one appears to be centrally located if one assumes future rapid growth in the non-conforming subdivisions; site three is the most distant, but also the closest to the existing K through 12 Pahoa school complex.

Page I-1: 1985 population data should be used for consistency with other data.

Page I-1 and III-1: The geothermal power plant is located in the Pohokiki/Kapoho area rather than the Pahoa area.

Page II-1, Item A: There are current daily student body counts readily available from the school.

April 29, 1988

Mr. Marvin Miura
April 29, 1988
Page 2

Page III-1: The section on regional overview should discuss the Puna district in its entirety, describing that Puna also includes such areas as Mountain View, Kurtistown, Volcano, and the many non-conforming subdivisions which take their access from the Hilo to Volcano Highway (and which do not appear to be within the school service area).

Page VI-4, Item 2: Community Criteria - Government. This characterization of the various land use districts conveys incorrect information when the report grades them as "good-fair-poor".

Schools can be established on State Land Use Agriculture districts by applying for a Special Permit from the County Planning Commission. In Urban areas, schools may be allowed by applying for a Use Permit from the Planning Commission. In Conservation lands, a Use Permit may be applied for from the Board of Land and Natural Resources. A public hearing is required for each of the permits.

The different types of permits should not be relegated a grade ("good, fair or poor"), as the time and effort involved in the various applications is about the same for each. The merits of the particular sites are the qualifying factors, and not the land use designation. The General Plan, furthermore, does not locate school sites as the text infers; rather, it sets goals, standards and policies for establishing them. The consultant should contact our office to clarify this entire section.

Page V-2, Item b: A majority of the student body, approximately 70%..... A breakdown of the student body by school (elementary/intermediate/high) should be extracted to present a better picture of the situation.

Page VI-4, Item b: Community Effects. Is a half mile distance from commercial centers a significant item for even elementary schools?

Page VI-5, Item 2: The second paragraph of this item is totally erroneous. Please have the consultant contact us for a proper description for this and any other related reference.

XV. LIST OF PREPARERS OF THE EIS DOCUMENT

WILSON OKAMOTO & ASSOCIATES, INC.

Earl Matsukawa: Director, Planning Department
University of Hawaii, MURP, 1983, Land Use and Environmental Planning
Western Washington University, 1975, B.S., Environmental Planning
Area of Expertise for Project: Project Management, Land Use and
Environmental Planning

Nami Hamaguchi: Planner and Civil Engineer
University of Hawaii, BSCE, 1984, Civil Engineering
Engineer-in-Training Phase of Hawaii Board regular examination for
registration, Part I - Fundamentals of Engineering, 1987
Area of Expertise for Project: Land Use and Environmental Planning

Barry Toyota: Civil Engineer
University of Hawaii, BSCE, 1980, Civil Engineering
Registered Professional Engineer, 1983, Hawaii, Civil Engineering
Area of Expertise for Project: Civil Engineering

Gregory Lee: Civil Engineer
University of Hawaii, BSCE, 1986, Civil Engineering
Engineer-in-Training Phase of Hawaii board regular examination for
registration, Part 1 - Fundamentals of Engineering, 1987
Area of Expertise for Project: Civil Engineering

Malcolm Ching: Graphic Designer
Leeward Community College, A.S., 1986, Graphic Arts
Leeward Community College, Certificate in Graphic Arts, 1986
Area of Expertise for Project: Maps, Figures, and Production

GOVERNMENT OFFICIALS - Continued

Mr. Russell Kokubun
Councilmember, Puna District
Hawaii County Council
P. O. Box 357
Volcano, Hawaii 96785

Mr. Richard Henderson, Senator
1st Senatorial District
P. O. Box 655
Hilo, Hawaii 96720

Mr. Andrew Levin, Representative
1st Representative District
167 Keawe Street
Hilo, Hawaii 96720

UTILITY COMPANIES

Hawaii Electric Light Co., Inc.
1200 Kilauea Avenue
Hilo, Hawaii 96720

Hawaiian Telephone Company
161 Kinooole Street
Hilo, Hawaii 96720

The Gas Company
945 Kalaniana'ole Street
Hilo, Hawaii 96720

ORGANIZATIONS & INDIVIDUALS

Center for Development of
Early Education, Kamehameha
Schools
Attention: Ms. Jinny Elsen
Kapalama Heights, Honolulu 96817

Mr. Winston Towata, Principal
Pahoa High and Elementary School
P. O. Box 3
Pahoa, Hawaii 96778

Ms. Collette Nakamatsu
Pahoa P.T.S.A.
P. O. Box 3
Pahoa, Hawaii 96778

XI. LIST OF NECESSARY APPROVALS

All three candidate sites are located within the State Land Use Agricultural District where State law allows the County Planning Commission to issue a Special Permit for the establishment of a public school. Neither a General Plan amendment nor a zone change will be required for school development at any of the three candidate sites. A public hearing in conjunction with the Special Permit will afford the public an opportunity to comment on the selected school site.

None of the sites are within the County Special Management Area.

The proposed project has been found to be in compliance with the State's Historic Preservation Law (Chapter 6E) by the State Department of Land and Natural Resources Historic Sites Section.

Plans for all work within the State highway right-of-way will be submitted to the State Department of Transportation for review and approval.

XII. AGENCIES, ORGANIZATIONS, AND INDIVIDUALS CONSULTED IN THE PREPARATION OF THE EIS

FEDERAL AGENCIES

District Planning Office
U.S. Department of Transportation
United States Coast Guard
Commander, Fourteenth Coast
Guard District
300 Ala Moana Boulevard
Honolulu, Hawaii 96850

Soil Conservation Service
U.S. Department of Agriculture
P. O. Box 5004
Honolulu, Hawaii 96850

U.S. Army Support Command Hawaii
Attention: Environmental
Management
Office
Fort Shafter, Hawaii 96858-5000

Corps of Engineers
U.S. Department of the Army
Honolulu District
Building 230
Fort Shafter, Hawaii 96858-5440

Office of Ecological Services
Fish and Wildlife Service
U.S. Department of Interior
P. O. Box 50167
Honolulu, Hawaii 96850

Commander Naval Facility
Command Pacific Division
U.S. Department of the Navy
Pearl Harbor, Hawaii 96860

STATE AGENCIES

Department of Business and
Economic Development
State of Hawaii
P. O. Box 2359
Honolulu, Hawaii 96804

Department of Agriculture
State of Hawaii
1428 South King Street
Honolulu, Hawaii 96814-2512

Department of Defense
Office of the Adjutant General
State of Hawaii
3949 Diamond Head Road
Honolulu, Hawaii 96816-4495

Department of Education
State of Hawaii
P. O. Box 2360
Honolulu, Hawaii 96814

Mr. William Waters
Board of Education
Department of Education
State of Hawaii
1390 Miller Street
Honolulu, Hawaii 96813

Dr. Alan Garson
District Superintendent
Hawaii District Office
Department of Education
State of Hawaii
75 Aupuni Street
Hilo, Hawaii 96720

Mr. Herbert Watanabe
District Business Specialist
Hawaii District Office
Department of Education
State of Hawaii
75 Aupuni Street
Hilo, Hawaii 96720

Department of Health
State of Hawaii
P. O. Box 3378
Honolulu, Hawaii 96801

STATE AGENCIES - Continued

Office of Hawaiian Affairs
Kawaiahao Plaza Suite 100
567 S. King Street
Honolulu, Hawaii 96813

Department of Land and
Natural Resources
State of Hawaii
1151 Punchbowl Street
Honolulu, Hawaii 96813

Department of Social Services
and Housing
State of Hawaii
1390 Miller Street, #209
Honolulu, Hawaii 96813

Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Environmental Center
University of Hawaii
Crawford 317
2250 Campus Road
Honolulu, Hawaii 96822

Office of Environmental Quality
Control
State of Hawaii
465 South King Street, Room 115
Honolulu, Hawaii 96813

Water Resources Research Center
University of Hawaii
Holmes Hall 283
2540 Dole Street
Honolulu, Hawaii 96822

COUNTY AGENCIES

Department of Water Supply
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

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

Department of Parks and Recreation
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Department of Public Works
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Police Department
County of Hawaii
349 Kapiolani Street
Hilo, Hawaii 96720

Fire Department
County of Hawaii
466 Kinoole Street
Hilo, Hawaii 96720

Department of Research and
Development
County of Hawaii
34 Rainbow Drive
Hilo, Hawaii 96720

GOVERNMENT OFFICIALS

Mayor Dante Carpenter
Office of the Mayor
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Mr. Stephen Yamashiro, Chairman
Hawaii County Council
25 Aupuni Street
Hilo, Hawaii 96720

Mr. Marvin Miura
April 29, 1988
Page 3

Page VI-2, Item b: Roadways. The road standards described appear to be those of Honolulu. Hawaii County's standard road widths are: 60 ft. for collector streets; 50 ft. for minor streets. Lesser widths are only permitted for private driveways or accesses to limited density development, and would not be allowed for public roadways which a public school would be required to have.

Page VII-2: There may be potential impacts from the surrounding agricultural activities where herbicides and pesticides are commonly used. An agricultural park and Hawaiian Homes farm leases are in the proximity of site 1 and site 2.

Page VII-3, Item B.3: We believe a traffic analysis report would have a bearing on the choice of sites also and therefore should be conducted before selecting a site rather than following the selection of a school site."

In the list of agencies and organizations to be consulted, we suggest that the following also be contacted:

1. State Department of Hawaiian Homes Lands - adjoining landowner to candidate site #3 and has planned an agricultural subdivision in the area.
2. Hawaii County Civil Defense Agency - brush fire hazards in the area of candidate site 2 and evacuation routes in the school service areas. We would also note that there have been two major brush fires in the area of candidate site #2.
3. Subdivision community associations.

Thank you for the opportunity to comment on the New Pahoa Elementary School EIS.

Sincerely,


ALBERT LONO LYMAN
Planning Director

DT:scb

cc: Mark Yamabe, DAGS Public Works Division

bcc: Mayor's Read File



JOHN WILKINS
GOVERNOR

RUSSEL B. MCGHEE
COMPTROLLER
REN BYARU
SENIOR COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
DIVISION OF PUBLIC WORKS
P. O. BOX 115, HONOLULU, HAWAII 96810

LETTER NO. (P)1665-8

JUL 21 1988

Mr. Albert Lono Lyman
Director
Planning Department
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. Lyman:

Subject: New Pahoa Elementary School
EIS Public Review Phase

Thank you for your April 29, 1988 comments on the subject project. Attached are our responses to your comments.

We appreciate your input for this project.

Very truly yours,


TEVANE TOMINAGA
State Public Works Engineer

SM:jk
Attachment

NEW PAHOA ELEMENTARY
EIS PUBLIC REVIEW PHASE

Responses to Comments dated April 29, 1988

1. General Comments

a. Criteria for service area.

The Department of Education set the boundaries of the new school service area by splitting the existing service area for Pahoa Elementary School. In setting this boundary, they considered many items such as:

- 1) Distance between schools.
- 2) Distribution and location of student population.
- 3) Proposed developments.
- 4) Proximity of student population to school.
- 5) Bussing provisions.
- 6) Disruption to community.

The service area selected provides the DOE with the most flexibility in adjusting the boundaries between the Keaau, Pahoa and the New Pahoa schools as the schools grow and when another elementary school is added in the future.

b. Map of service area.

Since the portion of the service area not shown in Figure 2 contains only a small percentage of the students, Figure 1 will be revised to show the total service area carved out from the existing service area for Pahoa Elementary.

c. Distance from potential population.

The evaluation of alternative sites in relation to the existing and potential population was not deemed appropriate because (1) the alternative sites were selected to be centrally located to the existing population, (2) the service area is so

large that substantial residential developments can take place anywhere in it, and (3) the DOE has several options in redefining the service area boundaries when the area develops and another elementary school is required in the Keaau-Pahoa area.

2. Page I-1. The Hawaii County population for 1985 will be used.

3. Pages I-1 and III-1. The location of the geothermal power station will be revised to indicate that it is approximately 3 miles southeast of Pahoa Town.

4. Page II-1, Item A. The Pahoa High and Elementary student population data will be updated to September 1987 figures as follows:

Elementary Grades K-6	-	985	students
Secondary Grades 7-12	-	731	students
Total	-	1,716	students

5. Page III-1. Additional information on the Puna District will be included in the section on regional overview in the EIS document as follows:

"The existing and proposed service area are located within the Puna District of the Island of Hawaii. The towns of Pahoa and Keaau are the major population centers of the District. Smaller towns located along Hamalahoa Highway include Mountain View, Kurtistown and Glenwood, as well as the many subdivisions which have access off of the highway from Hilo to Volcano. South of Pahoa on Kaimu-Kapoho Road, are the towns of Ophihikao, Kehena, Kaimu and Kapalama."

6. Page VI-4, Item 2. The different ratings assigned to the land use designations are only minimally based on the types of permits required for the school or the time and effort involved in processing the various applications. Instead, it is intended to rate compliance with the State Land Use policy of preserving conservation-zoned lands and utilizing agricultural-zoned lands only when urban-zoned lands are unavailable or unsuitable.

7. Page V-2, Item b. We do not feel that a breakdown of the student body by school level (elementary/intermediate/high) is applicable. Please note that the proposed school is an elementary school and that intermediate and high school students in this service area will continue to attend Pahoa High and Intermediate School.
8. Page VI-4, Item b. Commercial centers are considered to be an attractive nuisance for students of all ages. Therefore, a 0.5 mile separation distance between schools and commercial centers is desirable.
9. Page VI-6, Item 2. Based on our consultant's discussion with your office, this section of the EIS and the section on necessary approvals will be revised to indicate that all three candidate sites are located within the State Land Use Agricultural District where State law allows the County Planning Commission to issue a Special Permit for the establishment of a public school. Neither a General Plan amendment nor a zone change will be required for school development at any of the three candidate sites.

The discussion will also note that a public hearing in conjunction with the Special Permit will afford the public an opportunity to comment on the proposed school site.

10. Page VI-2, Item b. The criterion on adequacy of roadways will be revised to reflect Hawaii County's road standard as follows:

Good - The site has adequate roadways to meet ultimate school needs. The minimum road right-of-way required is 60 feet.

Fair - The site is served by roadways requiring widening or other improvements to meet the interim and ultimate needs of the school. The minimum road right-of-way required is 50 feet.

Poor - The site is proximate to a roadway with a right-of-way less than 50 feet.

11. Page VII-2, Item A. Potential impacts of surrounding agricultural activities to school sites are discussed in Section VII.B.5. Surrounding Land Uses. It is noted

that existing agricultural operations could occasionally expose Site 1 and Site 3 to dust, noise or pesticide drift under adverse wind conditions. Site 2 is not anticipated to be affected by existing agricultural operations.

12. Page VII-3, Item B.3. We acknowledge your concerns regarding traffic impacts of school development. These concerns have been discussed in various sections of the EIS document.

The minimum criterion discussed previously, Central Location Along Major Roadway, addressed traffic concerns. In addition, the advantages and disadvantages of each candidate site were assessed with respect to adequacy of roadways, pedestrian access, pedestrian safety, automobile access and traffic flow.

Long-term traffic impacts of new school development are qualitatively evaluated in the EIS document. It is anticipated that roadway improvements such as widening for traffic channelization in front of the school will be needed. However, the extent of the improvements will be determined during the design phase of the project, following the selection of a school site.

- 13a. State Department of Hawaiian Home Lands.

We sent a copy of the draft EIS to the agency and received comments on the development of a homestead community at Hakau. Our consultant will contact the Department of Hawaiian Home Lands regarding plans for this homestead community.

- 13b. Hawaii County Civil Defense Agency.

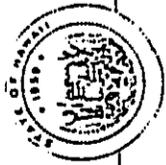
The Hawaii County Civil Defense Agency will be contacted regarding potential brush fire hazards in the area of Site 2, and evacuation routes in the proposed school service area. It is noted that the new school will meet County fire code requirements.

- 13c. Subdivision Community Associations.

The community was afforded the opportunity to attend two meetings regarding the new elementary school as follows:

- a) September 11, 1987. Discussion of the project need and the site selection methodology.
- b) November 12, 1987. Discussion of potential school sites.

Concerns expressed at both meetings have been considered in the planning process for the new school.



DEPARTMENT OF BUSINESS AND ECONOMIC DEVELOPMENT

STATE OF HAWAII, DEPARTMENT OF BUSINESS AND ECONOMIC DEVELOPMENT
MAILING ADDRESS: PO BOX 220, HONOLULU, HAWAII 96822

JOHN W. WILHE
DIRECTOR
ROGER A. ULVELLING
DEPUTY DIRECTOR
BARBARA K. STANTON
DEPUTY DIRECTOR
LESLIE S. MATSUURA
DEPUTY DIRECTOR

Ref. No. P-8286

April 19, 1988

RECEIVED
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DIV. OF PUBLIC WORKS
DACS

MEMORANDUM

TO: Dr. Marvin T. Miura, Director
Office of Environmental Quality Control

FROM: Roger A. Ulveling

SUBJECT: Site Selection Report and Draft Environmental Impact Statement (DEIS) for the New Pahoa Elementary School, Pahoa, Hawaii

We have reviewed the subject document and do not have any comments to offer at this time. Thank you for the opportunity to review this DEIS.

ORIGINAL SIGNED BY
ROGER A. ULVELLING

cc: Mr. Mark Yamabe,
Public Works Division, DACS

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STATE OF HAWAII
Department of Business and Economic Development
Housing Finance and Development Corporation

Joseph K. Conant
Executive Director

MAHANA

TO: 88:PLNG/1469JT

March 30, 1988

Dr. Marvin T. Miura, Interim Director
Office of Environmental Quality Control
465 South King Street, Room 104
Honolulu, Hawaii 96813

Dear Mr. Miura:

Re: Site Selection Report & Draft Environmental
Impact Statement (EIS) on the New Pahoa
Elementary School

Thank you for the opportunity to review the draft EIS for
the subject project. We have no comments to offer.

Sincerely,

JOSEPH K. CONANT
Executive Director

cc: Mr. Mark Yamabe

STATE OF HAWAII
DEPARTMENT OF BUSINESS
AND ECONOMIC DEVELOPMENT



LAND USE COMMISSION

Room 104, ONE Federal Bldg., 315 Merchant Street
Honolulu, Hawaii 96813 Telephone 540-4411

JOHN WAIHEE
Governor

TEDDIE PAUL TACSIAN
Chairman

FREDERICK P. WHITTICORE
Vice Chairman

COMMISSION MEMBERS:

Richard B.F. Day
Lawrence F. Gou
Garrett L. Enokada
Thomas A. Shiga
Marilyn L. Tamm
Marian L.A. Ho

ESTHER UEDA
Executive Officer

JOHN WAIHEE
Governor



STATE OF HAWAII

DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

P. O. BOX 174, HONOLULU, HAWAII 96811

SUMI E. NAGATA
COMPTROLLER
REN KITAHU
SENIOR COMPTROLLER

LETTER NO. (P)1479.8

MAY 31 1988

Dr. Marvin T. Miura, Interim Director
Office of Environmental Quality Control
465 South King Street, Room 104
Honolulu, Hawaii 96813

Dear Dr. Miura:

Subject: Draft EIS for the New Pahoa Elementary School,
Pahoa, Hawaii

We have no comments to offer except that all three proposed sites are located within the State Land Use Agricultural District.

Thank you for this opportunity to comment.

Sincerely,

ESTHER UEDA
Executive Officer

EU:to

cc: Mark Yamabe, DAGS

Ms. Esther Ueda
Executive Officer
Land Use Commission
Department of Business and
Economic Development
State of Hawaii
Honolulu, Hawaii

Dear Ms. Ueda:

Subject: New Pahoa Elementary School
Public Review Phase

Thank you for your April 11, 1988 comment on the subject project. As indicated in the EIS, all three proposed school sites are located within the State Land Use Agricultural District.

We appreciate your input for this project.

Very truly yours,

SUMI E. NAGATA
State Comptroller

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DIV. OF PUBLIC WORKS
DAGS

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APR 8 8 20 AM '88

DIV. OF HIGHWAYS
3465

STATE OF HAWAII
DEPARTMENT OF OFFENSE
OFFICE OF THE ATTORNEY GENERAL
3400 DUNCAN ROAD, HONOLULU, HAWAII 96818-1453

APR 7 1988

Engineering Office

Dr. Marvin T. Hiron, Interim Director
Office of Environmental Quality Control
455 South King Street, Room 104
Honolulu, Hawaii 96813

Dear Dr. Hiron:

New Pahoa Elementary School
Pahoa, Hawaii

Thank you for providing us the opportunity to review the above subject project.

We have no comments to offer at this time regarding this project.

Sincerely,

 signed

Jerry M. Matsuda
Major, Hawaii Air
National Guard
Contr & Engr Officer

Enclosure

cc:
Mr. Mark Yasabe

JOHN WAIKANE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF EDUCATION

P. O. BOX 2104
HONOLULU, HAWAII 96810

March 30, 1988

OFFICE OF THE SUPERINTENDENT

CHARLES YODanis
SUPERINTENDENT

RECEIVED
RECEIVED
APR 13 8 02 AM '88
DIV. OF PUBLIC WORKS
PUBLIC WORKS

MEMO TO: Dr. Marvin T. Miura, Interim Director
Office of Environmental Quality Control

F R O M: Charles A. Yamabe, Superintendent
Department of Education

SUBJECT: New Pahoa Elementary School
Site Selection Report and Draft EIS

Thank you for the opportunity to review the subject
site selection report and draft EIS statement.

We are satisfied with the contents of the document.

CTI:jl

cc E. Imai, OBS
M. Yamabe, DAGS

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

JOHN WAIHEE
GOVERNOR
STATE OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P. O. BOX 1878
HONOLULU, HAWAII 96818

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APR 12 11 14 AM 1988
HAWAIIAN HOME LANDS COMMISSION
P. O. BOX 1878
HONOLULU, HAWAII 96818

JOHN WAIHEE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 111, HONOLULU, HAWAII 96818

RUSSEL S. MACATA
COMPTROLLER
STATE OF HAWAII

LETTER NO. (P) 1478.8

MAY 31 1988

Honorable Ilima A. Piiianaia
Director and Chairperson
Department of Hawaiian Home Lands
State of Hawaii
Honolulu, Hawaii

Dear Ms. Piiianaia:

Subject: New Pahoa Elementary School
Public Review Phase

Thank you for your April 11, 1988 comments on the subject project.

The EIS will be revised to include the information on your development of a homestead community at Makuu. In addition, your support of the three proposed school sites and preference for Alternative 1 will be made a part of the information provided to the Governor for final site selection.

We appreciate your input for this project.

Very truly yours,
Russel S. Macata
RUSSEL S. MACATA
State Comptroller

MEMORANDUM

TO: The Honorable Marvin T. Miura, Interim Director
Office of Environmental Quality Control

FROM: Ilima A. Piiianaia, Chairman *Ilima Piiianaia*
Hawaiian Homes Commission

SUBJECT: EIS - Pahoa Elementary School

Thank you for transmitting a copy of the Site Selection Report and Draft EIS for the new Pahoa Elementary School in Pahoa, Hawaii.

As the proposed sites are not on Hawaiian Home Lands, we have no comments on the EIS portion of the report. However, we do support the site alternatives selected and are particularly pleased with Alternative 1 as it is near our developing homestead community at Makuu. Presently, we have 128 new homestead lessees and their families at Makuu. It is expected that within the next five to eight years infrastructure improvements will be made for these lots which will focus interest in homestead activity in the area.

If we can provide any additional information, please contact us. Thank you for the opportunity to respond.

IAP:HS:eh
cc: Mark Yamabe, Public Works Division, DAGS



JUSTICE S. HIGGINS
COMPTROLLER
KEVIN HIRABU
SENATE COMPTROLLER
LETTER NO. (P) 1527.8

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 111, HONOLULU, HAWAII 96810

JUN 23 1988

Dr. Bruce S. Anderson
Deputy Director
Department of Health
State of Hawaii
Honolulu, Hawaii

Dear Dr. Anderson:

Subject: New Pahoa Elementary School
Public Review Phase

Thank you for your May 6, 1988 comments on the subject project. The EIS will be revised to include the following:

1. Projected Wastewater Flow - The design average wastewater flow for a peak enrollment of 900 students is presently estimated at 30,000 GPD based on the Design Standards of the Division of Wastewater Management, Volume I (City and County of Honolulu, Department of Public Works, February 1984).
2. Requirements - The proposed wastewater treatment and disposal system will meet all applicable requirements of Act 282, SLH 1985 as amended by Act 302, SLH 1986.
3. Type of Disposal System - The final selection of a wastewater treatment and disposal system will be determined during the project design phase with consultation and approval of your Department. One of the alternatives is the system which has a septic tank with a percolation blanket or leaching field.

We appreciate your input for this project.

Very truly yours,

Bruce S. Anderson
BRUCE S. ANDERSON
State Comptroller

JOHN THURMEL
SECRETARY

JOHN C. LEWIS, M.D.
DIRECTOR OF HEALTH

IN REPLY, PLEASE REFER TO:
(PHSD)



STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 319
HONOLULU, HAWAII 96810

May 6, 1988

MEMORANDUM

To: Dr. Marvin T. Miura, Director
Office of Environmental Quality Control

From: Deputy Director for Environmental Health

Subject: Site Selection Report and Draft Environmental Impact Statement (DEIS) for
New Pahoa Elementary School, Pahoa, Hawaii

Thank you for allowing us to review and comment on the subject DEIS. We provide the following comments with regard to wastewater disposal:

As indicated in the subject DEIS, the proposed elementary school will have a projected student enrollment of approximately 750-900 students. The DEIS fails to provide details of the projected waste flow, the type of treatment plant or the type of disposal system to be used.

There are no existing municipal treatment facilities in the Pahoa area. Injection wells will probably not be allowed due to the possibility of ground water contamination. The applicant must address the waste-water disposal issue in the EIS. The sewage system proposed must meet all applicable requirements of Act 282, SLH 1985 as amended by Act 302, SLH 1986.

Bruce S. Anderson
BRUCE S. ANDERSON, Ph.D.

cc: Mr. Mark Yamabe, DAGS ✓

FOR THE DIRECTOR
DEPARTMENT OF LAND AND NATURAL RESOURCES



APR 5 11 17 AM '88
DIVISION OF STATE PARKS
DACS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF STATE PARKS
P. O. BOX 451
HONOLULU, HAWAII 96809

WILLIAM W. PATT, CHAIRPERSON
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LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

MAR 8 1988

April 4, 1988

Mr. Ralston Nagata
State Parks Administrator
State Parks, Outdoor Recreation
and Historic Sites
Department of Land and
Natural Resources
State of Hawaii
Honolulu, Hawaii

TO: Teuane Tomiaga, State Public Works Engineer, Division of
Public Works, DACS

FROM: Ralston H. Nagata, State Parks Administrator

SUBJECT: Chapter 62 Historic Preservation Review -- Review of
Archaeological Survey Report -- New Pahoa Elementary
School (DACG/DOE)
Keonepoko Nui & Keonepoko Iki, Puna, Hawaii
TRK: 1-5-10: Part 3; 1-5-9: Part 9; 1-5-8: Part 1, 6

Dear Mr. Nagata:

Subject: New Pahoa Elementary School
Archaeological Reconnaissance Survey
DACG Job No. 11-16-0034

As discussed with Dr. Ross Cordy of your staff, we are
submitting a copy of the subject report for your review and
comments.

If there are any questions on this matter, please have
your staff call Mr. Mark Yamabe of the Planning Branch at
548-7660.

Very truly yours,

Teuane Tomiaga
TEUANE TOMIAGA
State Public Works Engineer

MY:jk
Attachment

Thank you for submitting the revised archaeological report to our
office for review (P. Rosendahl 1988. Archaeological Reconnaissance
Survey for Environmental Impact Statement (EIS). Pahoa Elementary
School.).

Our review of the report indicates that the project areas were
adequately surveyed and that no historic sites were present. Thus,
the New Pahoa Elementary School project, if constructed at any of
these three locations, will have "no effect" on significant historic
sites.

A copy of this memorandum should be kept in your files as evidence
of completion of Chapter 62, H.R.S., review. Thank you for
coordinating with our Historic Sites Section.

Ralston H. Nagata
RALSTON H. NAGATA

JOHN HANDEL
COMPTROLLER



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 115, HONOLULU, HAWAII 96810

RUSSEL B. NAGATA
COMPTROLLER
KEN ETIYAN
DEPUTY COMPTROLLER

LETTER NO. (P)1481.8

MAY 31 1988

Mr. Ralston H. Nagata
State Parks Administrator
State Parks, Outdoor Recreation
and Historic Sites
Department of Land and
Natural Resources
State of Hawaii
Honolulu, Hawaii

Dear Mr. Nagata:

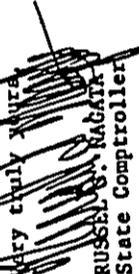
Subject: New Pahoa Elementary School
Public Review Phase

Thank you for your April 4, 1988 comments on the
archaeological report of the subject project.

As indicated in the report, no historic sites were
found in the proposed sites. Therefore, the EIS will be
revised to indicate that development of a school at any of
the three alternative project sites will have "no effect" on
significant historic sites.

We appreciate your input for this project.

Very truly yours,


RUSSEL B. NAGATA
State Comptroller

X. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Implementation of the proposed action would involve the commitment of fuel, labor, funding and materials for the construction of the new school. Labor, materials, and utilities would also be required for operation and maintenance of the proposed project.

Development of the proposed project will involve the commitment of land for school use which will preclude other land use options for the selected site.

TABLE A-1

OFF-SITE IMPROVEMENT COSTS (in millions of dollars)

Improvements	Former Pahoia Air Strip SITE 1	Kahakai Boulevard SITE 2	Pahoia By-Pass Road SITE 3
Water	\$0.65	\$1.23	\$1.21
Roadway	\$0.09	\$0.00	\$0.32
Elec./Tel.	\$0.01	\$0.00	\$0.02
TOTAL	\$0.75	\$1.23	\$1.55

2. On-Site Improvement Costs

On-site improvement costs, based on a typical layout plan, are assumed to be the same for all three candidate sites. Improvement costs were estimated with respect to roadways, parking, grading, drainage, and landscaping, as well as various utilities such as sewerage, water, electrical power/communications and gas (see Table A-2).

Roadway improvements are estimated to cost \$0.09 million for driveway, drop-off and parking areas. Grading cost for each site is estimated at \$0.23 million. On-site drainage costs, consisting of drainage pipe required to transport runoff to appropriate discharge points is estimated at \$0.11 million. On-site landscaping improvements estimated at \$0.19 million assumes the need for topsoil, grassing and an irrigation system for half of the landscaped area.

Sewerage costs are based on the need to provide individual wastewater treatment and disposal systems which are estimated at \$0.23 million. The design average wastewater flow for a peak enrollment of 900 students is presently estimated at 30,000 gallons per day based on the Design Standards of the Division of Wastewater Management, Volume 1 (City and County of Honolulu, Department of Public Works, February 1984). The proposed wastewater treatment and disposal system will meet all applicable requirements of Act 282, SLH 1985 as amended by Act 302, SLH 1986. The final selection of a wastewater treatment and disposal system will be determined during the project design phase in consultation with and approval of the State of Hawaii Department of Health. One of the alternatives is to install a system with a septic tank and a percolation blanket or leaching field.

Water system improvements, including the installation of meters, 12-inch and 2-inch pipes, and fire hydrants are expected to total about \$0.06 million. The installation of lines and cables

for the electrical and telephone system is estimated at \$0.07 million. The gas system, including gas lines and a 2,000 gallon tank are estimated to cost \$0.01 million.

No additional foundation cost due to adverse subsurface conditions is anticipated for the candidate sites. The cost of soundproofing classrooms was not included in the cost analysis as the school sites have been sited to minimize noise nuisances.

Table A-3 provides a summary of combined off-site and on-site costs for improvements at each of the sites.

TABLE A-2

ON-SITE IMPROVEMENT COSTS (in millions of dollars)

<u>Improvements</u>	<u>Cost</u>
Roadway	\$0.09
Grading	\$0.23
Drainage	\$0.11
Landscaping	\$0.19
Sewer	\$0.23
Water	\$0.06
Elec./Tel.	\$0.07
Gas	<u>\$0.01</u>
TOTAL	\$0.99

TABLE A-3

COST SUMMARY (in millions of dollars)

Improvements	Former Paho Air Strip <u>SITE 1</u>	Kahakai Boulevard <u>SITE 2</u>	Paho By-Pass Road <u>SITE 3</u>
Water	\$0.71	\$1.29	\$1.27
Roadway	\$0.18	\$0.09	\$0.41
Elec./Tel.	\$0.08	\$0.07	\$0.09
Grading	\$0.23	\$0.23	\$0.23
Drainage	\$0.11	\$0.11	\$0.11
Landscaping	\$0.19	\$0.19	\$0.19
Sewer	\$0.23	\$0.23	\$0.23
Gas	<u>\$0.01</u>	<u>\$0.01</u>	<u>\$0.01</u>
Subtotal	\$1.74	\$2.22	\$2.54
20 Percent Contingency	<u>\$0.35</u>	<u>\$0.44</u>	<u>\$0.51</u>
TOTAL	\$2.09	\$2.66	\$3.05

APPENDIX B
ARCAHEOLOGICAL RECONNAISSANCE SURVEY

PAUL H. ROSENDAHL, Ph.D., Inc.
Consulting Archaeologist

Report 382-020988

**ARCHAEOLOGICAL RECONNAISSANCE SURVEY
FOR ENVIRONMENTAL IMPACT STATEMENT (EIS)
PAHOA ELEMENTARY SCHOOL SITES**

Puna, Island of Hawaii

March 1988

305 Mohouli Street • Hilo, Hawaii 96720 • (808) 969-1763 or 966-8038

Report 382-020988

ARCHAEOLOGICAL RECONNAISSANCE SURVEY
FOR ENVIRONMENTAL IMPACT STATEMENT (EIS)
PAHOA ELEMENTARY SCHOOL SITES

Puna, Island of Hawaii

March 1988

RATING TOTALS

Good 1
Fair 2
Poor 0

- | | <u>Rating</u> |
|--|---------------|
| 3. <u>Accessibility</u> | |
| a. <u>Pedestrian Access</u>
No pedestrian access is available. | Poor |
| b. <u>Pedestrian Safety</u>
Safe walkways/shoulders to the site may be provided along the school access road. | Fair |
| c. <u>Automobile Access</u>
The site is set back 500 feet from Keeau-Pahoa Road, with one long side of the site parallel to the highway. Access is assumed to be available along one long side of the site. | Fair |
| d. <u>Traffic Flow</u>
The site is proximate to Keeau-Pahoa Road, a State highway. | Good |

RATING TOTALS

Good 1
Fair 2
Poor 1

Community Criteria

- | | <u>Rating</u> |
|---|---------------|
| 1. <u>Government</u> | |
| a. <u>State Land Use Map Designation</u>
The site is in the "Agricultural" District. A Land Use Boundary Amendment to designate the site "Urban" will be required. | Poor |

RATING TOTALS

Good 0
Fair 0
Poor 1

2. Community Effects Rating

- a. Proximity to Commercial Centers Good
The site is approximately 1.7 miles northwest of commercial uses.

- b. Aesthetic Value Good
The site is not an aesthetic asset to the community and development of a school will not obstruct scenic vistas.

RATING TOTALS

Good 2
Fair 0
Poor 0

SITE 2: KAHAKAI BOULEVARD SITE

School Site Criteria

- | | <u>Rating</u> |
|---|---------------|
| 1. Environmental Characteristics | |
| a. <u>Slope</u> | Good |
| Average slope of the site is between 1 and 3 percent. | |
| b. <u>Soil</u> | Poor |
| The site is composed of pahoehoe lava. | |
| c. <u>Natural Beauty</u> | Good |
| Existing trees, plants: Yes. | |
| Potential for beautification: Yes. | |
| Crossed by overhead lines: No. | |

RATING TOTALS

Good	2
Fair	0
Poor	1

- | | <u>Rating</u> |
|---|---------------|
| 2. Roadways and Utilities | |
| a. <u>Adequacy of Roadways</u> | Good |
| The site is served by Kahakai Boulevard which has a right-of-way width of 60 feet nearest the site. Automobile access from another nearby road within the residential subdivision is not recommended due to its narrow right-of-way width of 40 feet. | |
| b. <u>Adequacy of Water Service</u> | Fair |
| The existing water service is insufficient but adequate service can be provided by the addition of transmission improvements and increasing storage capacity to meet interim and ultimate needs of the school. | |
| c. <u>Adequacy of Power and Communications</u> | Good |
| Existing power and communications lines are available to service the school. | |

RATING TOTALS

Good	2
Fair	1
Poor	0

3. Accessibility Rating
- a. Pedestrian Access Good
Number of sides pedestrian access is available: 2.
 - b. Pedestrian Safety Fair
Safe walkways/shoulders to the site may be provided along the school access road.
 - c. Automobile Access Fair
The access road, Kahakai Boulevard, runs along one long side of the site. Automobile access from the residential subdivision is not recommended.
 - d. Traffic Flow Fair
The site is proximate to Kahakai Boulevard, a major roadway.

RATING TOTALS

Good 1
Fair 3
Poor 0

Community Criteria

1. Government Rating
- a. State Land Use Map Designation Poor
The site is in the "Agricultural" District. A Land Use Boundary Amendment to designate the site "Urban" will be required.

RATING TOTALS

Good 0
Fair 0
Poor 1

2. Community Effects Rating
- a. Proximity to Commercial Centers Good
The site is approximately 2.5 miles northeast of commercial uses.
 - b. Aesthetic Value Fair
The site has little aesthetic value to the community but development of a school may partially obstruct scenic vistas.

RATING TOTALS

Good	.....	1
Fair	.....	1
Poor	.....	0

SITE 3: PAHOA BY-PASS ROAD SITE

School Site Criteria

- | | | |
|----|---|---------------|
| 1. | Environmental Characteristics | <u>Rating</u> |
| a. | <u>Slope</u>
Average slope of the site is between 4 and 10 percent. | Fair |
| b. | <u>Soil</u>
The site is composed of pahoehoe lava. | Poor |
| c. | <u>Natural Beauty</u>
Existing trees, plants: Yes.
Potential for beautification: Yes.
Crossed by overhead lines: No. | Good |

RATING TOTALS

Good	.....	1
Fair	.....	1
Poor	.....	1

- | | | |
|----|--|---------------|
| 2. | Roadways and Utilities | <u>Rating</u> |
| a. | <u>Adequacy of Roadways</u>
The site is served by Pahoa By-Pass Road which has a right-of-way width of 50 feet. | Fair |
| b. | <u>Adequacy of Water Service</u>
The existing water service is insufficient but adequate service can be provided by the addition of transmission improvements to meet interim and ultimate needs of the school. | Fair |
| c. | <u>Adequacy of Power and Communications</u>
The site requires some off-site improvements to meet interim and ultimate power and communications needs of the school. | Fair |

RATING TOTALS

Good	.....	0
Fair	.....	3
Poor	.....	0

- | | | |
|----|--|---------------|
| 3. | Accessibility | <u>Rating</u> |
| a. | <u>Pedestrian Access</u>
Number of sides pedestrian access is available: 1. | Fair |

- b. Pedestrian Safety Fair
Safe walkways/shoulders to the site may be provided along the school access road.
- c. Automobile Access Fair
The access road, Pahoa By-Pass Road, runs along one long side of the site.
- d. Traffic Flow Fair
The site is proximate to Pahoa By-Pass Road, a major roadway.

RATING TOTALS

Good 0
Fair 4
Poor 0

Community Criteria

- 1. Government Rating
 - a. State Land Use Map Designation Poor
The site is in the "Agricultural" District. A Land Use Boundary Amendment to designate the site "Urban" will be required.

RATING TOTALS

Good 0
Fair 0
Poor 1

- 2. Community Effects Rating
 - a. Proximity to Commercial Centers Good
The site is approximately 0.6 mile west of commercial uses.
 - b. Aesthetic Value Good
The site is not an aesthetic asset to the community and development of a school will not obstruct scenic vistas.

RATING TOTALS

Good 2
Fair 0
Poor 0

APPENDIX A

CANDIDATE SITE EVALUATIONS AND RESULTS

This technical appendix document lists results of the candidate site evaluations relative to school site and community criteria, and cost considerations. Descriptions of the criteria are contained in Chapter VI of the EIS document.

A. School Site and Community Criteria Results

SITE 1: FORMER PAHOA AIR STRIP SITE

School Site Criteria

- | 1. Environmental Characteristics | <u>Rating</u> |
|--|---------------|
| a. <u>Slope</u>
Average slope of the site is between 4 and 10 percent. | Fair |
| b. <u>Soil</u>
The site is composed of pahoehoe lava. | Poor |
| c. <u>Natural Beauty</u>
Existing trees, plants: Yes.
Potential for beautification: Yes.
Crossed by overhead lines: No. | Good |

RATING TOTALS

Good	1
Fair	1
Poor	1

- | 2. Roadways and Utilities | <u>Rating</u> |
|---|---------------|
| a. <u>Adequacy of Roadways</u>
The site is served by Keeau-Pahoia Road which has a right-of-way width of 80 feet. | Good |
| b. <u>Adequacy of Water Service</u>
The existing water service is insufficient but adequate service can be provided by the addition of transmission improvements and increasing storage capacity to meet interim and ultimate needs of the school. | Fair |
| c. <u>Adequacy of Power and Communications</u>
The site requires some off-site improvements to meet interim and ultimate power and communications needs of the school. | Fair |

B. Cost Considerations

1. Off-Site Improvement Costs

Off-site improvement costs were estimated for each site with respect to roadway requirements, as well as for utility needs such as water and electrical power/communications (see Table A-1). None of the candidate sites required off-site improvements for drainage, sewer, grading, landscaping or gas. Runoff from all sites is assumed to percolate into the ground as the overlying soil in the region affords percolation of rainwater into the ground. County sewerage service is unavailable in the region. All three candidate sites will, therefore, require an individual wastewater treatment and disposal system. Grading and landscaping were regarded as unnecessary since slope and natural landscape features offered by the surrounding terrain were judged to be adequate. The provision of gas lines was also considered unnecessary as none of the sites are near existing gas lines. Instead, gas would be trucked in and stored in tanks.

All sites will require development of off-site water improvements. Improvements consist of additional storage capacity and transmission lines for the Former Pahoa Air Strip and Kahakai Boulevard Sites (Sites 1 and 2) at estimated costs of \$0.65 million and \$1.23 million, respectively. The Pahoa By-Pass Road Site (Site 3) will require off-site water transmission improvements at an estimated cost of \$1.21 million.

Two candidate sites will require development of off-site roadway improvements. An access roadway to the Former Pahoa Air Strip Site (Site 1) is estimated to cost about \$0.09 million. Costs to upgrade the roadway to the Pahoa By-Pass Road Site (Site 3) is estimated at \$0.32 million. Off-site roadway improvements are not anticipated at the Kahakai Boulevard Site (Site 2).

Off-site electrical power/communications costs are not anticipated at the Kahakai Boulevard Site (Site 2). Off-site improvements to provide for adequate power and communications at the Former Pahoa Air Strip and Pahoa By-Pass Road Sites (Sites 1 and 3) are estimated at \$0.01 million and \$0.02 million, respectively.

PAUL H. ROSENDAHL, Ph.D., Inc.
Consulting Archaeologist

Report 382-020988

ARCHAEOLOGICAL RECONNAISSANCE SURVEY
FOR ENVIRONMENTAL IMPACT STATEMENT (EIS)
PAHOA ELEMENTARY SCHOOL SITES

Puna, Island of Hawaii
(TMK:1-5-10:Por.3; 1-5-09:Por.9; 1-5-08:Por.1,6)

by

Margaret L.K. Rosendahl, B.A., S.O.P.A.
Supervisory Archaeologist

Prepared for

Department of Accounting and General Services
State of Hawaii

and

Wilson Okamoto & Associates, Inc.
P.O. Box 3530
Honolulu, Hawaii 96811

March 1988

305 Mohouli Street • Hilo, Hawaii 96720 • (808) 969-1763 or 966-8038

INTRODUCTION

BACKGROUND

At the request of Mr. Earl Matsukawa of Wilson Okamoto & Associates, Inc., for their client, State of Hawaii-Department of Accounting and General Services, Paul H. Rosendahl, Ph.D., Inc. (PHRI) recently conducted an archaeological reconnaissance survey of three parcels under consideration as possible sites for the new Pahoa Elementary School. All three parcels (TMK: 1-5-10:Por.3; 1-5-09:Por.9; 1-5-08:Por.1,6) are located in the District of Puna, Island of Hawaii. The primary objective of the reconnaissance survey was to make a general assessment, in conjunction with the preparation of an Environmental Impact Statement (EIS), concerning the presence or absence of, and potential impacts of the project on, any sites of possible archaeological significance within the immediate project areas.

Approximately 24 man-hours of labor were expended in conducting the field work. Upon completion of field work, findings and preliminary conclusions--including tentative evaluations and recommendations--were discussed with Dr. Ross Cordy, chief archaeologist in the Department of Land and Natural Resources-Historic Sites Section (DLNR-HSS) (February 9, 1988), and with Ms. Connie Kiriu, staff planner in the Hawaii County Planning Department (HCPD). Dr. Cordy and Ms. Kiriu will formally review project findings upon submission of this final report.

SCOPE OF WORK

The basic objective of the reconnaissance survey was to identify--to discover and to locate on available maps--sites and features of potential archaeological significance. A reconnaissance survey comprises the initial level of archaeological investigation. It is extensive rather than intensive in scope, and is conducted basically to determine the presence or absence of archaeological resources within a specified project area. A reconnaissance survey indicates the general nature of and variety of archaeological remains present, and the general distribution of such remains; it permits a general significance assessment of the archaeological resources, and facilitates formulation of realistic recommendations and estimates for such further work that might be necessary or appropriate. Such further work could include intensive survey--data collection involving detailed recording of sites and features--and selected test excavations; and possibly mitigation--data recovery research excavations, construction monitoring, interpretive planning and development, and/or preservation of sites and features with significant scientific research, interpretive, and/or cultural values.

The specific objectives of the Pahoa Elementary School Sites reconnaissance survey were (a) to review and evaluate available archaeological and historical literature relevant to the immediate project area, (b) to conduct a surface reconnaissance survey to determine the presence/absence of significant archaeological sites within the immediate project area, and (c) to assess what effect, in any, the elementary school construction project might have on existing archaeological sites.

The reconnaissance survey was conducted in accordance with the minimum requirements for reconnaissance-level survey as recommended by the Society for Hawaiian Archaeology (SHA). These standards are currently used by the DLNR-HSS and HCPD as guidelines for the review and evaluation of archaeological reconnaissance survey reports submitted in conjunction with various development permit applications.

PROJECT AREA DESCRIPTION

The Pahoa Elementary School Sites project area is comprised of three parcels (Sites 1, 2, and 3) situated in the town of Pahoa, District of Puna, Island of Hawaii (Figure 1). Each parcel consists of c. eight contiguous acres. Site 1 (TMK:1-5-10:Por.3, Figure 2) is situated in the ahupua'a of Keonepoko Nui, at about 580 ft AMSL (above mean sea level). The parcel is located adjacent to the northwest side of the abandoned Pahoa Air Strip, and c. 500 ft seaward of Keaau-Pahoa Highway. Site 1 is rectangular and measures c. 420 ft (128 m) (NW-SE) by 840 ft (256 m) (NE-SW). Vegetation within Site 1 consists of scattered ohi'a-lehua (Metrosideros collina [Forst.] Gray subsp. polymorpha [Gaud.] Rock) and a dense understory of uluhe (false staghorn fern, Discranopteris linearis [Burm.] Underw.) and melastoma (Melastoma malabathricum L.). The terrain of Site 1 is comprised of undulating pahoehoe. Average annual rainfall within the vicinity of Site 1, as well as within the vicinity of Sites 2 and 3, is 150-200 inches (Armstrong 1983:63).

Site 2 (TMK:1-5-09:Por.9) is within the ahupua'a of Keonepoko Iki, at an elevation of c. 350 ft AMSL. It is situated immediately north of Kahakai Boulevard, adjacent to the entrance to Hawaiian Beaches Subdivision (Figure 3). Site 2 is bounded to the east by the Hawaiian Beaches substation and to the north and west by residences and undeveloped land. The site is rectangular and measures c. 420 ft (128 m) (E-W) by 840 ft (256 m) (N-S). Several years ago a fire swept through the site; as a result, the level terrain of the site is very open, with only a low grass cover.

Site 3 (TMK:1-5-08:Por.1,6) is situated in the shupua'a of Keonepoko Iki, c. 2,200 ft inland of Keaau-Pahoa Road and c. 900 ft north of a Hawaii County Solid Waste Transfer Station (Figure 4). The site borders Pahoa By-Pass Road and extends to the northwest. Site 3 is rectangular and measures c. 420 ft (128 m) (NW-SE) by 840 ft (256 m) (NE-SW). The terrain of the site consists of undulating pahoehoe, while the vegetation consists of scattered ohi'a-lehua and a dense understory of uluhe and melastoma.

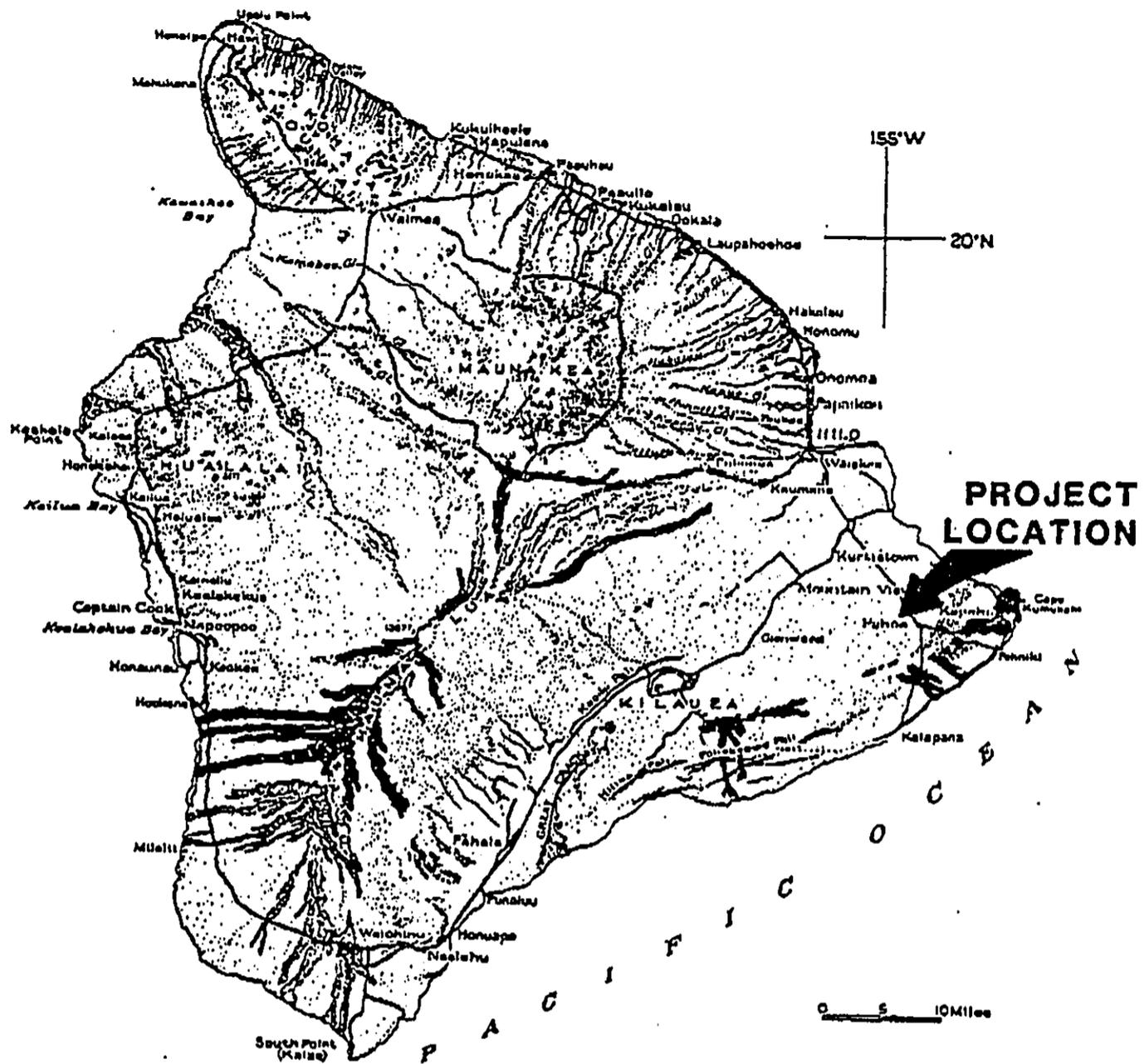


Figure 1. PROJECT LOCATION MAP

Archaeological Reconnaissance Survey
 Pahoa Elementary School Sites
 Puna, Island of Hawaii
 (TMK:1-5-10:Por.3; 1-5-09:Por.9; 1-5-08:Por.1,6)

PHRI Project 87-382 February 1988

(Map taken from Macdonald and Abbott 1970:288.)

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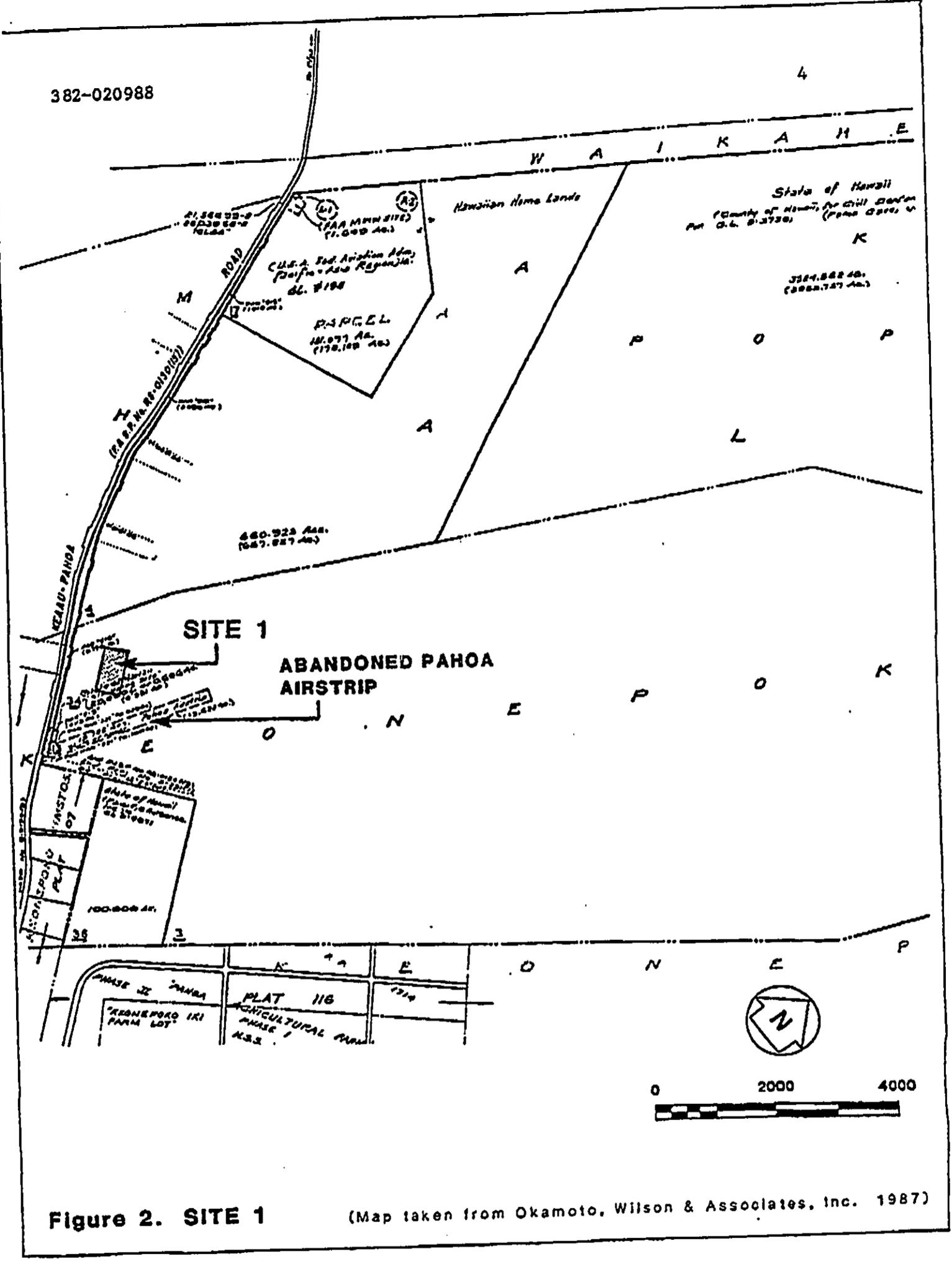


Figure 2. SITE 1

(Map taken from Okamoto, Wilson & Associates, Inc. 1987)

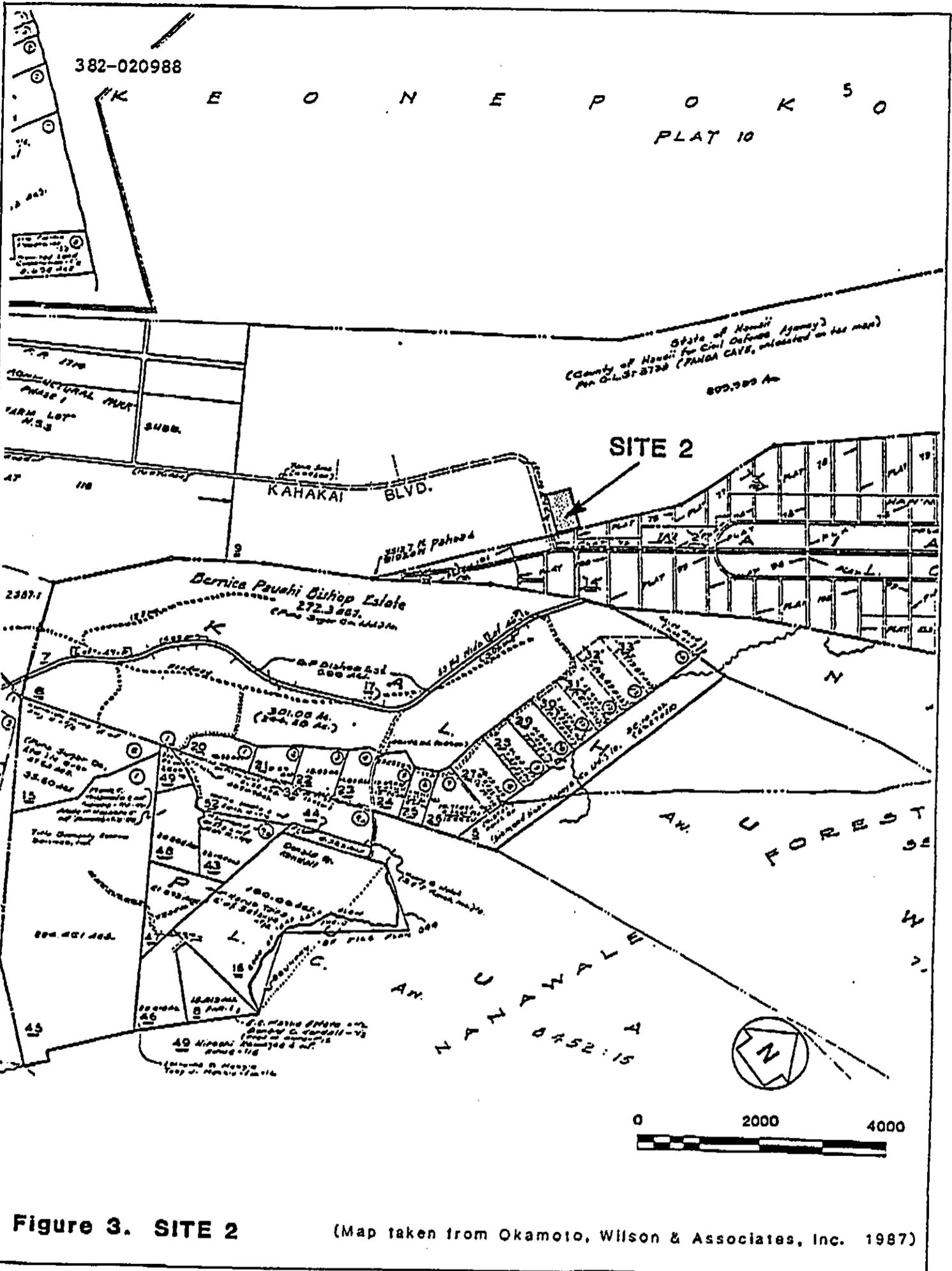


Figure 3. SITE 2 (Map taken from Okamoto, Wilson & Associates, Inc. 1987)

PREVIOUS ARCHAEOLOGICAL WORK

Archaeological records available at HCPD and DLNR-HSS indicate that there are a number of caves present in ahupua'a adjacent to Keonepoko Nui and Keonepoko Iki (in which Sites 1, 2, and 3 are situated). The records also indicate that no archaeological work has been conducted within Sites 1 and 2, and that only one investigation has been conducted within Site 3. The investigation within Site 3 was a 1979 study (Pahoa By-Pass Road Survey) conducted for the U.S. Dept. of Transportation and State of Hawaii Dept. of Transportation (1979). The 1979 investigation did not identify any sites within Site 3.

Based on a review of available maps, Site 3 is near an unlisted HRHP site--Site 7388* (Pahoa Historic and Commercial District), a site comprised of residential and business buildings lining both sides of Keaau-Pahoa Road. According to Dr. Don Hibbard, director at DLNR-HSS, an HRHP site form was completed for Site 7388, but the site was never formally reviewed. Because the limits of Site 7388 were never clearly defined, it cannot be determined exactly where the site stands in relation to the present Site 3. However, Site 3 is comprised of unmodified forested land--land which is definitely peripheral to the Pahoa commercial area; it certainly cannot be considered part of Site 7388.

FIELD METHODS

Field work was conducted on February 3, 1988 by PHRI Supervisory Archaeologist Margaret L.K. Rosendahl and PHRI Field Archaeologists Lawrence Talea and Steven Tachera. Sites 1, 2, and 3 were inspected (100% coverage ground reconnaissance) by means of pedestrian sweeps. Sweeping crew members were spaced at intervals of five to 15 m, depending on terrain and vegetation encountered. To facilitate the survey, crew members used copies of tax maps (scale 1"=2,000') showing parcels, streets, and project area boundaries, and USGS Orthophotoquads (7.5 minute series, scale 1"=24,000').

FINDINGS

No archaeological sites of any kind were identified during the surface reconnaissance survey of Pahoa Elementary School Sites (Sites 1, 2, and 3) project area. Sites 1 and 3 are extremely overgrown and appear to be pristine, unmodified areas; Site 2, very open because of a recent forest fire, did not evidence any cultural modifications.

*Hawaii Register of Historic Places (HRHP) site designation system; all four-digit site numbers prefixed by 50-10-55- (50=State of Hawaii, 10=Island of Hawaii, 55=USGS 7.5' series quad map ["Pahoa South, Hawaii"]).

CONCLUSION

Based on the negative results of the surface archaeological reconnaissance survey, it is concluded that no further archaeological work of any kind is necessary within Pahoa Elementary School Sites (Sites 1, 2, and 3) project area; and it is recommended that the sites be granted full archaeological clearance. It should be noted that the evaluations and recommendations given here have been made on the basis of a surface reconnaissance survey. There is always the possibility, however remote, that previously unidentified subsurface cultural features or deposits of significance might be encountered in the course of subsequent land modification activities. In such a situation, archaeological consultation should be sought immediately.

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