MEMORANDUM

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

SUBJECT: Final Environmental Impact Statement: Site Selection for the Proposed
Upcountry Maui High School

February 27, 1992

I am pleased to accept the subject final environmental impact statement as satisfactory
fulfillment of the requirement of Chapter 343, Hawaii Revised Statutes.

This environmental impact statement will be a useful tool in the process of deciding if the
action described therein should be allowed to proceed. My acceptance of the statement is an
affirmation of the adequacy of that statement under the applicable laws and does not constitute
an endorsement of the proposed action.

When the decision is made regarding the proposed action itself, I expect the proposing agency
to consider if 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 useful analysis of the proposed action.

JOHN WAIHEE
Governor

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SITE SELECTION REPORT
AND
FINAL ENVIRONMENTAL IMPACT STATEMENT
FOR THE
PROPOSED UPCOUNTRY MAUI HIGH SCHOOL

Prepared For

DEPARTMENT OF ACCOUNTING
AND GENERAL SERVICES
STATE OF HAWAII

Prepared By

WILSON OKAMOTO
& ASSOCIATES, INC.
1150 South King St. Suite 800
Honolulu, Hawaii 96814

December 1991
SITE SELECTION REPORT
AND
FINAL ENVIRONMENTAL IMPACT STATEMENT
FOR THE PROPOSED
UPCOUNTRY MAUI HIGH SCHOOL

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

PREPARED FOR: Department of Accounting and General Services
State of Hawaii

RESPONSIBLE OFFICIAL: Russel S. Nagata, Comptroller

ACCEPTING AUTHORITY: John Waihee, Governor of Hawaii

PREPARED BY: Wilson Okamoto and Associates, Inc.
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1150 South King Street, Suite 800
Honolulu, Hawaii 96814
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CORRECTION

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SEE FRAME(S) IMMEDIATELY FOLLOWING
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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 Upcountry Maui High School. 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 high school in Upcountry Maui and to designate a new corresponding Upcountry service area to relieve projected overcrowding at Baldwin High School and Maui High School in Central Maui.

This EIS discusses potential environmental impacts of five 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. Project Setting

Maui County is the second largest county in the State. The County encompasses four islands—Maui, Molokai, Lanai, and Kahoolawe—for a total area of 1,161.6 square miles. It is the third most populous County in the State with a resident population of approximately 89,900 in 1987.

The service area of the proposed Upcountry high school extends from Paia to Haiku along the north coast and mauka from there towards the slopes of Haleakala and to the south coast past Ulupalakua (see Figure 1, p. II-2). The towns of Pukalani, Makawao, Haalimaile, Kula, Paia, and Haiku are within the service area. Land uses are almost entirely residential and agricultural. Crops grown include pineapple, head cabbage, round onions, lettuce, and ornamental flowers. Cattle ranching is also practiced. Commercial activities are centered in town.

C. Relationships to Plans, Policies and Controls

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

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

Plans, policies and controls were considered in the site evaluation process. All lands suitable for a potential school in the Upcountry area are designated
agricultural, and the following permits will be necessary to change this designation:

<table>
<thead>
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<th>Land Use Permits</th>
<th>Issuing Authority</th>
<th>Time Involved</th>
</tr>
</thead>
<tbody>
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<td>Community Plan Amendment (Ag to Public/Quasi Public)</td>
<td>Maui County Council</td>
<td>3 to 6 months</td>
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<td>State Land Use District Boundary Amendment (Ag to Urban)</td>
<td>State Land Use Commission</td>
<td>6 months</td>
</tr>
<tr>
<td>County Zoning (A to P-1)</td>
<td>Maui County Council</td>
<td>8 to 9 months</td>
</tr>
</tbody>
</table>

A complete list of land use and construction permits and approvals for the project is included in Section XI.

D. **Candidate Sites**

Based on a set of minimum site criteria and other additional criteria necessary for reducing the field of potential sites, five candidate sites were selected, all of them on agricultural lands (pineapple). Site 1, the Lower Pukalani Site, is located below Pukalani subdivision along Haleakala Highway. Site 2 is situated just east of where Haleakala Highway meets Lower Kula Road above Pukalani subdivision. Sites 3 and 4 are located mauka and makai of Makawao Avenue, between Makawao and Pukalani. Site 5 is located along Baldwin Avenue below Makawao and the Maui Veteran's Cemetery.

E. **Probable Impacts and Mitigation Measures**

1. **Short-term Impacts**

Short-term impacts experienced during construction will include increased noise levels generated by heavy equipment and a local decrease in ambient air quality. The contractor will be responsible for properly maintaining construction equipment to minimize noise levels, and for minimizing dust generated during construction.

Also during the construction period, increased traffic along existing roadways leading to the project site is anticipated. The contractor will be responsible for providing traffic control measures and safety precautions to minimize
adverse effects. Some soil runoff into existing water courses may occur from
areas requiring excavation and vegetation removal, but will be limited by
erosion control procedures. The project will provide job opportunities for
local workers employed in the construction industry. The increased
construction activities will also benefit local material suppliers and retail
businesses.

2. Long-term Impacts

Long-term site impacts include those associated with the displacement of
agricultural land, and impacts on flora and fauna, infrastructure, traffic, and
public health and safety.

Acquirement of the school site property will mean the loss of 35 acres of
agricultural land to Maui Land and Pineapple Co. Inc. The loss of
vegetation by the clearing and grading of the site will be offset by the
grassing and landscaping of the school campus.

Maximum daily water demand is estimated at 169,000 gallons per day. The
proposal to supply water to the new school will be submitted to the County
Board of Water Supply for approval. Design plans for the school’s
wastewater system will conform to applicable provisions of the Department
of Health Administrative Rules, Chapter 11-62, "Wastewater Systems". To
ensure that runoff is contained on the new school site, a Grading and
Grubbing Permit Application will be submitted for review to the Maui
County Department of Public Works prior to construction.

The new school will bring additional cars into the area, but should improve
overall traffic conditions by removing cars from Haleakala Highway bound
for Kahului. All roadway improvements will be coordinated with the County
Department of Public Works and the State Department of Transportation.

Appropriate mitigative measures such as fencing the school boundaries and
proper building design to allow adequate air circulation shall be considered
during the school’s design phase. In addition, the school shall be designed
to minimize impacts to adjacent residences from noise-generating sources
such as air-conditioning units, exhaust fans, public address systems. Traffic
noise will also be minimized by locating the school entrance as far from
residential streets as practicable.
F. Alternatives Considered

1. The "no action" alternative is considered to be unacceptable since the two existing schools are operating beyond capacity, and continued population growth is projected for the region.

2. Continued busing to schools outside the service area (Maui and Baldwin High) is similarly considered infeasible since these facilities are also experiencing growth problems and are operating at capacity.

3. Moving the current high school program to an existing school is impractical. There are no existing schools in the Upcountry area which have adequate facilities to accommodate an increasingly large number of high school students.

4. Further expansion of existing high schools is infeasible since Baldwin High is limited by land space and Maui High is limited by administrative and educational constraints.

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

Implementation of the proposed project will include local short-term uses of the environment during the construction phase. 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 a facility that will meet the enrollment requirements of the region.

H. Irreversible and Irretrievable Commitments of Resources

Development of the proposed project will involve the irretrievable commitment of land for school use which will remove certain open space and agricultural resources from the area. Irretrievable resources committed to the project will include fuel, labor, funding, and materials to implement construction of the new school.

I. Unresolved Issues

Two unresolved issues were identified; local traffic conditions and water service. Local traffic increases will be mitigated by road widening, signalization, holding lanes, and other traffic mitigation measures as determined to be necessary by a traffic study for the selected school site.
Water supply is sufficient in the Upcountry area, but off-site infrastructure appears inadequate at this time. Proposals to provide water service will be coordinated with the Maui County Department of Water Supply.
II. PROJECT NEED AND DESCRIPTION

The State Department of Education (DOE) is proposing to construct a new high school in Upcountry Maui and to designate a new corresponding service area to relieve projected overcrowding at Baldwin High School and Maui High School in Central Maui. The new service area is derived from existing elementary school districts 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

The DOE operates 25 public schools on the Island of Maui, 4 of which are high schools; Lahainaluna High, Hana High and Elementary, Baldwin High, and Maui High. Lahainaluna High is relatively small, serving just over 700 students in the Lahaina area. Hana High serves just 90 students. Baldwin High and Maui High serve approximately 1,600 and 1,700 students, respectively.

Both Maui and Baldwin High are currently operating at capacity and are serving the needs of most of Maui’s residential growth areas. Seventy-five percent of Maui High’s student body are bused from the Upcountry area, and this number (about 1,200 students) far exceeds guidelines for consideration of a new high school (DOE specifications minimum is 750). Additional classroom needs are now being supplied by portables which presently total 23 at the two high schools.

B. Projected Enrollment

Maui’s school enrollment has paralleled the County’s boom in tourism and economic growth. Enrollment at Baldwin High is expected to reach over 2,000 students by 1993 and 2,600 by the year 2010. Maui High anticipates a student body of 1,900 by 1993 and 2,400 by 2010. Of that number, it is projected that the Upcountry area, which already sends 1,200 students to Maui High, will be busing 1,740 students by 2010.

There is a strong indication that, since most of the residential project districts in the Maui Development Plan fall in the Maui High/Baldwin High service area, enrollment will continue to grow beyond the year 2010 projections of 5,000 students.
C. Limitations

To accommodate growth through 1993 alone, an additional 24 portables will need to be erected. However, Baldwin High is presently master planned for 1,600 students, and due to limited land space, it is not possible to expand the school to accommodate 2,600 students. Because of these limitations, any proposed alternative would require the expansion of Maui High to 3,000 or more students. However, this presents administrative and educational problems which are unacceptable to the DOE.

Expansion of existing schools becomes even more unfavorable as busing costs continue to increase. It is projected that 40 buses will be necessary to transport 1,740 students to Maui High by the year 2010, also contributing significantly to the traffic congestion between the Upcountry area and Kahului.

As a basis for comparing the development of a new school to expanding Maui and Baldwin High, cost estimates of additional classrooms and continued busing to the year 2010 were prepared by the DOE. (See Tables 1, 2, 3 and 4). Another 60 classrooms would need to be constructed at a cost of $19.2 million, while continuing to bus an ever increasing number of students from the Upcountry area to Maui High over a 20 year period would cost an estimated $32.3 million. With or without a new high school, busing costs will still be a major expense. However, the cost of busing students to a new, much closer school is estimated to be approximately $13 million over a 20 year period (see Tables A-5 through A-9, Appendix A). The difference, about $19.3 million, when added to the cost of additional classroom space, is about $38.5 million. In twenty years, this sum approaches the estimated $46.3 million which a new high school is expected to cost. (See Table 5).

D. Proposal

The DOE proposes to construct a new high school in Upcountry Maui within the existing service area. The new high school will ultimately be comprised of 43 general classrooms and 28 specialized classrooms which will address all other educational needs. Athletic, dining room, administrative, and library facilities will also be provided. The school will accommodate a design enrollment of 1,740 students, the number anticipated by the year 2010.
The cost of the proposed high school, including planning and facility construction, is estimated to be $46.3 million (in 1989 dollars). The proposed high school will not change the feeder system of students graduating from elementary to intermediate school in the existing service area. (See Figure 2).
### TABLE 1

**CLASSROOM SPACE NEEDED TO MEET PROJECTED ENROLLMENTS FOR YEAR 2010**

<table>
<thead>
<tr>
<th>Description</th>
<th>Calculation</th>
</tr>
</thead>
</table>
| Student Enrollment - 2010:            | 2,400 - Maui High  
2,600 - Baldwin High  
5,000 Total                                      |
| Classroom Space Required:             | 5,000 students at  
25 students/classroom  
200 classrooms                                      |
| Classrooms Required: (90% permanent)  | 0.90 x 200  
180 classrooms                                      |
| Permanent Classrooms Currently Available: | 60 - Maui High  
60 - Baldwin High  
120 classrooms                                      |
| Classroom Deficit:                    | 180 classrooms required - 120 classrooms available |
| **Total Deficit:**                    | 60 classrooms                                      |

### TABLE 2

**ESTIMATED COST OF ADDITIONAL CLASSROOMS**  
(Based on 80 percent Regular and 20 percent Special)

<table>
<thead>
<tr>
<th>Classroom Type</th>
<th>Cost Calculation</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular Classroom</td>
<td>0.80 x 60 = 48 x $250,000</td>
<td>$12,000,000</td>
</tr>
<tr>
<td>Special Classroom</td>
<td>0.20 x 60 = 12 x $600,000</td>
<td>$7,200,000</td>
</tr>
<tr>
<td><strong>Total Cost:</strong></td>
<td></td>
<td><strong>$19,200,000</strong></td>
</tr>
</tbody>
</table>
TABLE 3
ESTIMATED COST TO BUS STUDENTS FROM UPCOUNTRY AREA TO MAUI HIGH OVER 20 YEARS*

<table>
<thead>
<tr>
<th>Year</th>
<th>Est. No. Pupils</th>
<th>Inflation Rate 5%/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>1,200</td>
<td>$708,750</td>
</tr>
<tr>
<td>1991</td>
<td>1,227</td>
<td>$771,750</td>
</tr>
<tr>
<td>1992</td>
<td>1,254</td>
<td>$839,278</td>
</tr>
<tr>
<td>1993</td>
<td>1,281</td>
<td>$881,242</td>
</tr>
<tr>
<td>1994</td>
<td>1,308</td>
<td>$957,211</td>
</tr>
<tr>
<td>1995</td>
<td>1,335</td>
<td>$1,005,072</td>
</tr>
<tr>
<td>1996</td>
<td>1,362</td>
<td>$1,090,503</td>
</tr>
<tr>
<td>1997</td>
<td>1,389</td>
<td>$1,181,964</td>
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<tr>
<td>1998</td>
<td>1,416</td>
<td>$1,241,063</td>
</tr>
<tr>
<td>1999</td>
<td>1,443</td>
<td>$1,343,838</td>
</tr>
<tr>
<td>2000</td>
<td>1,470</td>
<td>$1,411,030</td>
</tr>
<tr>
<td>2001</td>
<td>1,497</td>
<td>$1,526,478</td>
</tr>
<tr>
<td>2002</td>
<td>1,524</td>
<td>$1,649,943</td>
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<tr>
<td>2003</td>
<td>1,551</td>
<td>$1,732,440</td>
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<td>2004</td>
<td>1,578</td>
<td>$1,871,035</td>
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<tr>
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<td>1,605</td>
<td>$1,964,587</td>
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<tr>
<td>2006</td>
<td>1,632</td>
<td>$2,120,117</td>
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<tr>
<td>2007</td>
<td>1,659</td>
<td>$2,286,288</td>
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<td>2008</td>
<td>1,686</td>
<td>$2,400,603</td>
</tr>
<tr>
<td>2009</td>
<td>1,713</td>
<td>$2,586,965</td>
</tr>
<tr>
<td>2010</td>
<td>1,740</td>
<td>$2,785,963</td>
</tr>
</tbody>
</table>

Total Cost $32,356,120

* Prepared by DOE
**TABLE 4**

**TOTAL COST OF MAINTAINING MAUI AND BALDWIN HIGH SCHOOLS TO YEAR 2010**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Additional Classrooms</td>
<td>$19,200,000</td>
</tr>
<tr>
<td>Projected Busing Cost to a New Upcountry Maui High School</td>
<td>$13,000,000</td>
</tr>
<tr>
<td>*Cost to Continue Busing to Maui, Baldwin</td>
<td>$32,356,120</td>
</tr>
<tr>
<td>Adjusted Cost</td>
<td>$19,356,120</td>
</tr>
<tr>
<td></td>
<td>+ $19,200,000</td>
</tr>
<tr>
<td>Total Cost</td>
<td>$38,556,120</td>
</tr>
</tbody>
</table>

* Estimate prepared by DOE.
<table>
<thead>
<tr>
<th>Facilities</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classrooms, regular (43)</td>
<td>$7,585,200</td>
</tr>
<tr>
<td>Classrooms, special facilities (28)</td>
<td>$14,989,000</td>
</tr>
<tr>
<td>Art</td>
<td></td>
</tr>
<tr>
<td>Agricultural Technology</td>
<td></td>
</tr>
<tr>
<td>Business Education</td>
<td></td>
</tr>
<tr>
<td>Homemaking</td>
<td></td>
</tr>
<tr>
<td>Industrial Arts</td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td></td>
</tr>
<tr>
<td>Special Education</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
</tr>
<tr>
<td>Portables</td>
<td>$1,300,000</td>
</tr>
<tr>
<td>Administration/Adult Education</td>
<td>$1,756,000</td>
</tr>
<tr>
<td>Library</td>
<td>$1,935,000</td>
</tr>
<tr>
<td>Dining Facilities</td>
<td>$3,420,000</td>
</tr>
<tr>
<td>Athletic Facilities</td>
<td>$10,705,000</td>
</tr>
<tr>
<td>Gymnasium</td>
<td></td>
</tr>
<tr>
<td>PE, Athletic Locker/Shower</td>
<td></td>
</tr>
<tr>
<td>Athletic Field</td>
<td></td>
</tr>
<tr>
<td>Lights</td>
<td></td>
</tr>
<tr>
<td>Bleachers</td>
<td></td>
</tr>
<tr>
<td>Baseball Field</td>
<td></td>
</tr>
<tr>
<td>Grassed Area</td>
<td></td>
</tr>
<tr>
<td>Paved Courts</td>
<td></td>
</tr>
<tr>
<td>Tennis Courts</td>
<td></td>
</tr>
<tr>
<td>Parking</td>
<td>$314,000</td>
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<tr>
<td>Land Acquisition</td>
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</tr>
<tr>
<td>Site Improvements</td>
<td>$2,000,000</td>
</tr>
<tr>
<td><strong>Equipment - Classroom, Other.</strong></td>
<td>$502,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$46,381,200</td>
</tr>
</tbody>
</table>

* Estimates prepared by DOE.
EXISTING FEEDER COMPLEX

K-5 HAIKU
K-5 KULA
K-5 MAKAWAO
K-5 PAIA
K-5 PUKALANI
K-5 KAHLULUI

MAUI HIGH INTER.
6-8

KALAMA INTER.
6-8

PROPOSED FEEDER COMPLEX

K-5 HAIKU
K-5 KULA
K-5 MAKAWAO
K-5 PAIA
K-5 PUKALANI

KALAMA INTER.
6-8

UPCOUNTRY HIGH
6-8

9-12
(2,400)

(1,740)

EXISTING AND PROPOSED FEEDER COMPLEX
SITE SELECTION STUDY and EIS for NEW UPCOUNTRY MAUI HIGH SCHOOL

Prepared for:
DEPARTMENT OF ACCOUNTING & GENERAL SERVICES
Prepared by:
WILSON OKAMOTO & ASSOCIATES, INC.

Fig. 2
III. PROJECT SETTING

A. Regional Overview

The islands of Maui, Molokai, Lanai and Kahoolawe (a total area of 1,161.6 square miles) constitute the County of Maui, the second largest County in the State of Hawaii. It is the State's third most populous County and had a population of approximately 89,900 in 1987. The island's major population centers are Kahului, Wailuku, Lahaina and Kihei.

Maui County's trade and tourism industries are centered on Maui and are the island's primary industries. Recently, employment and investment opportunities have ensued from a construction boom associated with new hotels and condominiums. Diversified agriculture, scientific research and marine projects are also increasingly important facets of Maui's economy.

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

B. Environmental Setting of the Service Area

1. Geology

The island of Maui consists of two major volcanoes. The older one is West Maui, and the younger is Haleakala. The broad plain between the two formed when the lava from Haleakala banked against the West Maui volcano.

In East Maui, three major volcanic series are evident. The first series, or Honomanu lavas, consists of thin-bedded, permeable basaltic pahoehoe and a'a flows. These have been overlaid by later flows of the Kula series which are composed chiefly of thicker alkalic a'a, and which contain inter-stratified thin ash-soil layers. Many large cinder cones were created during the Kula epoch, several of which are found in the Makawao area and contribute to its geological formations and soil character.

The third phase, or Hana volcanic series, occurred only in the east and southwest rift zones to the south of Makawao. These lavas are andesitic, picritic, and olivine basalts.
2. **Hydrology**

The four principal groundwater sources on Maui are fresh basal water, brackish basal water, dike-confined water and perched water. Although dike complex formations in the Upcountry area may contain high level groundwater, most of the groundwater development efforts occur at lower elevations where groundwater resources are more accessible and abundant. In the Makawao area, water is obtained from stream flows and is treated and pumped uphill.

In Kula, under normal conditions, water is gravity-fed to lower Kula by Pilholo reservoir. During drought conditions, water which is pumped uphill to Makawao may also supply lower Kula. Upper Kula is supplied by surface water runoff from Haipuaena, Puohokamoa, and Waiakou perennial streams. Other intermittent streams which flow through the service area but are not used as water sources are Kailua Stream, Opana Gulch, Waiohiwi Gulch, and Kahakapao Gulch.

3. **Topography**

The topography in East Maui varies from gently sloping to strongly sloping. The very steep slopes are confined largely to sides of gulches and valleys.

4. **Soils and Agricultural Potential**

The most productive agricultural lands of East Maui are located in the area between Makawao and Ulupalakua above the 2,000 foot elevation. Soil types found in the Makawao-Pukalani vicinity include soils of the Waialoa-Keahua-Molokai association. This soil association is characterized by nearly level to moderately steep, well-drained soils that have a moderately fine-textured sub-soil and are found on low uplands. Some uses of this soil type include sugarcane, pineapple, pasture, truck crops, and homesites.

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 crop yields 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 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 majority of the agricultural land in the service area is "prime" agricultural lands. Rural and urban developments are also identified.

Also used to rate agricultural productivity is the University of Hawaii Land Study Bureau's Detailed Land Classification, Island of Maui. To determine overall agricultural land productivity, a five class rating is applied using the letters A, B, C, D, and E, where A represents the class of highest productivity and E the lowest. According to this technique, the overall productivity rating of agricultural lands in the area is primarily "C" land. The overall productivity rating represents an average of soil characteristics such as drainage and depth, texture, slope, rainfall, and soil reaction, fertility, and salinity.

5. **Wetlands**

There are six major wetland areas located on Maui, none of which are situated anywhere near the proposed facility. The closest site is in Kahului along the coast.

6. **Flood Hazard**

Apart from the coastal areas of Paia and Haiku which are within the tsunami inundation zone, almost the entire service area is designated Zone C—"areas of minimal flooding". Only one site designated Zone B deserves mention. The site encompasses a 1,500 foot section of road and peripheral area where Kailua gulch meets Makawao Avenue. Zone B is described as follows:

"Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood."

This flood hazard area is very small, and any new high school can easily be located outside its boundaries.

III - 3
7. Climate

Maui's climate varies according to altitude with climatic conditions influenced by leeward/windward locations. Lowland areas tend to have a semi-tropical climate, while higher elevations are characterized by temperate climates. The climate of Upcountry Maui is mild and characterized by warm days and cool nights which are conducive for both farming and residential purposes.

The Pukalani and Kula areas are relatively dry with rainfall ranging between 20 to 40 inches annually. The amount of rainfall increases northeasterly towards Makawao and Kokomo to approximately 50 and 100 inches annually. Temperatures range from the low 60's during the winter to the mid 80's in the summer.

Maui is cooled by northeast tradewinds approximately 70 percent of the year. These winds are constant during the spring and summer months. Tradewinds are affected by local topographic conditions on Maui. The northeast tradewinds become northerly as they are funneled between the mountains of east and west Maui. Areas within the "wind shadows" of the highest elevation of the West Maui Mountains or Haleakala are shielded from all but the strongest tradewinds.

Winter months are characterized by Kona weather conditions; local low-pressure systems ranging from gale force, southerly winds with heavy rains, to calm, humid or rainy weather.

8. Air Quality

There are a number of possible sources that may affect air quality in the project area. Agricultural activities including sugar cane field burning, bagasse and fossil fuel burning at sugar mills, and pesticide spraying all have the potential for affecting air quality to varying degrees.

Motor vehicles are the principal source of air pollution on Maui. The most significant air pollutant is carbon monoxide.

9. Flora

The zonation of plants is highly dependent on climatic factors. Average annual rainfall is the most important factor governing plant
distribution in the Upcountry area. Most of the available land for a new school is cultivated pineapple fields with scrub growth. The type and abundance of existing flora in such areas is generally similar. The overgrowth consists of cactus, koa haole, silk oak, eucalyptus, guinea grass and other grasses and weeds.

There are no known endangered species of plants that are listed, proposed, or candidates for endangered species designations within the project service area.

10. **Fauna**

The fauna of the area consists of introduced species which are common throughout the Hawaiian Islands. These include rats, mice, mongoose, cats, and dogs. Birds found in the region include the cardinal, barred dove, mockingbird, myna, golden plover, pueo, ricebird, house sparrow, white eye, and spotted dove.

There are no known endangered species of fauna within the project service area. Because the area has no wetland resources, there is little likelihood of encountering any protected waterbird species such as the Hawaiian coot, gallinule, stilt, or duck.

11. **Existing Land Uses**

Residential subdivisions are centered in Pukalani, Makawao, Ha'iku, Kula, Paia and Haiku. Commercial activity is limited to these areas. Land use throughout the rest of the service area is predominantly rural and agricultural. Unlike most other parts of Maui where sugar is grown, primary crops in the Upcountry area include pineapple, ornamental flowers, head cabbage, lettuce, and onions. Cattle ranching is also practiced.

12. **Scenic Characteristics**

The service area is primarily open agricultural or scrub lands, sparsely forested or vegetated. The Upcountry area has a sweeping view of Central Maui, the West Maui mountains, and the ocean north and south of the coastline.

III - 5
13. Archaeological/Historic Sites

Relatively few archaeological field investigations have been carried out in the Upcountry area. The State Inventory of Historic Places (SIHP) files include two archaeological sites in the vicinity of Makawao and Pukalani; the Hamakua Burial Cave (50-50-05-1264) and Puu Pane (50-50-11-1275). The Hamakua Burial Cave is located at the southwestern edge of Pukalani town, where the cliffs of Kalialimui Gulch intersect with the Hamakua Ditch. The cave is described as a 33 meter long lava tube divided into two narrow chambers. When first mapped and registered in 1973, the cave reportedly contained the disarticulated human remains of an estimated 30-50 individuals.

Puu Pane is located approximately 2.5 miles southeast of Pukalani and was reportedly a sacred hill and a heiau for high chiefs. When surveyed in 1973, a few alignments were reported which might have been the remnants of the heiau.

C. Socioeconomic Characteristics

1. Population

Maui County is the third most populous County in the State with a population of 89,900 in 1987. According to the Hawaii Department of Business and Economic Development (DBED) economic and demographic projections, Maui County's resident population will increase 50 percent, twice as fast as Oahu's 26 percent, to 145,200 by the year 2010.

The Makawao District of Maui County has experienced substantial growth since 1970. Resident population in 1970 was 9,979. The population increased by 90.4 percent to 19,005 in 1980, and another 16.4 percent to 22,129 in 1985, making it one of the fastest growing districts in the State of Hawaii. Population growth in the project area may be more significantly governed by the County's Makawao-Pukalani-Kula Community Plan which directs land use and growth in the Upcountry Maui region. The Community Plan uses a projected resident population of 17,000 to 20,000 for the next 20 years.
2. Employment and Income

The statewide unemployment rate in the first quarter of 1989 was 3.4 percent. In the same period, the island of Maui experienced the lowest unemployment rate in the state at 2.9 percent. Maui per capita personal income in 1986 was $13,254 as compared to a state per capita income of $14,658.

Agriculture is the dominant economic activity in the Upcountry area. Primary crops include pineapple, head cabbage, lettuce, and round onions. Production of ornamental flowers, including carnations and protea, is also a major activity. The majority of crop and flower farms are small operations, typically five to ten acres in size. The Kula area is a major truck crop and flower producing district in the State of Hawaii. Cattle ranching is also prevalent in the Upcountry region, primarily around Ulupalakua.

A variety of retail outlets in Paia, Haiku, and Makawao also cater to the visitor industry. The portion of coastline from Paia to Haiku is well known for ideal, challenging windsurfing conditions, and the local economy derives income from this notoriety. The commercial center of Makawao also attracts shoppers to what has become an eclectic mix of novelty and country stores.

3. Public Services

a. Recreation

The service area offers various recreational opportunities. In Makawao and Pukalani, recreational facilities include the Makawao School Park, the Makawao Park and Mayor Eddie Tam Memorial Center, Pukalani Park and Community Center, The Kula Botanical Garden, Harold F. Rice Park, Keokea Park, and the Pukalani Country Club Golf Course.

Recently, the Upcountry Youth Center was established and is now operating on the Eddie Tam Memorial Center grounds. The County also intends to seek funding support from the State of Hawaii for a “County-funded” public swimming pool in Upcountry.
b. Schools

Educational institutions within the service area include Makawao Elementary, Haiku Elementary, Pukalani Elementary, Kula Elementary, Paia Elementary, Kalama Intermediate School, St. Joseph School, and Seabury Hall.

c. Police Protection

The Wailuku Station is the nearest police station in the area and also functions as the Police Department Headquarters.

d. Fire Protection

The nearest county fire station is the Makawao Fire Station located in Makawao town.

e. Health Care Facilities

There is a general hospital located in Kula which provides care for tubercular, mental, and long-term patients. An ambulance stationed at Makawao provides emergency services between the service area and Maui Memorial Hospital in Wailuku if the need arises. The unit is in constant communication with the Hospital.

f. Transportation

Pukalani and Makawao subdivisions are accessible by Haleakala Highway, Baldwin Avenue and Kaupakulua Road to the north, and Kula Highway to the south.

Funds have been appropriated for design and construction of a by-pass highway from Haliiimaile Road to Kula Highway junction, and for a truck climbing lane from Hana Highway to Haliiimaile Road. The truck climbing lane will allow slow moving trucks and agricultural vehicles to travel up Haleakala Highway without impeding other traffic. The Haleakala Highway by-pass road will direct traffic around the east side of Pukalani, thereby avoiding the center of town.
D. Infrastructure

1. Water

Water supply to the service area is furnished by the Maui County Department of Water Supply. The Makawao-Kula potable water supply system is a complex, interconnected system of transmission and distribution mains which includes water mains as large as 24 inches to supply irrigation water. Major storage facilities include the 50 million gallon (mg) Piilolo Reservoir, Waikamoi Reservoirs, and numerous water tanks in Olinda.

The only source of water for the Makawao water system is the intake at the Kamole Forebay on the Waiola ditch system at approximately 1,100 feet elevation. The Kamole water treatment plant with a capacity of 8 mgd is located at this site. Water withdrawn from the Makawao water system in fiscal year 1989 averaged 2.4 million gallons per day (mgd).

The Kula system relies on surface runoff as its source for water. During 1987, approximately 0.26 mgd was supplemented to the Kula system. However, the Kamole treatment plant is periodically required to treat approximately 6 MGD of water in a 24-hour period when the surface source of the Kula system is unable to meet system demands due to low rainfall.

Storage facilities in the Makawao water system total 5 million gallons. They include: Pukalani tanks of .85 mg, .025, .07, and 1 mg. The rest of Makawao is served by the .05 mg Olinda tank, .5 mg Maluhea tank, .3 mg Po'okela tank, 2 mg Po'okela tank, .07 mg Haiku tank, .1 mg Kokomo tank, and .047 mg Ha'iliai tank.

2. Sewerage

The agricultural and residential areas in the vicinity of the project site, including Makawao town, use cesspools for domestic wastewater disposal.

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

Electric power for industrial and residential use on Maui is supplied by Maui Electric Company, a subsidiary of Hawaiian Electric Company, Inc.

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

4. Drainage

Because of the well-drained nature of soils in the service area and the Makawao-Pukalani region's low to moderate rainfall, extensive drainage infrastructure to collect excess runoff has not been put in place in the Upcountry area. Several gulches collect rainfall naturally and direct flows to the ocean.
IV. RELATIONSHIP TO PLANS, POLICIES AND CONTROLS

A. Plans

1. Hawaii State Plan

The Hawaii State Plan is a statewide planning system which provides goals, objectives, and policies that address priority directions and concerns of the State of Hawaii. The proposed Upcountry Maui High School is consistent with the following State objective and policy:

"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".

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 Functional Plans do not mandate County or private sector actions. Rather, they are guides to coordinate the various sectors of government and private industry toward achieving the objectives of the Hawaii State Plan. State Functional Plans are intended to act in a coordinated fashion with County General Plans and Development Plans in order to implement the Hawaii State Plan.

The State Education Functional Plan is one of fourteen plans called for by Chapter 226, Hawaii Revised Statutes, originally enacted in 1978 and amended in 1986 and 1987. The State Education Functional Plan attempts to provide for wise use of the Department of Education's resources and to guide its future.

Together with the other Functional Plans, the State Education Functional Plan seeks to achieve the State Goals (Section 226-4) of:
"A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawaii's present and future generations".

The proposed Upcountry Maui High School is consistent with the following State Education Functional Plan policies and goals:

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

- "Provide facilities that are sufficient in number, functional, well placed and compatible with the physical surroundings".

- "Pursue actions with other agencies which will insure adequate and appropriate services and facilities on a timely basis".

3. **Maui County General Plan**

The Maui County General Plan was adopted in 1980 as a comprehensive plan for the long range development of the County. The County General Plan is guided by the Hawaii State Plan formulated under the provisions of Chapter 226, Hawaii Revised Statutes. The Plan contains social, economic, environmental and design objectives for the general welfare and prosperity of the people of Maui County.

The proposed Upcountry Maui High School will further the County General Plan objectives and policies for education, special programs and government. The new school will meet the following objectives outlined in the General Plan:

- "To provide educational opportunities [for students] which can help them better understand themselves and their surroundings and help them realize their ambitions".

- "To create a community in which the needs of all segments of the population will be recognized and met".

- "Improve delivery of services by government agencies".
The proposed high school will directly address the following policies:

- "Support education and training programs that will provide residents with knowledge and skills that can be utilized in basic industries and encourage them to be innovative so as to provide new and different employment opportunities to others."

- "Require that educational facilities and services be available to all residents."

- "Seek continual improvement in the quality of education at all levels for all residents."

- "Encourage the development of a wide range of informal educational and cultural programs for people of all ages."

- "Provide a variety of services and programs that meet the special needs of recent immigrants, the young, the elderly, and the handicapped."

- "Support programs that will increase the overall effectiveness of government so as to provide greater responsiveness to the needs of the people."

- "Coordinate government services to avoid unnecessary expenditure of funds."

4. **Makawao - Pukalani - Kula Community Plan**

The Makawao-Pukalani-Kula Community Plan, adopted in October 1981, is the primary decision making tool used by the County for implementing the County General Plan within the Upcountry region of Maui. The Community Plan establishes land use and population growth policies within the area. The Community Plan was amended October 16, 1987 by Ordinance Number 1663. The Community Plan is updated every five years to incorporate new data, analyses and events.

The planning region is on the western slopes of Haleakala and includes portions of the Haleakala National Park. It is the only County Planning region without any shoreline resources. The region is referred to as "Upcountry", primarily because of its location on the
slopes of Haleakala and secondarily because of the small agricultural villages located throughout the area. The majority of the new residential growth in the region occurs in Makawao and Pukalani, where public services can accommodate it. Community Plan designations in the vicinity of the candidate sites are shown on Figure 11 in Chapter XI.

There are two education recommendations in the Community Plan which the construction and operation of a new Upcountry Maui high school can help to fulfill:

- "Support the development of an up-country high school at a site conveniently located to serve all communities to reduce transportation costs and achieve desired social objectives".

- "Encourage shared use of school facilities with the community to include such facilities as a community-school library, gymnasium and public service rooms".

One land use recommendation in the Community Plan which could affect selection of a school site in the Makawao-Pukalani-Kula area is as follows:

- "Maintain open space areas along the planned Haleakala Highway Bypass route to allow a distinct separation between Pukalani and Makawao".

5. Paia - Haiku Community Plan

A Community Plan for the Paia-Haiku area is mandated by the Charter of Maui County (1977) and Maui County General Plan. The plan, developed to establish a program for implementing the County General Plan for the region, contains basic analysis and recommendations for the rural areas of Paia and Haiku. The major population center in the region is Paia to the northwest which includes the communities of Lower Paia, Upper Paia and Kuau. A secondary center is located to the southeast in the communities of Haiku and Kula. Scattered rural settlements are located in the planning region.

One education statement of the Paia-Haiku Community Plan is to, "determine a suitable site for the proposed upcountry high school."
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. 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.

A major portion of the service area is located within the State Agricultural District. State Land Use District delineations in the vicinity of the candidate sites are shown on Figure 10 in Chapter XI. Areas suitable for a school site were exclusively agricultural lands.

2. County Zoning

Lands classified as Agricultural by the State Land Use law have no County zoning.

C. Land Ownership

The island of Maui comprises 402,900 acres. In 1988, approximately 278,115 acres or 69 percent of the Island of Maui belonged to private landowners. The State of Hawaii owned approximately 24 percent, or 96,628 acres of all lands; the Federal Government held 6.7 percent, or 26,872 acres; and the County of Maui owned 0.3 percent, or 1,285 acres.

Land ownership of the potential school sites is further discussed in chapters V and VI.
V. IDENTIFICATION OF CANDIDATE SITES

A. Site Selection Methodology

A site selection study was performed to determine the relative advantages and disadvantages of sites for the proposed Upcountry Maui High 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 high school sites. These guidelines recommend the following:

- Sites in a quiet location are preferred over sites adjacent to existing and foreseeable noise generators such as airports, freeways, and heavy industries.
- Sites upwind of noisy sources are preferred over sites downwind of noisy sources.
- 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.
- Sites in medium rainfall areas are preferred over sites in a low or high rainfall area.
- Sites shaded by tall trees or mountains during part of the school day are preferred over sites without such shading.
- 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 acquireable 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 locations 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, 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 and their rationale which was used for evaluation are discussed below. Figures 4 through 7 on the following pages depict the gradual elimination of potential developable lands where they do not meet these minimum criteria.

a. **Proximity to Population Centers**

To facilitate pedestrian and vehicular access, the new school should be located near an existing or potential population center. From a land use standpoint, this establishes a favorable condition for the State Land Use Commission to consider redesignating the site to Urban. Also, proximity to lands having favorable land use designations such as Urban (State) or Residential (County) ensures that a new school should have a nearby future student population as well.

The service area population for the proposed high school is widely distributed. However, a majority of the student population, approximately 55 percent, reside in the Makawao, Haliimaile and Pukalani subdivisions. (See Table 6 and Figure 3). The area contained by dashed lines in Figure 3 is the study area encompassing this population. Most of the remainder live in the rural and coastal areas mauka and makai of these subdivisions. To minimize the distance students must commute to school, the campus should be located in or around the communities of Makawao-Pukalani-Haliimaile.

b. **Parcel Size, Occupancy and Ownership**

A minimum size of 30 acres is adequate for a new high school, though 35 acres is preferred. Figure 4 depicts all parcels greater than 35 acres. Given the rural character of
## TABLE 6

**SERVICE AREA PUBLIC SCHOOL ENROLLMENT**
**AS OF NOVEMBER 1991**

<table>
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* --Elementary schools are K-5.

** --Intermediate schools are 6-8.
STUDENT POPULATION DISTRIBUTION BY ELEMENTARY SCHOOL DISTRICT
SITE SELECTION STUDY and EIS for the NEW UPCOUNTRY MAUI HIGH SCHOOL

Prepared for:
DEPARTMENT OF ACCOUNTING & GENERAL SERVICES
Prepared by:
WILSON OKAMOTO & ASSOCIATES, INC.
the region, no displacement should be considered. If displacement of any residents must occur, it must not entail a mass relocation of families. The site should also be held by a single landowner in order to facilitate acquisition as well as to ensure that the site is acquired early enough to allow sufficient construction time to meet DOE's scheduled school opening date.

c. Slope

The site must not be located in an area with slopes greater than 10 percent. This criteria is established to avoid extraordinary construction costs and to create a safe and pleasant school environment. Figure 5 depicts land with slopes greater than 10 percent in the Makawao-Pukalani-Haliimaile area.

d. 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. There are no tsunami inundation zones in the project area.

Criteria: The site must not be in a major flood plain if adequate drainage provisions cannot be made at a reasonable cost. One Flood Zone "B" is depicted in Figure 5.

Criteria: The site must not be located within a known or potential landslide area. There are no identified landslide hazards in the area.

e. Water Service and Availability

Development of a high school within the service area will require extensive water system development or extension. To minimize costly development of water service connections, a distance of 4,500 feet is considered the
SLOPE AND FLOOD HAZARD MAP

SITE SELECTION STUDY and EIS for the
NEW UPCOUNTRY
MAUI HIGH SCHOOL

LEGEND
- Areas over 10% slope
- Flood Zone B
- Potential School Sites

Fig. 5

Prepared for:
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maximum feasible distance the school should be located from existing water lines. Figure 6 depicts the alignment of water lines in the study area.

f. Central Location Along Major Roadway

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 along their entirety or significant portions thereof within the service area. These roads are depicted in Figure 7.

g. Historical

The acquisition and development of a site must be such that no building or site designated as historic and deserving of preservation by the Historic Buildings Task Force or the State Historic Preservation Division will be destroyed.

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 minimum high school area is 30 acres, though 35 acres is preferred. Thus, all candidate sites are at least 35 acres in size.

Criteria: The candidate sites shall be at least 35 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 is considered optimal for a new school.
MAJOR ROADWAYS

SITE SELECTION STUDY and EIS for the
NEW UPCOUNTRY
MAUI HIGH SCHOOL

LEGEND
- Major Roadways
- Potential School Sites

Fig. 7

Prepared for:
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Prepared by:
WILSON OKAMOTO & ASSOCIATES, INC.
Criteria: The candidate sites shall have a length to width ratio of 1.5 to 1.0.

c. Noise

Highway traffic noise is detrimental to the learning environment. To address this concern, a new criteria was developed which requires that schools be located 500 feet 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

As depicted in Figures 4 through 7, undesirable areas were progressively eliminated to narrow the field of potential sites. Based on the minimum criteria evaluations and site delineation criteria, the following candidate sites were delineated. (See Figure 8).

1. Lower Pukalani Site 1

The Lower Pukalani Site (TMK 2-3-09 por. 7) is located directly below the Pukalani residential area at 1,100 feet elevation on a 50.06 acre parcel owned by Maui Land & Pineapple Company. The site is relatively flat with views of the West Maui Mountains, Maalaea Bay, Central Maui, Kahului Bay, and Kahakuloa Head. It is bordered on three sides by Haleakala Highway, Aeloa Road, and the New Hamakua Ditch. The site is currently planted with pineapple. The proposed bypass road begins just below where the parcels northernmost corner meets Haleakala Highway. The proposed road then runs northeast away from the site.

2. Kula Highway/Haleakala Highway Junction Site 2

Candidate site 2 (TMK 2-3-07: por. 1) is located near the junction of Haleakala Highway and Lower Kula Road within a 792.032 acre parcel owned by Maui Land & Pineapple Company. The site has been located approximately 500 feet away from Kula Highway for the purpose of providing a buffer of agricultural land use from highway-generated noise. If constructed, the southern end of the proposed bypass would connect with the junction of Haleakala and Kula Highway, making the site extremely accessible.
LEGEND
1 - Lower Pukalani Site
2 - Kula/Haleakala Hwy Site
3 - Makawao Ave Mauka Site
4 - Makawao Ave/
Apana Road Site
5 - Baldwin Ave Site

CANDIDATE SITES
SITE SELECTION STUDY and EIS for the
NEW UPCOUNTRY
MAUI HIGH SCHOOL

Prepared for:
DEPARTMENT OF ACCOUNTING & GENERAL SERVICES
Prepared by:
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Fig. 8
3. **Makawao Avenue Mauka Site 3**

This site is identified as TMK 2-3-07: por. 8, and is delineated within a 214.50 acre parcel owned by Maui Land & Pineapple Company. To the east is Kailua Gulch and the Filipino Camp, and to the west is Makawao Fire Station and a Board of Water Supply water tank. The site slopes gently and has views of the West Maui mountains and Kahului. It is currently planted with pineapple. Further mauka of the site, the slopes become unfavorable and limit available land space.

The proposed bypass will run next to the water tank and fire station, thereby skirting the western edge of the site.

4. **Makawao Avenue/Apana Road Site 4**

This site (TMK 2-3-09: por. 13) is accessible from two sides--from Makawao Avenue and Apana Road--the latter which is the western edge of Makawao's residential area. It is delineated within an 84.35 acre parcel owned and currently planted with pineapple by Maui Land & Pineapple Company. The proposed bypass road will run along the west side of the site when completed. A 500 foot noise buffer from the new road will be provided.

5. **Baldwin Avenue Site 5**

The Baldwin Avenue Site (TMK 2-4-01:por. 3) is delineated within a pineapple field on a 1075.705 acre parcel owned by Maui Land & Pineapple Company. The site is located a short distance down the road from the Maui Veterans Cemetery. A small, scattered residential neighborhood sits on the opposite side of Baldwin Avenue. Elevation of the site is about 1,400 feet. Views at the site are mostly directed north toward Paia.
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, the candidate sites were evaluated with respect to three separate evaluation considerations which comprised the third level of analysis, as follows:

- School Site Criteria
- Community Criteria
- 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, community criteria, and their associated rating scales are outlined below.

1. School Site Criteria

   a. Environmental Characteristics

      i. Highway Noise:

      Good - The site is more than 1,500 feet away from major highways, freeways and truck routes. Natural ventilation may be used without introducing highway noise in the classroom.

      Fair - The site is 500 feet to 1,500 feet away from major highways, freeways and truck routes to keep the motor vehicular noise down to a level where normal conversation can be heard.

      Poor - The site is within 500 feet of a major highway, freeway or truck route. Air conditioning may be required as windows would remain closed to exclude noise.
Aircraft Noise:

Good - The site lies outside of the 55 Ldn noise contour projected for the service life of the facility as developed through the Federal Aviation Administration Part 150 Noise Compatibility Program for Kahului Airport.

Fair - The site lies between the 55 Ldn and 60 Ldn noise contours.

Poor - The site lies within the 60 Ldn noise contour.

Industrial and Agricultural Nuisances:

Good - The site is free from noise, dust, odors, smoke, and other nuisances created by industrial or agricultural activities.

Fair - The noise, dust, odors, smoke, and other nuisances from industrial or agricultural activities are at worst periodic but well within the limits of human tolerance.

Poor - The above mentioned nuisances cause considerable discomfort and hamper school activities.

Rainfall:

Good - The site has a median annual rainfall less than 30 inches. Walkways and playcourts may remain uncovered.

Fair - The site has a median annual rainfall between 30 inches to 39.9 inches.

Poor - The site has a median annual rainfall greater than 40 inches. Walkways and playcourts must be covered, in accordance with DOE standards.

Foundation: (University of Hawaii Land Study Bureau Urban Land Classification Soil Character Code)
Good - Soil Character Codes, I, II, VIII, and IX. These soils are only slightly susceptible to expansion, have good bearing capacity and are well drained.

Fair - Soil Character Codes, III, IV, VI, and VII. Soils coded III and IV, sometimes referred to as "adobe," are susceptible to expansion and contraction but have good bearing capacity if properly insulated to maintain moisture content. Soils coded VI and VII are coral sands not susceptible to expansion which will provide good bearing strength if the sands are well contained.

Poor - Soil Character Code V. These are soils with poor bearing capacity and susceptible to shrinkage and subsidence on drying.

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.

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.

VI - 3
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.

Adequacy of Sewer Service:

Good - The site has, or is proximate to, sewer lines which are available to service the school.

Fair - The site will have adequate sewer service which can be developed without the need for extensive improvements to serve the school.

Poor - The site has no sewer service and will require extensive system development or extension of sewerlines to meet the school needs.

Adequacy of Drainage Facilities:

Good - The site has adequate drainage facilities available to meet ultimate school needs.

Fair - The site may be connected to off-site drainage facilities to serve interim and ultimate needs of the school.

Poor - The site requires off-site drainage facility improvements and may require the development of a drainage system to specifically meet school needs.

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.

VI - 5
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 **Bus Service:**

    Good - The site is served by a major bus line running through the service area.
Fair - A major bus line passes within reasonable (0.5 mile) distance of the site.

Poor - No bus service is available.

Traffic Flow:

Good - The site is adjacent to a major roadway with a low level of service and which allows right-hand access turns in harmony with the flow of peak morning traffic.

Fair - The site is adjacent to a major roadway with a low level of service but which requires left-hand access turns which slow peak morning traffic.

Poor - The site is adjacent to a major roadway which is congested and which requires left-hand access turns which slow peak morning traffic.

2. Community Criteria

a. Government

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.

County Community Plan Designation:

Good - The site is designated Urban Residential, Rural Residential or Public, within which school use is consistent.

Fair - The site is designated for apartment or park use.

Poor - The site is designated for hotel, industrial, agricultural, or open space use.

VI - 7
o **County Zoning Designation:**

Good - The site is zoned commercial, within which schools are a permitted use.

Fair - The site is zoned Special Treatment (Public) and, requires a Use Permit for school development.

Poor - The site is zoned for uses other than commercial or Special Treatment (Public). A zoning change is required.

o **Agricultural Land Classification:** (University of Hawaii Land Study Bureau Agricultural Land Classification Productivity Rating).

Good - The site is located on land with very poor (E) productivity rating.

Fair - The site is located on land with fair (C) to poor (D) productivity rating.

Poor - The site is located on land with good (B) to very good (A) productivity rating.

b. **Community Effects**

o **Interference with Institutions:**

Good - The site is greater than 0.5 mile from hospitals, rest homes, and any other institution which may be disturbed by large groups of students.

Fair - The site is far enough away (0.25 to 0.5 mile) from any hospital, rest home, etc., so that any disturbance to the institution by the activities of the proposed school will be minimal.

Poor - The site is adjacent to a hospital, rest home, or similar institution which may be disturbed by the activities of the proposed school.

VI - 8
o **Existing Land Use:** (In changing the existing use of the site to school use, there should be a minimal amount of disruption to the existing pattern of living within the community).

Good - The site is vacant and unused.
Fair - The site is being used for government agencies or institutions.
Poor - The site is being used for agriculture, residences or private businesses.

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 School.

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

o **Location:**

Good - The site is within reasonable walking distance (0.75 mile) of 75% of the students.

VI - 9
Fair - The site is within reasonable walking distance of 50% of the students.

Poor - The site is within reasonable walking distance of less than 50% of the students.

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:

VI - 10
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 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.

1. **Summary of School Site Criteria Evaluation**

The results of the school site criteria evaluation are summarized in Table 7.

With respect to environmental considerations, all five sites were rated equally, with a few exceptions. The proximity of the Lower Pukalani Site (1) and the Kula/Haleakala Highway Site (2) to Haleakala Highway is a noise liability. Noise impacts can be mitigated in these cases by providing a 500 foot buffer between the highways and classrooms. With respect to rainfall, Site 1 appears to receive less than the other sites which may relax design requirements like covered walkways. On the other hand, the Baldwin Avenue Site (5) receives the most rainfall, over 45 inches
TABLE 7
SUMMARY OF SCHOOL SITE CRITERIA EVALUATION

<table>
<thead>
<tr>
<th>Criteria Evaluation</th>
<th>Lower Pukalani SITE 1</th>
<th>Kula/Haleakala Highway SITE 2</th>
<th>Makawao Avenue Mauka SITE 3</th>
<th>Makawao Avenue Apana Rd. SITE 4</th>
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VI - 12
annually, and this may need consideration in the design phase. Otherwise, soil character, aircraft noise, agricultural nuisances, slope, foundation, and aesthetic value at all the candidate sites is nearly identical and appears favorable for school development.

Road right-of-way widths are adequate at all sites, except for possible necessary road widening at the two sites on Makawao Avenue. Water service is unavailable at all sites at this time, but a preliminary assessment indicates that development costs for water service to all sites would be on roughly the same order of magnitude. The Lower Pukalani Site (1) will require significant lengths of 16-inch and 8-inch waterline; Kula/Haleakalā Highway Site (2) will need an independent storage tank and pump station; Makawao Avenue Mauka Site (3) will need 8-inch line and a storage tank; The Makawao Avenue/Apana Road Site (4) will need to replace existing 12-inch lines with 16-inch lines and install lengths of 8-inch line; and the Baldwin Avenue Site (5) will require significant lengths of 16-inch and 8-inch water line.

Sewer infrastructure is poor at all sites due to the communities reliance on cesspools. Some kind of independent wastewater treatment plant and leaching field will be necessary at the new school. Drainage infrastructure is also absent at all of the sites, but the well-drained nature of the soil in the Upcountry area generally precludes the need for major drainage improvements. All sites are proximate to electrical and communication utilities which run along their respective access roads.

Pedestrian access is best at the Makawao Avenue/Apana Road Site (4). All the other sites have no pedestrian access. These sites will all need to be provided with extensive walkway/shoulder improvements and possibly traffic signals. The Lower Pukalani Site (1) and Makawao Avenue Mauka Site (3) have automobile access from one short side only; The Kula/Haleakalā Highway Site (2) and Baldwin Avenue Site (5) from one long side; and the Makawao Avenue/Apana Road Site (4) from one short and one long side. None of the sites is served by a municipal bus service.

In terms of traffic flow, the Makawao Avenue/Apana Road Site (4) is the most favorable since Makawao Avenue has a low level of service and allows right-hand access turns into the site with the majority of traffic flow. It also offers the most alternative access routes. The other sites offer fair conditions for traffic flow, except
the Lower Pukalani Site (1) which is accessible only from Haleakala Highway, a highway with a high level of service which is accessible only by left-hand turns which would obstruct morning peak traffic flow down into Kahului.

2. Summary of Community Criteria Evaluation

The results of the community criteria evaluation are summarized in Table 8. Site criteria and community criteria evaluation totals appear in Table 9.

All five candidate sites are within the State Land Use Agricultural District. A State Land Use Boundary Amendment will be required to include the agricultural land in the Urban District. A Community Plan amendment and zoning change to Public/Quasi-Public will be required for school development at any of the five candidate sites.

No student disruption of institutions such as hospitals and convalescent homes is anticipated. Regarding proximity to commercial centers, the two Makawao Avenue sites are within one-third of a mile of Pukalani Superette, and the Kula/Haleakala Highway site is within one-half mile. The Lower Pukalani site is about three-quarters of a mile from Pukalani’s commercial center, as is the Baldwin Avenue site from the center of Makawao town.

Because of the population distribution within the service area, none of the sites is within reasonable walking distance of a majority of students. The sites are all open space agricultural lands which have a fair aesthetic appeal. Development of a high school at any of them will create certain disruptions to the communities patterns of living.

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. Initial computations of development, land acquisition, and busing costs for each site reveal few significant differences (see Table 10). Off-site improvement costs were entirely a function of providing water service and were
<table>
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<tr>
<th>Criteria Evaluation</th>
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<tr>
<td><strong>Governmental</strong></td>
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<tr>
<td>Poor</td>
<td>3</td>
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<td>3</td>
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<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
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<tr>
<td><strong>TOTALS</strong></td>
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<td></td>
<td></td>
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<td></td>
</tr>
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<td>Poor</td>
<td>5</td>
<td>6</td>
<td>5</td>
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</tbody>
</table>
TABLE 9

CRITERIA EVALUATION TOTALS

<table>
<thead>
<tr>
<th></th>
<th>Lower Pukalani SITE 1</th>
<th>Kula/ Haleakala Highway SITE 2</th>
<th>Makawao Avenue Mauka SITE 3</th>
<th>Makawao Avenue/ Apana Rd. SITE 4</th>
<th>Baldwin Avenue SITE 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Site</td>
<td>(G) 6</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Criteria Total</td>
<td>(F) 5</td>
<td>9</td>
<td>8</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>(P) 7</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Community</td>
<td>(G) 2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Criteria Total</td>
<td>(F) 2</td>
<td>2</td>
<td>3</td>
<td>3</td>
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</tr>
<tr>
<td></td>
<td>(P) 5</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

| TOTALS         | (G) 8                  | 6                             | 6                           | 8                                | 8                    |
|                | (F) 7                  | 11                            | 11                          | 12                               | 9                    |
|                | (P) 12                 | 10                            | 10                          | 7                                | 10                   |

G = Good
F = Fair
P = Poor
TABLE 10
COST ESTIMATE SUMMARY*

<table>
<thead>
<tr>
<th>Development Costs</th>
<th>Lower Pukalani SITE 1</th>
<th>Kula/ Haleakala Highway SITE 2</th>
<th>Makawao Avenue Mauka SITE 3</th>
<th>Makawao Avenue Apana Rd. SITE 4</th>
<th>Baldwin Avenue SITE 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off-Site Improvements</td>
<td>$0.90</td>
<td>$0.85</td>
<td>$0.80</td>
<td>$0.90</td>
<td>$0.90</td>
</tr>
<tr>
<td>On-Site Improvements</td>
<td>$4.82</td>
<td>$4.82</td>
<td>$4.82</td>
<td>$4.82</td>
<td>$4.82</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$5.72</td>
<td>$5.67</td>
<td>$5.62</td>
<td>$5.72</td>
<td>$5.72</td>
</tr>
<tr>
<td>Contingencies (20%)</td>
<td>$1.14</td>
<td>$1.13</td>
<td>$1.12</td>
<td>$1.14</td>
<td>$1.14</td>
</tr>
<tr>
<td>Land Acquisition</td>
<td>$0.019</td>
<td>$0.020</td>
<td>$0.031</td>
<td>$0.020</td>
<td>$0.027</td>
</tr>
<tr>
<td>Bus Subsidy Costs</td>
<td>$13.61</td>
<td>$15.05</td>
<td>$13.43</td>
<td>$13.11</td>
<td>$15.74</td>
</tr>
<tr>
<td>Total Estimated Cost</td>
<td>$20.5</td>
<td>$21.9</td>
<td>$20.2</td>
<td>$20.0</td>
<td>$22.6</td>
</tr>
</tbody>
</table>

*Costs, expressed in millions of 1990 dollars, are for planning evaluation purposes only.
nearly identical among all sites, ranging between $800,000 and $900,000. Due to the similar physical characteristics and proximity to main roadways, on-site development costs were also identical.

The estimated land acquisition cost associated with each site ranges from $19,000 to $31,000, based on the County's assessed tax valuation. However, actual acquisition cost is certain to be much higher. These values merely indicate the difference in market values among the sites.

Busing subsidy costs, calculated for the years 1990 to 2010, range from a low of $13.1 million at the Makawao Avenue/Apana Road Site (4) to a high of $15.7 million at the Baldwin Avenue Site (5). This relatively insignificant cost spread among the sites is due to the lack of a concentrated population center in the large Upcountry school service area.

More detailed explanation of cost parameters is presented in Appendix A.
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 five candidate sites will depend on the types of uses nearby. The Lower Pukalani Site 1, for example, is situated near a developed residential neighborhood. Construction activities at this site may result in a relatively higher degree of disruption and nuisance. On the other hand, the Kula Highway/Haleakala Highway Site 2 is located in a less developed area where impacts to the immediate environment may not be as great.

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

Increased noise levels will be experienced during construction of the new school. Noise will be generated by heavy equipment required to haul materials to and within the project site, as well as equipment used for excavation and installation of the pipeline and appurtenances.

In accordance with standard State contract documents for the construction of public facilities, the contractor will be responsible for properly maintaining construction equipment to minimize noise levels. Equipment mufflers or other noise attenuating equipment may be necessary if noise levels are determined to be excessive. Construction activities will be limited to daylight hours only.

2. Air Quality

Ambient air quality will temporarily decrease as a result of construction activities. As prescribed in the State Department of Health Public Health Regulations, Chapter 60 on Air Pollution Control, the contractor will be responsible for minimizing dust generated during construction, particularly during earth moving.
operations including trenching, excavating and road clearing. The contractor will be required to implement precautions such as water sprinkling to prevent particulate matter from becoming airborne.

Emissions from construction equipment and other motor vehicles involved in construction activities may adversely affect ambient air quality. The contractor shall minimize these impacts by properly maintaining construction equipment and vehicles.

3. Water Quality

Some soil runoff into existing water courses can be expected from areas requiring excavation and vegetation removal. Soil runoff can be minimized through strict adherence to erosion control procedures and minimal disturbance of ground surfaces and vegetative cover. To ensure that runoff is controlled during construction, a Grading and Grubbing Permit Application will be submitted for review to the Maui County Department of Public Works prior to construction.

The U.S. Department of Agriculture Soil Conservation Service designations for soils within the candidate sites are as follows:

Lower Pukalani Site 1 -- Soils at this site are Haliimaile Silty Clay (HhB) 3 to 7 percent slopes, and Haliimaile Silty Clay (HhB) 7 to 15 percent slopes. These soils have moderate erosion hazard when cultivated and not protected.

Kula/Haleakala Highway Site 2 -- Soils at Site 2 consist of Haliimaile Silty Clay Loam (HgC) 7 to 15 percent slopes, and Pane Silt Loam (PXD) 7 to 25 percent slopes. These soils have severe erosion hazard when cultivated and not protected.

Makawao Avenue Mauka Site 3 -- Soils at Site 3 are Haliimaile Silty Clay Loam (HgB) 3 to 7 percent slopes, and Haliimaile Silty Clay Loam (HgC) 7 to 15 percent slopes. HgB soils have moderate erosion hazard when cultivated and not protected, and HgC soils have severe erosion hazard when cultivated and not protected.

Makawao Avenue/Apana Road Site 4 -- Soils at the site are the same as Site 3.

Baldwin Avenue Site 5 -- Soils at this site are the same as for Site 1.
4. **Traffic**

During the construction period, increased traffic along existing roadways leading to the project site should be anticipated. Vehicles carrying materials, equipment and construction workers will increase traffic volumes. These impacts are unavoidable since alternate routes to any of the sites are limited. The contractor will be responsible for providing traffic control measures and safety precautions to minimize adverse effects.

5. **Public Health and Safety**

Appropriate measures to assure public health and safety are one of the contractor's prime concerns and responsibilities during all phases of construction. The construction site shall be secured during non-work hours 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. The Maui Parrotbill, the Maui Akepa, and the crested Honeycreeper are on the State and Federal Endangered Species list. They have been sited in the forest reserve areas.

7. **Economy**

Proceeding with the proposed project will have short-term impacts on the local economy. The project will provide job opportunities for local workers employed in the construction industry. The increased construction activities will also benefit local material suppliers and retail businesses.

B. **Long-Term Impacts**

1. **Flora**

No threatened 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.
All of the available land for a new school is cultivated pineapple fields with scrub growth. The type and degree of existing flora at the sites is generally similar. The overgrowth consists of cactus, koa haole, silk oak, eucalyptus, guinea grass and other grasses and weeds. Construction of the school campus will displace existing pineapple and other common grasses and weeds on 35 acres. Based on comparable flora of the surrounding areas, it is unlikely that any rare or valuable plants will be destroyed by the school development. The loss of vegetation by the clearing and grading of the site should be offset by the grassing and landscaping of the school campus.

2. **Fauna**

Birds often appear at the candidate sites to feed, but there are no trees at the sites for nesting. Landscaping associated with new school development should provide a nesting and feeding environment for birds that are commonly found within the area. Mammals such as mice and rats which appear at the site will initially be displaced. Displacement of these mammals is not regarded as an adverse impact.

3. **Traffic**

Additional traffic in the Makawao-Pukalani area will be generated by the new Upcountry Maui high school. The major roadways passing through the school service area are Haleakala Highway, Kula Highway, Makawao Avenue, and Baldwin Avenue. A major by-pass route for Haleakala Highway through Pukalani is currently under design by the State Department of Transportation—Highways Division. Figure 9 provides estimated 1994 morning peak traffic volumes for the major roads affected by the candidate high schools. Figure 10 shows the probable 1994 morning peak traffic volume distribution on Haleakala Highway and the by-pass route if the by-pass route becomes available. The traffic counts on both Figures represent traffic volumes without the proposed high school.

The estimated volume of traffic generated by the high school during the morning peak period is approximately 150 passenger vehicles and 30 buses incoming and 50 passenger vehicles and 30 buses outgoing. These estimates are based on DOE's method of estimating busing costs which assumes that a certain percentage of the initial 1,200 students will be walking or biking, while the majority of the remainder will use the bus service.
ESTIMATED 1994 AM PEAK HOUR TRAFFIC
for Major Access Roads in Makawao and Pukalani without the high school
Drawing Not to Scale

SITE SELECTION STUDY and EIS for
NEW UPCOUNTRY
MAUI HIGH SCHOOL

Prepared for:
DEPARTMENT OF ACCOUNTING & GENERAL SERVICES
Prepared by:
WILSON OKAMOTO & ASSOCIATES, INC.

Fig. 9
TRAFFIC DISTRIBUTION
on By-Pass Route and Haleakala Hwy
(Theoretical 1994 AM Peak Hour Traffic
without the high school)

Drawing Not to Scale

Fig. 10

SITE SELECTION STUDY and EIS for
NEW UPCOUNTRY
MAUI HIGH SCHOOL

Prepared for:
DEPARTMENT OF ACCOUNTING & GENERAL SERVICES
Prepared by:
WILSON OKAMOTO & ASSOCIATES, INC.
Presently, Haleakala Highway is the major route to school for high school students residing in Upcountry Maui since they now attend high school in Kahului. Haleakala Highway is currently congested during peak traffic periods. An appreciable reduction in traffic volume is anticipated if the proposed Upcountry Maui High School is located in the Makawao-Pukalani area. The following are the major roadways which would access each candidate site:

- **Lower Pukalani Site No. 1**—Preferred route is via Haleakala Highway. Alternate routes are via Baldwin Avenue and Haliiimaile Road, or via Baldwin Avenue and Makawao Avenue.

- **Kula/Haleakala Highway Site No. 2**—Preferred route is Haleakala Highway. An alternate route is via Baldwin Avenue, Olinda Road, Hanamu Road and Kealaloa Avenue.

- **Makawao Avenue Mauka Site No. 3**—Preferred route is via Makawao Avenue. Alternate routes are via Haleakala Highway, Makani Road and Apana Road or via Baldwin Avenue, Haliiimaile Road, Haleakala Highway, Makani Road and Apana Road.

- **Makawao Avenue/Apana Road Site No. 4**—Preferred route and alternate routes are as described in Site No. 3.

- **Baldwin Avenue Site No. 5**—Preferred route is Baldwin Avenue. An alternate route is via Haleakala Highway and Haliiimaile Road.

4. **Public Health and Safety**

The candidate sites are generally free of flood, tsunami, erosion, and landslide hazards. One small 1,500 foot section of road where Kailua gulch meets Makawao Avenue is identified as being an area between the limits of the 100-year flood and 500-year flood. The candidate sites are all located outside its boundary.

Soils at all sites occupy capability grouping Ile and IIe, "soils subject to moderate to severe erosion if they are cultivated and not protected." All sites are currently cultivated and tended. Landscaping and construction will stabilize any soil runoff in the long-term even more so than at present.
Residential areas near the school will experience increased pedestrian and vehicular traffic in their neighborhoods. Increased noise in some areas immediately adjacent to the school could result from equipment such as air-conditioning units, exhaust fans, and public address systems, as well as from traffic entering and leaving the school. There may be other social impacts resulting from the increased potential for interaction with students and faculty.

Appropriate mitigative measures such as fencing and landscaping the school boundaries will be taken to minimize any noise and social impacts of the school on surrounding land uses. In addition, the school shall be designed to minimize impacts to adjacent residences from noise-generating sources such as the aforementioned air-conditioning units, exhaust fans, and public address systems. Traffic noise will be minimized by locating the school entrance as far from residential streets as practicable.

Also to be considered during the school's design phase will be improvements for pedestrian access and safety.

A soil study may be needed at time of construction to test for presence of any pesticide contaminants in the soil which may represent a health threat.

5. Surrounding Land Uses

All of the candidate sites occupy pineapple lands which border residential areas. All of them may be subject to intermittent dust, odor, and noise nuisances associated with planting and harvesting operations. By coordinating the scheduling of these operations with the school schedule, adverse impacts can be minimized.

Residences near any of the school sites may be disrupted periodically by students; an inevitable factor when faced with a new school.

6. Displacement

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

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7. **Agriculture**

All five candidate sites are on land owned by Maui Land and Pineapple Company, Inc. Accordingly, acquisition of any one of the candidate sites will result in the loss to Maui Land and Pineapple Company, Inc. of approximately 35 acres of agricultural land.

Table 11 is based on Agricultural Lands of Importance to the State of Hawaii (ALISH) maps, and the Land Study Bureau's Detailed Land Classification system overall agricultural productivity ratings. The ALISH values for each site were provided by the State of Hawaii Department of Agriculture. Descriptions of the categories "Prime" and "Other Important" agricultural lands, and of the overall agricultural productivity rating system, are given in Chapter 3 under *Soils and Agricultural Potential*.

**TABLE 11**

"ALISH" VALUES AND OVERALL AGRICULTURAL PRODUCTIVITY RATINGS FOR EACH CANDIDATE SITE

<table>
<thead>
<tr>
<th>Site</th>
<th>ALISH Value</th>
<th>Approx. % Area</th>
<th>Overall Productivity Rating</th>
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<tr>
<td>1</td>
<td>Prime</td>
<td>60</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td>Other Important</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Other Important</td>
<td>100</td>
<td>B and C</td>
</tr>
<tr>
<td>3</td>
<td>Prime</td>
<td>65</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Other Important</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Prime</td>
<td>55</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Other Important</td>
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<tr>
<td>5</td>
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<td>65</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Other Important</td>
<td>35</td>
<td></td>
</tr>
</tbody>
</table>

VII - 9
8. **Off-Site Infrastructure**

Preliminary evaluation of off-site infrastructure systems such as drainage, sewerage, and water systems was conducted for each of the candidate sites. Drainage systems will be consistent with the rest of the Upcountry area and involve construction practices to contain runoff on-site. The Maui County Department of Public Works has a policy that new construction cannot increase runoff downstream or, if unavoidable, must be appropriately mitigated. To ensure that runoff is contained on the new school site, a Grading and Grubbing Permit Application will be submitted for review to the Maui County Department of Public Works prior to construction. The permit application will include, at a minimum, a description of soils at the site, details and locations of proposed land drainage patterns, drainage structures, drainage pipes, retaining walls, and an erosion control plan.

Because there is no sewer infrastructure in Upcountry Maui, a new school will require an individual wastewater treatment and disposal system to minimize the potential for degradation of underground water resources. Design plans for the system will conform to applicable provisions of the Department of Health Administrative Rules, Chapter 11-62, "Wastewater Systems". Design will also be closely coordinated with the County of Maui Department of Public Works.

The Upcountry Maui water system has available water supply to service the new school. However, the existing water system infrastructure is limited by small line sizes and an inadequate number of storage facilities. To determine the new school's need for off-site water system improvements, a water master plan shall be prepared for the selected school site which will be subject to the County Department of Water Supply's approval.

9. **Archaeology**

An archaeological inventory survey of the candidate sites was conducted March 5, 6, and 8, 1990, in accordance with guidelines of the State of Hawaii Department of Land and Natural Resources (see Appendix B for complete survey). During the field survey, no surface structural remains were located and no archaeological sites were recorded. Four lithic artifacts and a ceramic sherd were collected from Site 4, including one ulu maika fragment, a biface, a complete small adze, and an adze fragment. There was no pattern or clustering of the artifacts to indicate even a general location of a possible former
habitation site. The interpretive value of the artifacts is therefore limited to a consideration of individual function.

One complete small adze was collected at Site 5. No evidence of prehistoric or early historic period activities was identified at Sites 1, 2, and 3.

On the basis of these findings, it appears that Sites 1, 2, 3, and 5 contain no known or potential historic/archaeological sites or resources. No additional field work or archival work appears to be necessary for a determination of no adverse effect should school construction occur at one of these four sites.

Through archival research, it was determined that part of the field at Site 4 where the ceramic sherd was found was formerly divided into four small Land Grants, any of which could have been a house site. If Site 4 is considered as a school site, it is recommended that additional archival work be conducted to: investigate applicants and dates of Land Grants 1444, 1445, 1455, and 1523 located within the parcel; determine the nature of use and possible presence of former residences on this land; and obtain any cartographic sources which would confirm early historic period residences in the Pukalani/Makawao area. It is also recommended that Site 4 be plowed for 100% surface visibility to facilitate a total surface examination.

10. Aesthetic Considerations

The terrain of the candidate sites evaluated for the proposed school is typical for the slopes of Haleakala. The sites do not contain significant natural landmarks which would be affected by the school development. The design of the school buildings will be coordinated with the character of the surrounding community. Zoning ordinance will regulate the buildings' heights, setbacks, and other design standards.
VIII. ALTERNATIVES TO THE PROPOSED ACTION

A. No Action

Existing high schools outside the service area are presently operating at capacity, and continued population growth is projected for the Upcountry region. Limited space at Baldwin High and the resulting additional burden on Maui High to take in upwards of 3,000 students in coming years presents administrative problems unacceptable to the DOE. A "no action" alternative would 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

Continued busing does not take into account the projected growth and resulting demand for educational services within the Upcountry region. The estimated cost to bus 1,740 students to Maui High over the next 20 years is $32,356,120. Busing students to a new school is estimated to cost only $13,000,000. Relying on busing also fails to account for the growth problems existing high schools are already experiencing in their own service areas. It also adds to already congested traffic conditions.

C. Relocating the High School Program to a New School

There are no existing schools which have the operating capacity or adequate facilities to accommodate an increasing number of high school students.

D. Expanding the Capacity of the Existing Schools

Baldwin High cannot accommodate 2,000 students due to limited land space. Maui High should not be expanded to 3,000 or more students due to administrative and educational constraints. The estimated cost of additional permanent classrooms needed by 2010 is $19 million which, when added to busing costs, approaches the total cost of a new high school.
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

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 Upcountry Maui high 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

Construction of the school will involve a long-term commitment of land on which other potentially beneficial uses will be foreclosed. A range of potentially beneficial uses on land in the vicinity of the school will also be narrowed to the extent that uses adversely affecting school operations such as industrial activities would not be allowed. In any case, current land use controls do not provide for such activities in the vicinity of the candidate sites. No long-term risks to health or safety from operation of the school are anticipated or foreseeable.

The amount of agricultural land available for cultivation in the Upcountry area will decrease by 35 acres, and this may result in a mild loss of employment for agricultural workers. On the other hand, long-term economic benefits to the area will be associated with employment required for the operation and maintenance of the school. In addition, the new high school will assure the continued maintenance and enhancement of public education and social welfare in Upcountry Maui by providing an essential educational service and a facility that will meet the current and future enrollment requirements of the region.
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.

Construction of the proposed project will involve the commitment of land for school use which will eliminate other land use options such as open space and agriculture. In terms of open space, the Makawao-Pukalani-Kula Community Plan makes a recommendation to, "Maintain open space areas along the planned Hāleakalā Highway Bypass route to allow a distinct separation between Pukalani and Makawao". Placement of a high school at Sites 3 or 4 would represent a loss of this specific open space resource, although it would still represent a separation of sorts between the two communities.
XI. LIST OF NECESSARY APPROVALS

Development of school facilities at any of the candidate sites will require similar governmental permits and approvals. All of the sites are in the State Land Use Agricultural District, are designated Agriculture in the Makawao-Pukalani-Kula Community Plan, and have an agricultural land classification productivity rating of "C" or lower. (See Figures 11 and 12). Areas classified as "Agricultural" on the State Land Use map have no zoning designation on Maui County's land use maps but are presumed to be designated "agriculture".

State law allows the County Planning Commission to issue a Special Permit for the establishment of a public school on these lands if the site is less than 15 acres. However, because the proposed school site is larger than 15 acres, a State Land Use Boundary Amendment to include the agricultural land in the Urban District will be required.

A Community Plan amendment and zoning change to Public/Quasi-Public will also be required for school development at any of the five candidate sites. Similarly, a County zoning change will also be needed from "A" (agricultural district) to "P-1" (public/quasi-public district). None of the sites are within the County Special Management Area.

Table 12 lists the necessary land use approvals as well as construction related permits which will be required for the selected site prior to construction.
<table>
<thead>
<tr>
<th>Permit/Approval &amp; Issuing Authority</th>
<th>Lower Pukalani SITE 1</th>
<th>Kula/ Haleakala Highway SITE 2</th>
<th>Makawao Avenue Mauka SITE 3</th>
<th>Makawao Avenue Apana Rd. SITE 4</th>
<th>Baldwin Avenue SITE 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>State LUC Boundary Amendment (State Land Use Commission)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Change in Zoning (County Council)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Community Plan Amendment (County Council)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Subdivision (DPW)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Plan Approval (DPW)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Building Permit (DPW, DWS and Applicable Agencies)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Work w/in State Right-of-way (State DOT-Hwys.)</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>Work w/in County Right-of-way (DPW)</td>
<td></td>
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<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>Grading &amp; Grubbing Permit (DPW)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Water Service (DWS)</td>
<td>X</td>
<td>X*</td>
<td>X*</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>UIC Permit (DOH)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

* Depending on the location of the water tanks for Sites 2 and 3, a Conservation District Use Application may be necessary.
XII. PROBABLE ADVERSE ENVIRONMENTAL IMPACTS WHICH CANNOT BE AVOIDED

Environmental impacts which cannot be avoided include the displacement of 35 acres of agricultural land and the elimination of some open space. Current traffic impacts in Wailuku near the current high schools will shift to the Upcountry area, resulting in increased local traffic and associated automobile emissions in the vicinity of the new school. However, traffic in the roads between the Upcountry area and the existing schools will be reduced by the omission of commuting student-related traffic. Traffic congestion and associated air quality impacts in the vicinity of the proposed high school will be mitigated by appropriate siting of access roads, as well as by any roadway improvements and traffic signalization deemed necessary through traffic studies at the selected school site.

Residential areas near the school will experience increased pedestrian and vehicular traffic in their neighborhoods. Increased noise in some areas immediately adjacent to the school could result from equipment such as air-conditioning units, exhaust fans, and public address systems, as well as from traffic entering and leaving the school. There may be other social impacts resulting from the increased potential for interaction with students and faculty.

Appropriate mitigative measures such as fencing and landscaping the school boundaries will be taken to minimize any noise and social impacts of the school on surrounding land uses. In addition, the school shall be designed to minimize impacts to adjacent residences from noise-generating sources such as the aforementioned air-conditioning units, exhaust fans, and public address systems. Traffic noise will be minimized by locating the school entrance as far from residential streets as practicable.

Notwithstanding the unavoidable effects, the proposed action will provide community benefits and mitigate adverse impacts of the current school system. The new Upcountry Maui high school will assure the continued maintenance and enhancement of public education and social welfare by providing an essential educational service and a facility that will meet the enrollment requirements of the region. It will lessen overcrowding at high schools in Central Maui and relieve traffic congestion on Haleakala Highway. Some long-term economic benefits will also be realized through associated employment at the new school.
XIII. SUMMARY OF UNRESOLVED ISSUES

Roadway improvements needed to mitigate the local increase in traffic during peak periods are unresolved at this time. Once a site is selected, further study will be conducted to determine what measures such as road widening, signalization, and holding lanes may be necessary to facilitate safe access and minimize the potential for traffic congestion.

Water supply is sufficient in the Upcountry area, but off-site infrastructure appears inadequate at this time for all candidate sites. Proposals to provide water service will be coordinated with the Maui County Department of Water Supply once a site is selected.
XIV. AGENCIES, ORGANIZATION, AND INDIVIDUALS CONSULTED DURING EIS PREPARATION NOTICE PHASE

The following is a list of agencies, organizations, and individuals who were consulted as part of the EIS Preparation Notice Phase. Those consulted parties who responded to consultation letters are noted with an asterisk. A double asterisk indicates those who provided substantive comments. Letters received and responses to those with substantive comments are shown on the following pages.

FEDERAL AGENCIES

** Department of the Army
* Soil Conservation Service
* Fish and Wildlife Service
* U.S. Army Support Command Hawaii
** National Park Service

STATE AGENCIES

Department of Agriculture
* Department of Business, Economic Development and Tourism
* Department of Defense
** Department of Education
* Department of Human Services
Haiku Elementary School
Kula Elementary School
Makawao Elementary School
Pukalani Elementary School
Paia Elementary School
Samuel Inoka Kalama Intermediate
Maui High School
** Department of Health
Department of Land and Natural Resources
Department of Social Services and Housing
** Department of Transportation
Office of Environmental Quality Control
Environmental Center-University of Hawaii

COUNTY AGENCIES

Department of Parks and Recreation
Department of Public Works

XIV - 1
** Department of Water Supply
** Department of Human Concerns
** Planning Department

**

UTILITY COMPANIES

**

Maui Electric Company, Ltd.
Hawaiian Telephone Company
The Gas Company-Maui Division

GOVERNMENT OFFICIALS

Representative David Morihara
Senator Mamoru Yamasaki
Representative Joseph Souki
Mr. Hannibal Tavares, Mayor
Goro Hakama, Chairman

INDIVIDUALS

Dick Mayer
Maui Land & Pineapple Co., Inc
Sierra Club
Mr. Russel S. Nagata 
Department of Accounting and 
General Services 
1151 Punchbowl Street 
P.O. Box 119 
Honolulu, Hawaii 96810 

Dear Mr. Nagata: 

We have reviewed the Site Selection Report and 
Environmental Impact Statement Preparation Notice for 
the Proposed Upcountry Maui High School. The following 
comments are offered: 

a. A Department of the Army permit is not required 
for project construction at any of the candidate sites. 

b. The flood hazard zone information on page 111-3 
(section III.B.6) of the document is correct. 

Sincerely, 

Kieuk Cheung 
Director of Engineering 

Mr. Kieuk Cheung 
Director of Engineering 
Department of the Army 
U.S. Army Engineer District, Honolulu 
Fort Shafter, Building 230 
Honolulu, Hawaii 96858-5440 

Dear Mr. Cheung: 

Subject: Upcountry Maui High School 
Environmental Impact Statement 
Preparation Notice (EISPN) 

Thank you for your January 4, 1991 comments regarding the 
subject EISPN. 

We appreciate your input for this project. 

Very truly yours, 

Robert S. Nagata 
State Comptroller
Dear Mr. Hatazuka:

Subject: Letter No. (P)2004.0, Environmental Impact Statement Preparation Notice (EISPN) - Upcountry Maui High School, Upcountry, HI

We have reviewed the above-mentioned petition and have no comments to offer at this time. We would appreciate the opportunity to review the draft EIS.

Sincerely,

WILLIAM A. ALBRIGHT
Acting
WARREN R. LEE
State Conservationist

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

Dear Mr. Negata:

Re: Upcountry Maui High School

ETS Consultation Phase

Due to current staff limitations, the Pacific Islands Office, Fish and Wildlife Enhancement cannot devote the time to adequately evaluate potential impacts to important fish and wildlife resources from the proposed project. Please understand that this notification does not represent the Fish and Wildlife Service's approval of the proposed activity. We may review future actions related to this project should workload constraints be alleviated, or if significant adverse impacts to threatened fish and wildlife resources are identified.

Sincerely yours,

Ernest K. Sakuda
Field Office Supervisor
Fish and Wildlife Enhancement
January 7, 1991

Mr. Donald W. Reesor
Superintendent
U. S. Department of the Interior
National Park Service
Haleakala National Park
P. O. Box 369
Hana, Maui, Hawaii 96713

Mr. Donald W. Reesor
Superintendent
U. S. Department of the Interior
National Park Service
Haleakala National Park
P. O. Box 369
Hana, Maui, Hawaii 96713

Mr. Donald W. Reesor
Superintendent
U. S. Department of the Interior
National Park Service
Haleakala National Park
P. O. Box 369
Hana, Maui, Hawaii 96713

Dear Mr. Reesor:

Subject: Upcountry Maui High School
Environmental Impact Statement
Preparation Notice (EISP)

Thank you for your January 7, 1991 comments on the subject EISP. As requested, upon preparation of the landscape plans for the proposed school, we will coordinate the review of the plant species list with your office.

We appreciate your input for this project.

Very truly yours,

Russel S. Nagata
State Comptroller
December 20, 1990

MEMORANDUM

TO: The Hon. Russel S. Nagata
Controller

FROM: Roger A. Uveling
EIS Consultant Phase

SUBJECT: Upcountry Maui High School
EIS Consultation Phase

We wish to inform you that we have no comments to offer on the subject environmental impact statement preparation notice.

Thank you for the opportunity to review the document.

[Signature]
for Director

RAU: MHK/hkels22

December 18, 1990

Regards Office

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

Dear Mr. Nagata:

Upcountry Maui High School
EIS Consultation Phase

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,

[Signature]
[Name]
Lieutenant Colonel
Hawaii Air National Guard
Contracting & Engineering Officer

[Stamp]
MEMO TO: Honorable Russel Nagata, Controller
Dept. of Accounting and General Services

FROM: Charles T. Topuchi, Superintendent of Education
Department of Education

SUBJECT: Upcountry Maui High School EIS Consultation Phase

December 17, 1990

This is in response to your letter dated December 10, 1990, on the subject matter.

The Department of Education, after review of the report and in consultation with the Maui District Office (DOE), recommends the selection of Site 4 -- Makawao Avenue/Apana Road.

We appreciate the expeditious review of the final evaluation and recommendation of the proposed site. The Department is on a very tight time schedule in meeting the target school opening date of September, 1994.

Should you have any questions, please call the Facilities Branch at 737-2796.

CC: Eugene Imai
Lokelani Lindsey, Maui Dist.

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER
MEMORANDUM

TO: Mr. Russel S. Nagara, State Comptroller
   Department of Accounting and General Services

FROM: Winona E. Robin

SUBJECT: Upcounty Maui High School, EIS Consultation Phase

Thank you for the opportunity to review this project. We have no comments to offer at this time.

Winona E. Robin, Director
February 11, 1991

The Honorable Russel S. Nagata
State Comptroller
Department of Accounting
& General Services
P.O. Box 110
Honolulu, HI 96810

Attention: Mr. Charles Inatuka

Dear Mr. Nagata:

Subject: Upcountry Maui High School
EIS Consultation Phase

We have reviewed the material on the subject project submitted by your office. In compliance with the Administrative Rules, Chapter 11-62, "Wastewater Systems," all public facilities are required to hook up to available County sewer service systems. If County sewers are not available, a wastewater treatment works or non-cesspool individual wastewater systems (IWSS) would be the only acceptable alternatives.

Our Maui District Health Office has expressed great concern over the possible use of IWSS in the general area. Existing IWSS have a history of failure in many of the upcountry areas. Furthermore, potable water may well be a concern of the Maui Water Department. Therefore, we recommend that before any type of wastewater system be proposed, a complete engineering study be conducted to assure that the selected system will work and meet the concerns of protecting groundwater resources.

All wastewater plans must conform to applicable provisions of Chapter 11-62. We do reserve the right to review detailed wastewater plans for conformance to applicable rules at the time of actual construction.

Should you have any further questions, please contact Harold Yee of the Wastewater Branch at telephone 543-8287.

Sincerely,

BRUCE S. ANDERSON, Ph.D.
Deputy Director for Environmental Health

March 9, 1991

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

Attention: Mr. Harold Yee

Dear Dr. Anderson:

Subject: Upcountry Maui High School
Environmental Impact Statement Preparation Notice

Thank you for your February 11, 1991 comments regarding the high failure rate of individual wastewater systems in the Upcountry area and the need for a complete engineering study to select an appropriate wastewater system. Accordingly, we will coordinate closely the design of the proposed school’s wastewater system with your department.

We appreciate your input for this project.

Very truly yours,

RUSSELL S. NAGATA
State Comptroller
HONORABLE
TO:      Russell S. Nagata, Controller
          Department of Accounting and General Services

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT CONSULTATION PHASE,
          PROPOSED UPCOUNTRY MAUI HIGH SCHOOL,
          PUKALANI, MAUI, HI; 2-3/4

Thank you for your letter of December 10, 1990, requesting our
review of the subject proposed project.

We have the following comments:

1. The sites under consideration have poor to fair pedestrian
   access and safety. Improvements such as pedestrian
   overpasses and pedestrian/traffic activated signals should be
   evaluated and considered.

2. Bikeways and/or pedestrian pathways should be provided within
   a one-mile radius of the selected site.

3. Construction plans, and a traffic impact study and drainage
   report should be submitted for our review. We expect that
   roadway improvements will be necessary to accommodate projected
   generated traffic.

Thank you for your cooperation.

Very truly yours,

RUSSELL S. NAGATA
State Controller
December 17, 1990

Department of Accounting and General Services
1151 Punchbowl Street
P. O. Box 119
Honolulu, Hawaii 96819

Gentlemen:

Re: Upcountry Maui High School EIS Consultation Phase

The following are comments on your Site Selection Report and Environmental Impact Statement Preparation Notice for the Proposed Upcountry Maui High School:

I1I02 Hydrology

a. The last sentence of the second paragraph appears to imply that the source of water for Makawao and Lower Kula is ground water.

Treated surface water is pumped to Makawao.

Under normal operations, the source of water for Lower Kula is gravity-fed by the Pilholo reservoir. Water is pumped to Lower Kula from Makawao during droughts.

The last sentence in the third paragraph tends to imply that the sources of water for Upper Kula include the listed streams. They do not.

I1I01 Water

The second paragraph should be revised to indicate that the only source of water for the Makawao water system is the Kamaole forebay.

It appears that the last sentence of the second paragraph should be reworded.

"By Water All Things Flow Life"
April 8, 1991

WILSON
OKAMOTO
ASSOCIATES

Mr. Rae Shikuma, Director
County of Maui
Department of Water Supply
P.O. Box 1109
Wailuku, Maui, HI 96793

SUBJECT: Upcountry Maui High School
Environmental Impact Statement Preparation Notice
(EISP

Dear Mr. Shikuma:

Thank you for your comments dated December 17, 1990 in
regard to the subject EISP. As shown in the attached, we propose
to incorporate the corrections you provided concerning the
Upcountry Maui water system in the Draft EIS. Your verification
of these corrections would be greatly appreciated.

In response to your request to discuss off-site
infrastructure, the Department of Accounting and General Services
has indicated that it will initiate consultation with your office
once a school site has been selected.

If you have any questions regarding this request for
verification, please contact Mr. Bruce Gorst of Wilson Okamoto &
Associates at 531-5261.

Very truly yours,

Earl Matsukawa
Project Manager

cc: Mr. Charles Inatsuka, DWS

April 15, 1991

Mr. Earl Matsukawa
Wilson Okamoto & Associates
P.O. Box 1530
Honolulu, Hawaii 96811

Dear Mr. Matsukawa:

Re: Upcountry Maui High School, Environmental Impact Statement
Preparation Notice (EISP)

Please be advised that your proposed changes regarding the
Upcountry Maui water system are acceptable.

Sincerely,

Rae H. Shikuma
Director

"By Water, All Things Find Life"
December 21, 1990

Mr. Russell S. Nagata
Department of Accounting and
General Services
1151 Punchbowl Street
P. O. Box 319
Honolulu, Hawaii 96810

Dear Mr. Nagata:

Subject: Site Selection Report and Environmental Impact Statement for the Upcountry Maui High School

The Office of Economic Development, a Division of the
Department of Human Concerns, have reviewed the subject environmental impact statement and find that, in general, it has adequately identified and assessed the major environmental impacts which can be anticipated to result from the proposed project.

We have no other comments to offer at this time; however, we thank you for the opportunity to review the Environmental Impact Statement.

Very truly yours,

FRED HATTON
Economic Development Coordinator
Mr. Russel S. Nagata  
January 7, 1991

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

January 7, 1991

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

Dear Mr. Nagata

SUBJECT: Upcountry Maui High School—EIS Consultation Phase

The Planning Department has reviewed the Site Selection Report and EIS Preparation Notice for the above project and would like to offer the following comments for your consideration:

1. The Makawao, Pukalani, Kula Community Plan supports the development of an upcountry high school at a site conveniently located to serve all communities, to reduce transportation costs and achieve desired social objectives.

2. The Plan designates a specific site for a proposed school, library and health facility. The site selection report has not analyzed this site. The report instead designates site 2 (Kula/Haleakalā Highway) which is in close proximity.

3. We recommend that the school site be in close proximity to the proposed by-pass road to mitigate potential traffic problems. Substantial traffic improvements will have to be made to the existing roadway systems servicing the proposed high school facility to maintain an acceptable level of service.

4. Sites 3 and 4 along Makawao Avenue are in close proximity to a Country Town Business District. It is suggested that the school site be located within a residential district.

5. The Maui County General Plan is currently being reviewed and the Community Plans will be reviewed soon after. We would appreciate being informed as to the status of the site selection process. We also would like to provide you with any changes associated with both plans.

We thank you for the opportunity to comment. If further clarification is required, please contact this office.

Very truly yours,

Guy A. Haywood  
Acting Deputy Planning Director
Mr. Guy A. Haywood
Acting Deputy Planning Director
County of Maui Planning Department
250 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Haywood:

Subject: Upcountry Maui High School Environmental Impact Statement Preparation Notice (EISPN)

Thank you for your January 7, 1991 comments on the subject EISPN. Our responses to your comments are as follows:

1. Compatibility with the Makawao, Pukulani, Kula Community Plan shall be considered in the criteria for selection of the Upcountry high school site.

2. The area designated for a proposed school, library, and health facility in the Makawao, Pukulani, Kula Community Plan was excluded from consideration because of the following:
   a. It did not provide sufficient usable area to meet the 35-acre criteria for the high school.
   b. The area is limited by steep slopes greater than 10 percent.
   c. Its irregular shape does not satisfy the desired length-to-width ratio of 1.5 to 1.0, even when the adjacent land designated for single family residential development is included.

3. During preparation of the EISPN, the State Department of Transportation (DOT) indicated that construction of the proposed by-pass road was uncertain due to lack of funds. Therefore, proximity to the road was not adopted as a criteria in the site selection process. However, since then, we learned that the DOT is moving toward construction of the road by August 1991. This change will be considered in the draft EIS.

4. In accordance with the Department of Education's minimum site criteria, sites within residential districts are preferable. However, due to the lack of developable lands within or near residential districts, Sites 3 and 4 were included.

5. Thank you for offering to provide us with information on changes to the Maui County General Plan and Community Plans. We appreciate your assistance. Since you are on our consulted party list, a copy of the draft EIS will be sent to you for review and comments. In this way, you will continue to be informed of the status of the site selection process.

We appreciate your input for this project.

Very truly yours,

[Signature]

TULANE TOMIHASHI
State Public Works Engineer

CI:jk
December 19, 1990

Mr. Charles Inatsuka
Project Coordinator
Department of Accounting and General Services
1151 Punchbowl Street
P.O. Box 119
Honolulu, Hawaii 96810

Dear Mr. Inatsuka:

Subject: Upcountry Maui High School EIS Consultation Phase

We have reviewed the subject Upcountry Maui High School EIS Consultation Phase and have no comments.

Due to the increased construction activity on Maui, Maui Electric Company may need a lead time of six months to a year for the designing, permitting, and acquiring of certain equipment. It is our understanding that you will notify us during the preliminary design stages of this project to assure that the installation schedule will meet your timeframe.

Thank you for the opportunity to comment on the subject study. If there are any questions, please contact Reginald Foo at 871-2295.

Sincerely,

Edward L. Reinhardt
Manager, Engineering

Edward L. Reinhardt
Manager, Engineering

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
DIVISION OF PUBLIC WORKS

Mr. Edward L. Reinhardt
Manager, Engineering
Maui Electric Company, Ltd.
210 West Kamahana Avenue
Kahului, Hawaii 96732-0390

Dear Mr. Reinhardt:

Subject: Upcountry Maui High School Environmental Impact Statement Preparation Notice (EISP)

Thank you for your December 19, 1990 letter informing us of the lead time your company requires for implementation of the project. Please be assured that we will closely coordinate the design of the project with your company.

As a consulted party, we will send a copy of the draft EIS to your company for review and comments.

If there are any questions regarding the EIS, please have your staff contact Mr. Earl Natsukawa of Wilson Okamoto and Associates, our EIS consultant, at 521-3261.

Very truly yours,

Edward L. Reinhardt
Manager, Engineering

CC: Mr. Earl Natsukawa

TODAH KIYAMA
State Public Works Engineer
Dec. 14, 1990

Mr. Carl Hekisan
14520 S. King St. A220
Honolulu, HI 96816

Mr: Upcountry Maui High School

The Sierra Club, Maui Group, wishes to be a consulted party
in the preparation of the Environmental Impact Statement for the
proposed new high school in upcountry Maui. We would appreciate
any documents or maps relative to this project.

Thank you,

Mary H. Evanson
Conservation Chair
Sierra Club, Maui Group
P.O. Box 694
Honokaa, HI 96727
XV. AGENCIES, ORGANIZATION, AND INDIVIDUALS CONSULTED DURING DRAFT EIS PHASE

The following is a list of agencies, organizations, and individuals who were consulted as part of the Draft EIS Phase. Those consulted parties who responded to consultation letters are noted with an asterisk. A double asterisk indicates those who provided substantive comments. Letters received and responses to those with substantive comments are shown on the following pages.

FEDERAL AGENCIES

Army-DAFE (Facilities Eng.-USASCH)
Environmental Protection Agency
** U.S. Army Corps of Engineers
U.S. Coast Guard
U.S. Fish and Wildlife Service
National Park Service
* Naval Base Pearl Harbor
** U.S. Soil Conservation Service

STATE AGENCIES

** Department of Agriculture
* Department of Budget and Finance-HFDC
Department of Business, Economic Development and Tourism
DBED Library
DBED State Energy Office
* Department of Defense
* Department of Education-Superintendent
   Facilities and Support Services Branch
Maui District Office
Haiku Elementary School
Kula Elementary School
Makawao Elementary School
Pukalani Elementary School
Paia Elementary School
Samuel Inoka Kalama Intermediate
Maui High School
** Department of Health
* Department of Human Services
** Department of Land and Natural Resources
DLNR State Historic Preservation Officer

XV - 1
DEPARTMENT OF STATE POLICY

* Department of Social Services and Housing
* Department of Transportation
* State Archives
** Office of Environmental Quality Control
** Office of State Planning
** Office of Hawaiian Affairs

COUNTY AGENCIES

** Department of Parks and Recreation
** Department of Public Works
*** Engineering Division
*** Wastewater Reclamation Division
*** Solid Waste Division
*** Land Use & Codes Administration
** Department of Water Supply
** Economic Development Agency
** Office of the Mayor
** Planning Department

UNIVERSITY OF HAWAII

** Environmental Center
** Water Resources Research Center

MEDIA

Honolulu Star-Bulletin
Honolulu Advertiser
Sun Press
Maui News

ELECTED OFFICIALS

Representative David Morihara
Senator Mamoru Yamasaki
Representative Joseph Souki
Mayor Linda Crockett Lingle
Howard S. Kihune, Council Chairman

XV - 2
LIBRARIES

Maui Community College Library
University of Hawaii Hamilton Library
Legislative Reference Bureau
State Main Library
Kaimuki Regional Library
Kaneohe Regional Library
Pearl City Regional Library
Hilo Regional Library
Wailuku Regional Library
Kauai Regional Library
Kahului Library
Lahaina Library
Makawao Library

UTILITY COMPANIES

Maui Electric Company, Ltd.
Hawaiian Telephone Company
The Gas Company-Maui Division

OTHERS

American Lung Association
Dick Mayer
** Maui Land & Pineapple Co., Inc
Sierra Club

UNSOLICITED INDIVIDUAL RESPONDENTS

** Kitty L. Alday, President, Kalama Intermediate PTA
** Leinaala Teruya Drummond, Councilmember
** Vivien, Arnold, A.K. Herrick
** L. J. McDonnell, Charles Levy, Helen Kahn, Dana Gibson
** C. Nakaganeku
** William F. Ogle, Lawyer
** David Rezents
** Mary Ann Ruiz
** Glenn L. Shepherd
** Jeffrey T. Weller, Upland Estates Coordinator

XV - 3
Mr. Russel S. Nagata  
State Comptroller  
Department of Accounting and  
General Services  
State of Hawaii  
P.O. Box 119  
Honolulu, Hawaii 96810  

Dear Mr. Nagata:

Thank you for the opportunity to review and comment on the Site Selection Report and Draft Environmental Impact Statement for the Proposed Upcountry Maui High School. Our previous comment regarding the need for a Department of the Army permit (paragraph a of letter dated January 4, 1991) is modified by the following additional comment:

Discharge of fill material into any streams or wetlands would require a Department of the Army permit. For more information on permit requirements, please contact Operations Division at 438-9258 and refer to file number P091-142.

Sincerely,

[Signature]

Director of Engineering

Mr. Kinuk Cheung  
Director of Engineering  
Department of the Army  
U.S. Army Engineer District, Honolulu  
Fort Shafter, Building 220  
Honolulu, Hawaii 96856-4440  

Dear Mr. Cheung:

Subject: Upcountry Maui High School  
Draft Environmental Impact Statement (DEIS)

Thank you for your June 7, 1991 comments concerning the subject DEIS. We do not anticipate the discharge of fill material into any streams or wetlands during construction of the subject school.

We appreciate your input for this project.

Very truly yours,

[Signature]  
State Public Works Engineer

[Handwritten note: Shifk]
DEPARTMENT OF THE NAVY

NAVAL BASE PEARL HARBOR

31000
Ser 0672/1343
20 MAY 1991

MAY 23 1991

Department of Accounting and General Services
State of Hawaii
1151 Punchbowl Street
P.O. Box 119
Honolulu, Hawaii 96810

Gentlemen:

UPCOUNTRY MAUI HIGH SCHOOL EIS PUBLIC REVIEW PHASE

The Draft Environmental Impact Statement (DEIS) and Site Selection Report for Upcountry Maui High School is being returned as we have no comments to offer at this time.

Thank you for the opportunity to review the draft.

Sincerely,

W.K. 18
Assistant Base Civil Engineer
By direction of
the Commander

Enc:
(1) Site Selection Report and DEIS
Mr. Russell S. Nagata
State Controller
Department of Accounting and General Services
P.O. Box 119
Honolulu, Hawaii 96810

Dear Mr. Nagata:

Subject: Draft Environmental Impact Statement (DEIS) — Upcountry Maui High School, Upcountry, Maui, Hawaii

We have reviewed the Site Selection Report and the DEIS for the Upcountry Maui High School Project and would like to offer the following comments:

1) As indicated in the DEIS, this project currently would result in the loss of up to 35 acres of prime agricultural land. We believe that the State of Hawaii should avoid any loss of prime agricultural land.

2) We would hope to see more attention placed on the off-site storm water runoff impacts of this project. The DEIS needs to explore in greater detail:

   a) The increase in storm runoff caused by the change from cropland to urban land use; and
   b) the potential down stream impacts of the increased storm runoff and the measures planned to mitigate these impacts.

Field observations indicate that the cropland in the downstream areas of the proposed sites have reported decreasing storm runoff damage, proportionate to the increasing urbanization of the upstream areas.

Thank you for allowing us to comment on this document and we would appreciate an opportunity to review the final DEIS document.

Sincerely,

Warren M. Lee
State Conservationist

Mr. Warren M. Lee
State Conservationist
U.S. Department of Agriculture
Soil Conservation Service
P.O. Box 50004
Honolulu, Hawaii 96850

Mr. Warren M. Lee
State Conservationist

Subject: Upcountry Maui High School Draft Environmental Impact Statement (DEIS)

In response to your May 24, 1991 comments on the subject project we provide the following:

1. A minimum criteria for a site selection study is locating a new school in the Department of Education's proposed service area which includes large tracts of agriculture lands. To minimize the distance students must commute to school, the sites considered were limited to areas where a majority of the student population reside. Unfortunately, these areas are all agriculture lands owned and under cultivation by Maui Land and Pineapple Company.

2. The Maui County Department of Public Works has a policy that new construction cannot increase runoff downstream or, if unavoidable, must be appropriately mitigated. To ensure that runoff is contained on the new school site, a Grading and Grubbling Permit Application will be submitted for review to the Maui County Department of Public Works prior to construction. The permit application will include, at a minimum, a description of soils at the site, details and locations of proposed land drainage patterns, drainage structures, drainage pipes, retaining walls, and an erosion control plan.
June 18, 1991

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

From: Yukio Kitagawa, Chairperson
   Board of Agriculture

Subject: Upcountry Maui High School
Site Selection Report and
Draft Environmental Impact Statement (DEIS)

Pukalani-Makawao, Maui, Hawaii
TMK: 2-3-09: por. of 7
   2-3-07: por. of 1
   2-3-07: por. of 8
   2-3-09: por. of 13
   2-4-01: por. of 3
   2-4-01: por. of 1
   2-4-01: por. of 1

The Department of Agriculture has reviewed the subject document and has the following comments:

The Department of Accounting and General Services proposes to construct a new high school in the Pukalani/ Makawao area to relieve projected overcrowding at Baldwin High School and Maui High School in Central Maui. Five sites have been selected as alternate locations for the 35-acres facility.

References to the Land Study Bureau's Detailed Land Classification system are correct with the exception of Site 2 at the junction of Kula and Hanaekeha Highways. If Site 2 is correctly depicted in Figure 8 (pp. 11-12), a portion falls within a "B" productivity rating area. According to the Agricultural Lands of Importance to the State of Hawaii (ALISH) maps of the area, and the USDA Soil Conservation Service Soil Survey for the Island of Hawaii, each site varies considerably.

<table>
<thead>
<tr>
<th>Site</th>
<th>ALOSH Value</th>
<th>Approx. Area</th>
<th>USDA-SCS Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prime</td>
<td>60</td>
<td>HbB, HbC</td>
</tr>
<tr>
<td></td>
<td>Other Important</td>
<td>40</td>
<td></td>
</tr>
</tbody>
</table>

* USDA Soil Conservation Service designations for soils within the various sites are represented by:

A. Halihale Silty Clay - (Hb) 3 to 7 percent slopes, Capability Subclass Ile. These soils have moderate erosion hazard when cultivated and not protected.

B. Halihale Silty Clay - (HbC) 7 to 15 percent slopes, Capability Subclass IIe. These soils have moderate erosion hazard when cultivated and not protected.

C. Halihale Silty Clay - (Hb) 3 to 7 percent slopes, Capability Subclass Ile. These soils have moderate erosion hazard when cultivated and not protected.

D. Halihale Silty Clay - (HbC) 7 to 15 percent slopes, Capability Subclass IIe. These soils have moderate erosion hazard when cultivated and not protected.

E. Pana Silt Loam - (PD) 7-25 percent slopes, Capability Subclass Ile. These soils have severe erosion when cultivated and not protected.

General Comments:
1. Page V-12 - Candidate site 2 is described as providing a "500 foot noise buffer from Kula Highway." What is its current use? Pineapple? Fallow?
2. Page V-17 - Are 35 acres planned for construction of the facility at each site? Please clarify.
Mr. Russel S. Nagata  
June 18, 1991  
Page 3

We recommend Site 4 be chosen as it represents the smallest portion of Prime agricultural lands to be lost to development. It is also adjacent to the State Urban District. Conversely, we would prefer that the other sites, especially Site 2, which contains a portion of lands with the Land Study Bureau's "B" soil classification, not be utilized.

We look forward to receiving a copy of the Final EIS for our review. Thank you for the opportunity to comment.

C: OKC

Honorable Yukio Kitagawa  
Chairperson  
Department of Agriculture  
State of Hawaii  
Honolulu, Hawaii

Dear Mr. Kitagawa  

Subject: Upcountry Maui High School  
EIS, Public Review Phase

Thank you for your June 18, 1991 comments on the subject EIS. Our response to your comments are as follows:

1. The EIS will be revised to indicate that a portion of Site 2 falls within a "B" productivity rating area. We appreciate the additional information regarding ALIMA values and soil types, which will be incorporated into the EIS.

2. Page III - The EIS will be revised to indicate that Site 2 is located approximately 500 feet away from Kulana Highway for the purpose of providing a buffer from highway-generated noise. The section along Kulana Highway is part of the Maui Land Development Pineapple's agricultural operations which is currently under cultivation for pineapple.

3. Page VII-7 - The new school will encompass approximately 35 acres of land, no matter which of the five candidate sites is selected.

Item 7 Agriculture will be revised to read, "All five candidate sites are on land owned by Maui Land and Pineapple Company, Inc. Accordingly, acquisition of any one of the candidate sites will result in the loss to Maui Land and Pineapple Company, Inc. of approximately 35 acres of agricultural land."

4. Your preference for Site 4 for the reasons given is noted and will be considered during selection of a final site.
5. Your objections to the selection of the other sites, especially Site 2, is noted and will be considered during selection of a final site.

We appreciate your input on this project. If there are any further questions regarding the EIS, please have your staff contact Mr. Charles Inatsuka of the Public Works Division at 548-5703.

Very truly yours,

RUSSELL S. NAGATA
State Comptroller

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

FROM: Joseph K. Cokas
Executive Director

SUBJECT: Upcountry Maui High School EIS Public Review Phase

Thank you for the opportunity to review the Site Selection Report and draft EIS for the proposed Upcountry Maui High School. We have no comments to offer.

JRC/3Tsks

C: Charles Inatsuka, Public Works Division
Engineering Office

Honorable Russell S. Nagata
State Controller
Department of Accounting and
General Services
1151 Punchbowl Street
P.O. Box 179
Honolulu, Hawaii 96810

Dear Mr. Nagata:

Upcountry Maui High School
EIS Public Review

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,

[Signature]

[Name]

[Title]

[Department]

[Location]
MEMO TO: Honorable Russel S. Nagata, State Comptroller
Department of Accounting and General Services

FROM: Charles T. Topuhi, State Superintendent
Department of Education

SUBJECT: Draft Environmental Impact Statement
Upcountry Maui High School
Upcountry, Maui, Hawaii

May 15, 1991

We have reviewed the subject document and have no additional comments to offer to our letter dated December 17, 1990, which is exhibited in the draft.

We wish to again affirm our recommendation of Site 4 -- Makaua Avenue/Alana Road -- and request your expeditious completion of the final environmental impact statement. Our concerns are predicated on the target school opening date of September, 1994.

Should you have any questions, please call the Facilities Branch at 757-4743.

CC: T. Nakai
    L. Lindsey

 attachment

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER
TO: The Honorable Russel S. Nagata  
Director, Department of Accounting & General Services

FROM: John C. Levin, M.D.  
Director of Health

Subject: Upcountry Maui High School  
EIS Public Review Phase

We have reviewed the material on the subject project submitted by your office. We have the following comments to offer:

Noise and Radiation

The facility should be designed to minimize potential noise impacts on adjacent residences from stationary equipment such as air conditioning units and exhaust fans. Noise from public address systems may have a negative impact on nearby residences. Traffic noise from vehicles entering and leaving the premises may also adversely affect adjacent residences.

Please note that under section V-A-1, "Construction Noise," provisions of Department of Health Administrative Rules, Chapter 11-62, "Wastewater Systems," all public facilities are required to hook up to an available County sewer service system. As County sewers are not available, a wastewater treatment works or non cesspool individual wastewater system (INS) are acceptable alternatives. In the past, large septic tanks with soil absorption systems have been utilized for school facilities.

Wastewater

In compliance with Department of Health Administrative Rules, Chapter 11-62, "Wastewater Systems," all public facilities are required to hook up to an available County sewer service system. As County sewers are not available, a wastewater treatment works or non cesspool individual wastewater system (INS) are acceptable alternatives. In the past, large septic tanks with soil absorption systems have been utilized for school facilities.

Our Maui District Health Office has expressed concern over wastewater disposal in the general area. Existing INS's have a history of failure in many of the upcountry areas. Therefore, caution is advised in the sizing and location of any soil absorption system utilized for wastewater disposal.
Honorable John C. Lewin, M.D.  
Director  
Department of Health  
State of Hawaii  
Honolulu, Hawaii  

Dear Mr. Lewin:  

Subject: Upcountry Maui High School  
EIS, Public Review Phase  

Thank you for your July 26, 1991 comments on the subject project. Our responses to your comments are as follows:

1. Noise and Radiation  
The EIS will be revised to include an assessment of impacts on adjacent residences due to noise-generating sources on site such as air conditioning units, exhaust fans, public address systems and traffic. To minimize such impacts, we will address the concerns during planning and design of the facility.  

We understand that the provisions of the Department of Health Administrative Rules, Chapters 11-42 and 11-43 apply only to the island of Oahu. However, a clause in our standard contract documents for the construction of facilities, statewide, requires compliance with the provisions. Accordingly, section VII.A.1 will be revised to clarify our position on this matter.

2. Wastewater  
An individual wastewater system (IWS) is proposed to service the facility. Accordingly, design plans for the system will conform to applicable provisions of the Department of Health Administrative Rules, Chapter 11-62, "Wastewater Systems" and will be submitted to your office for review.

We appreciate your input for this project. If there are any further questions regarding the EIS, please have your staff contact Mr. Charles Inabata of the Public Works Division at 546-5703.

Very truly yours,

Russel S. Nakata  
State Comptroller  

[Signature]  

[Cl: bk]  

[Letterhead: STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P.O. BOX 13  
MADRAS, HAWAII 96770  

SEP - 5 1991]
MEMORANDUM

TO: The Honorable Russell S. Nagata, Controller
   Department of Accounting and General Services

FROM: Winona H. Kubin, Director

SUBJECT: STATE SELECTED REPORT AND ENVIRONMENTAL IMPACT STATEMENT FOR THE UCCOMONU HAU HIGH SCHOOL

May 13, 1991

We thank you for the opportunity to review the environmental impact statement for the Uccomona Hau High School.

The Department of Human Services has no comments to offer at this time following our review process of this document.

Sincerely,

GW

Director

AN EQUAL OPPORTUNITY AGENCY
The Historic Preservation Division believes that this document has adequately addressed our concerns. We only recommend the revision of Page V-9, item g in the final Environmental Impact Statement.

Thank you again for your cooperation in this matter. Please feel free to call me or Roy Schaefer of our Office of Conservation and Environmental Affairs at 548-7817, if you have questions.

Very truly yours,

William W. Paty

Mr. Russell S. Nagata

File No.: 91-478
Doc. No.: 09078

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

SUBJECT: Site Selection Report and Draft Environmental Impact Statement for the Proposed Upcountry Maui High School

Makawao, Maui

Thank you for giving our Department the opportunity to comment on this matter. We have reviewed the materials you submitted and have the following comments.

Our Department's Historic Preservation Division has reviewed the relevant pages of this document referring to historic preservation and have the following comments:

Page III-5, Item 13: This item has adequately described the known historic sites in the vicinity of the five candidate school sites.

Page V-9, Item 9: We do not understand the basis of the inclusion of the Bishop Museum in this item. The Bishop Museum's name should be replaced with our office, the State Historic Preservation Division.

Page VII-9, Item 9: This item has adequately presented the results of the archaeological survey on all candidate sites. We concur with the findings that no significant historic sites are present. We also concur with the proposed additional comments would Site 4 be selected.
Honorable William Paty  
Chairperson  
Department of Land and  
Natural Resources  
State of Hawaii  
Honolulu, Hawaii

Dear Mr. Paty:

Subject: Uplcountry Maui High School  
Environmental Impact Statement (EIS)  
Public Review Phase

Thank you for your June 20, 1991 comments regarding the subject EIS. Our responses to your comments are as follows:

1. Page VII-6, Item 11
   Your confirmation of our adequate description of known historic sites in the vicinity of the five candidate school sites is noted and appreciated.

2. Page V-9, Item 2
   This section will be revised in the EIS by replacing Bishop Museum's name with the State Historic Preservation Division.

3. Page VII-6, Item 9
   Your confirmation of the adequacy of the archaeological survey results and your concurrence with both findings and proposed mitigation measures are noted and appreciated.

We appreciate your input for this project.

Very truly yours,

[Signature]

State Comptroller
Mr. Charles Isumaka  
State of Hawaii  
Department of Accounting and General Services  
1151 Punchbowl Street  
Honolulu, Hawaii 96813  

Dear Mr. Isumaka:

This is written in reference to the Site Selection Report and Draft Environmental Impact Statement (DEIS) for the Proposed Upcountry Maui High School. Our office has reviewed the DEIS for administrative completeness (under Section 11-200-17 of the Hawaii Administrative Rules (HAR), Department of Health), and respectfully offer the following seven comments for your earnest consideration:

1. HAR §11-200-17(b): Please include in Section I, a concise and brief discussion of: proposed mitigation measures; unresolved issues; compatibility with land use plans and policies; and, a listing of permits or approvals.

2. HAR §11-200-17(b): In addition to the description of permits/approvals and issuing authorities in Section XI, please provide a description of the current status of each permit/approval (i.e., submitted and pending, etc.) for each candidate site. Also, Section VII makes mention of certain approvals (such as sewer treatment facility and underground injection wells; approval by the Maui Board of Water Supply of a proposal for supplying drinking water at a new school). To facilitate public review of the DEIS, we would like to suggest that you coordinate approval/permit listings from all sections of the DEIS (such as Sections VII and XI) and list these approvals/permits by site. We would like to suggest that this take the form of a table or matrix for each site which lists each permit/approval, the corresponding issuing authority, and the current status of each permit/approval.

3. HAR §11-200-17(b): In Section IX, please include a discussion on the extent to which the proposed action forecloses future options, narrows the range of beneficial uses of the environment, or poses long term risks to health and safety.

4. HAR §11-200-17(b): Section X should also consider the possibility of environmental accidents resulting from any phase of the action. Any discussion of resources in Section X must also include consideration of natural and cultural resources committed to loss or destruction by the action.

5. HAR §11-200-17(b): Please provide a section entitled PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED which includes: a brief summary of any adverse effects (such as water or air pollution, urban congestion, threats to public health or other consequences adverse to environmental goals and guidelines established by HRS 343 and State Environmental Policy in HRS 340); a discussion of the rationale for proceeding with a proposed action, notwithstanding unavoidable effect; and an indication of the extent to which stated countervailing benefit could be realized by following reasonable alternatives to the proposed action that would avoid some or all of the adverse environmental effects.

6. HAR §11-200-17(b): Please provide a section entitled: SUMMARY OF UNRESOLVED ISSUES which describes unresolved issues and discusses how such unresolved issues will be resolved prior to commencement of the action (or discusses overriding reasons for proceeding without resolving the problems).

7. Page VII-9 of the DEIS states that "the design of the school buildings will be consistent with the character of the surrounding community ..." The action under consideration appears to focus on site selection with no consideration given to design or construction. We would like to respectfully suggest that a clarifying statement be included in the DEIS describing whether design and construction of the new school at the chosen site will be handled as a separate action for the purposes of environmental impact statement law in HRS 343.

Thank you for the opportunity to comment. If you have any questions, please contact Mr. Leslie Segundo, Environmental Health Specialist at 548-6915.

Very truly yours,

[Signature]
Director

cc: Mr. Earl Matsukawa  
Mr. Brian J. J. Choy  
Director  
Office of Environmental Quality Control  
720 South King Street, Fourth Floor  
Honolulu, Hawaii  

Dear Mr. Choy:  

Subject: Upcountry Maui High School  
EIS Public Review Phase  

Thank you for your June 10, 1991 comments on the subject project. Our responses to your comments are as follows:  

1. Section I will be revised to include a summary of mitigation measures, unresolved issues, and a reference to the table of permits and approvals that will be included in Section XI: List of Necessary Approvals.  

2a. Upon selection of a final site, we will coordinate the acquisition of permits and approvals with the appropriate agencies. Accordingly, the current status for all required permits/approvals is that no action has been taken.  

2b. The approvals mentioned in Section VII will be included in the new table to be incorporated in Section XI.  

3. Section II will be revised to include a table listing necessary permits/approvals for each site and the corresponding issuing authority.  

4. Section IX will be revised and expanded to include a discussion on the extent to which the proposed action forecloses future options, narrows the range of beneficial uses of the environment, or poses long-term risk to health and safety.  

5. The EIS will be revised to include a new section which examines the probable adverse environmental effects which cannot be avoided. The rationale for proceeding with the proposed action, notwithstanding unavoidable effects, will be included in the discussion. This will show that reasonable alternatives to the proposed action could avoid some or all of the adverse environmental effects but would also create their own adverse effects.  

6. The EIS will be revised to include a new section summarizing unresolved issues.  

7. The design and construction of the school are not considered separate actions with respect to fulfilling the requirements of Chapter 343, HRS. We will clarify this in the Preface.  

Although the action under consideration seems to focus on site selection, the methodology and criteria include parameters that affect and influence design and construction. For example, the consideration of a site that is at least 500 feet away from a busy highway is based on the desire to provide an environment free from distracting noises without constructing soundproof structures which are expensive. Similarly, the minimum criteria precludes the selection of sites that may create adverse problems in design and construction.  

We appreciate your input for the project. If there are any questions on this matter, please have your staff call Mr. Charles Inatsuka of the Public Works Division at 540-5703.  

Very truly yours,  

[Signature]  
TEHANE TOHNAKA  
State Public Works Engineer  

GI:jnt
MEMORANDUM

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

SUBJECT: Draft Environmental Impact Statement (DEIS) and Site Selection Report for the Upcountry High School Upcountry, Maui, Hawaii

June 14, 1991

It is our understanding that the State of Hawaii Department of Education is proposing to build a new Upcountry High School on approximately 26 acres of land to alleviate the classroom shortage and current need to bus students to the already crowded Maui and Baldwin High Schools.

The proposed high school will consist of 43 general classrooms and 28 specialized classrooms for Art, Music, Science Education, Special Education and other functions. Athletic, dining room, administrative, and library facilities are also included in the plans. The DEIS and Site Selection Report name five possible sites for the school. All five sites were within the Upcountry service area.

After reviewing the subject document, we have some concerns that should be thoroughly discussed in the Final Environmental Impact Statement. First, because water service is currently unavailable at all five sites and the Upcountry Maui Water System is currently at capacity, a feasible proposal from the County of Maui Department of Water Supply and the State Department of Land and Natural Resources should be solicited.

Second, because an independent wastewater treatment plant and leaching field will be necessary, the facility should be sited to minimize degradation of underground water resources.

Third, the State Department of Transportation cautions that the sites under consideration have poor to fair pedestrian access and safety. Improvements such as pedestrian overpasses and pedestrian/traffic activated signals should be considered.

Thank you for the opportunity to comment. Should you have any questions please contact me or the Land Use Division at 548-2660.

Harold S. Hamasuto
Director

Mr. Harold S. Hamasuto
Director

Office of State Planning

State Capitol

Honolulu, Hawaii

Dear Mr. Hamasuto:

Subject: Upcountry Maui High School

EIS, Public Review Phase

Thank you for your June 14, 1991 comments on the subject EIS. Our responses to your comments are as follows:

1. The Upcountry water system has available water supply to service the new school. However, the existing water system infrastructure is limited by small line sizes and an inadequate number of storage facilities. We will clarify this in the final EIS. Upon selection of a school site, we will coordinate the design of the water service to the new school with the County of Maui Department of Water Supply.

2. Since the design of the wastewater treatment plant and leaching field will be closely coordinated with the Department of Health and the County of Maui, the degradation of underground water resources will be minimized. Accordingly, this consideration should not be site specific.

3. The criteria for pedestrian access and safety highlights features that the DOE should consider during selection of a site. However, they should not be required to correct such deficiencies if the improvements are beyond their jurisdiction. Accordingly, upon selection of a final site, we will consider improvements for pedestrian access and safety during the design phase of the project. However, the implementation of such alternative measures should be dependent upon the determination of responsibility for such actions.
We appreciate your input for this project. If there are any further questions regarding the BIO, please have your staff contact Mr. Charles Inatsuka of the Public Works Division at 568-3703.

Very truly yours,

Bill G. Nadata
State Comptroller
May 31, 1991

Mr. Russell S. Nagata
State Controller
Department of Accounting and General Services
P.O. Box 118
Honolulu, Hawaii 96810

Dear Mr. Nagata:

SUBJECT: UPCOUNTRY MAUI HIGH SCHOOL EIS

The Department of Parks and Recreation, County of Maui, has no comment regarding the alternative sites for the Upcountry High School.

On Page II-2, the estimated costs include physical education and athletic department facility needs. I recommend that the site be large enough to accommodate these facilities as park space in the Upcountry area is limited and already very heavily utilized.

On Page III-7, Public Services as Recreation

- Kakula Ball Park should be kept.

- The Upcountry Youth Center has been established and is operating on the Eddie Tam Center grounds.

- The "county-funded public swimming pool" is proposed, however, the County intends to seek funding support from the State of Hawaii.

I appreciate the opportunity to comment on this EIS.

Sincerely,

Charmaine Tavares
Director of Parks & Recreation

Ms. Charmaine Tavares
Director of Parks and Recreation
County of Maui
1580 Pauahi Avenue
Wailuku, Hawaii 96793

Dear Ms. Tavares:

Subject: Upcountry Maui High School Draft Environmental Impact Statement (DEIS)

Thank you for your May 31, 1991 comments concerning the subject project. Our response to your comments are as follows:

1. Page II-8

The proposed high school site will be large enough to accommodate all listed facilities.

2. Page III-7

The section on Recreation will be amended and expanded in accordance with the information provided.

We appreciate your input for this project.

Very truly yours,

Tedane Tominaga
State Public Works Engineer

CI: bk
CHARLES JEOCKS, DEPUTY DIRECTOR OF PUBLIC WORKS

March 11, 1991

Page 2

Secondly, Figure 7 shows Makawao Avenue and Baldwin Avenue as having a minimum right-of-way of 50-feet. This representation is incorrect. The right-of-way width in some sections of these roads maybe less than 40-feet wide.

6. Page V-12 - Figure 8 and all other map exhibits should include the alignment of the proposed Pukalani By-Pass highway.

7. Page VI-7 - A site which allows right hand access turns in harmony with the flow of peak morning traffic does not necessarily make a site "good." With the completion of the Pukalani By-Pass Highway, existing traffic patterns within the Makawao-Pukalani area are expected to be altered. The site evaluations for traffic flow does not include discussions of those anticipated changes in traffic patterns.

8. Page VII-13 - The evaluation that "roadways are adequate at all sites, except...the two sites on Makawao Avenue is inaccurate and may mislead readers to think that no road improvements are necessary.

I concur that the Makawao Avenue/Apana Road site is the most accessible because it provides the most access options.

9. Page A-22 - I strongly disagree with the statement that "None of the potential sites required off-site improvements." Since Busing is provided for students beyond a one-mile walking radius of the school, I assure that students living within the one mile radius are expected to walk to school. If students are expected to walk to school, the DOE should provide road widening and a good sidewalk network within the one mile radius. All sites under consideration are deficient in shoulder.

I am also transmitting the following review comments from the other divisions:

Wastewater Reclamation - Comments dated January 29, 1991
Solid Waste Division - Comments dated January 30, 1991
LEDA - Comments dated February 4, 1991

If you have any questions regarding this matter, please call me at extension 7745.

Enclosures
RHH: ESB-158
A preliminary assessment of the candidate school sites based on soil conditions seemed to indicate that storm runoff could be accommodated by on-site facilities. However, we are aware of the County policy that new construction cannot increase runoff downstream or, if unavoidable, must be appropriately mitigated. Therefore, following selection of a site, additional studies will be conducted and we shall pursue further discussion with your office on this matter. A Grading and Grabbling Permit Application will be submitted for review by your office during design of the school.

4. The DOE follows guidelines set by their Educational Specifications and Standards for Facilities (ESSF) which recommends 20 to 30 usable acres for a new high school. However, because the new high school in Upcountry Maui will require an independent wastewater treatment facility and leaching field, and because of County requirements for fire lanes to access school buildings, a nominal figure of 35 gross acres was earmarked for acquisition. The actual acreage acquired will depend upon the terrain of the site selected and accommodation of all facilities in accordance with government regulations and the ESSF.

5a. The preference criterion for locating the school downstream of population centers was intended as a general guide for identifying appropriate school locations. It considers potential interruptions of primary traffic flow lanes and ease of right hand turns for student drop-offs. We concur, however, that this rule may not be appropriate in all instances. Accordingly, we will evaluate the need for the statement in the EIS.

5b. The intent of the major roadway criterion was to identify sites served by primary commuter thoroughfares in the Hakeawo-Pukalani-Haliakai area. The 60-foot right-of-way criterion was used to identify these roads. Although we were unsure that portions of these roads may fall short of this criterion, in general the criterion serves the purpose of identifying major roads. We will clarify this criterion in the final EIS to indicate that roads meeting the minimum right-of-way widths along significant portions will be regarded as major roads.
6. We shall revise all applicable figures to include the alignment of the Punalu'u Bypass Highway which is currently under construction.

7. The concept of right-hand access turns in harmony with the flow of peak morning traffic was used as a general guide based on the fact that the major traffic congestion occurs on Punalu'u Highway. We feel that with the completion of the Punalu'u Bypass, this general rule should still apply. Traffic impacts in the immediate vicinity of a selected school site will be studied in greater detail as a basis for designing vehicular and pedestrian access to the school.

8. The use of "adequate" was not meant to imply that no roadway improvements will be necessary, but that right-of-way widths were adequate to serve the site according to the accessibility criteria. Following selection of a school site, ingress and egress requirements will be examined to determine what roadway improvements are necessary.

9. We will amend the final EIS to say that off-site pedestrian related improvements will be necessary. Any improvements will be discussed with your agency once a school site has been selected and greater scrutiny can be applied to roads near the site. At this time, the DOE has not indicated a commitment to providing road widening and other pedestrian related improvements.

We appreciate your input for this project. If there are any further questions regarding the EIS, please have your staff contact Mr. Allen Yamana of the Public Works Division at 566-0483.

Very truly yours,

[Signature]

Tsuane Tomihada
State Public Works Engineer

AT: jk
cc: Mayor Linda Crockett Lingle
MEN TO: RALPH H. HAGANAKI, ENGINEERING DIVISION CHIEF
FROM: EARRIE MILLER, WASTEWATER RECLAMATION DIVISION CHIEF
SUBJECT: UPCOUNTRY MAUI HIGH SCHOOL
       EIS CONSULTATION PHASE

January 29, 1991

In general, the Wastewater Reclamation Division would recommend sites that are centrally located in the Nakawo/Pukalani area (Sites 2, 3, 4). In the future, a wastewater system is planned for the Nakawo/Pukalani area and a centrally located school would have a much lower capital cost in terms of connecting from an on-site wastewater system to a municipal off-site system.

Site No. 1 has the potential of connecting to the Pukalani Terrace and Country Club Sewage Treatment Plant, although this treatment plant is privately owned.

Site No. 5, on Baldwin Avenue, would have a high capital cost if the decision were made to abandon the on-site system and connect to the County facilities. In all likelihood, wastewater would need to be pumped to a gravity connection point in Nakawo town, possibly involving a series of pump stations and force mains.

Should you have any questions, please feel free to call Dave Wissner at extension 7417.

Mr. Earris Miller
Chief
Wastewater Reclamation Division
Department of Public Works
County of Maui
200 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Miller:

Subject: Upcountry Maui High School
       EIS Public Review Phase

Thank you for your January 29, 1991 comments on the subject project. We appreciate the information regarding potential options and limitations for providing future sewer service for the proposed high school. Your recommendations for siting the school in a central location at Sites 2, 3, and 4 to facilitate future wastewater collection will be considered in selecting the final site.

We appreciate your input for this project. If there are any questions regarding the EIS, please have your staff contact Mr. Allen Tashima of the Planning Branch at 566-0483.

Very truly yours,

TEURU KOHINAMA
State Public Works Engineer

AT: jk
MEMO TO: RALPH N. MAGANZIE, ENGINEERING DIVISION CHIEF
FROM: BRIAN HASHIRO, SOLID WASTE DIVISION CHIEF
SUBJECT: UP-COUNTRY MAUI HIGH SCHOOL EIS CONSULTATION STAGE

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

1. The owners and their contractors shall implement solid waste reduction, re-use, and recycling programs to reduce the amount of solid waste to be disposed of at the County landfills.
2. All yard debris shall be composted and re-used on their landscape plantings.
3. Alternative means of disposal of grubbed material and rock shall be utilized other than disposed of at the County landfills.
4. Refuse collection shall be by a private collector.

Thank you for the opportunity to comment on this proposed development.

BRIAN HASHIRO

Mr. Brian Hashiro
Chief
Solid Waste Division
Department of Public Works
County of Maui
200 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Hashiro:

Subject: Upcountry Maui High School EIS Public Review Phase

Thank you for your January 30, 1991 comments on the subject project. We offer the following responses to your comments:

1. Your statements regarding solid waste reduction through re-use, recycling, and composting will be brought to the attention of the Department of Education.
2. The disposal of grubbed material and rock will be addressed through the submittal of a Grading and Grubbing Permit during the permit phase of the project.
3. We understand that refuse collection at the new school will need to be performed by a private collector.

We appreciate your input for this project. If there are any questions regarding the EIS, please have your staff contact Mr. Allen Yamaoka of the Planning Branch at 586-0493.

Very truly yours,

TEUNICE H. TONINAGA
State Public Works Engineer

AT: JK
MEMO

TO: Mr. Ralph Negamine, Engineering Division Chief
FROM: Mr. Aaron Shimoto, Administrator
SUBJECT: UCCOUNTRY MAUI HIGH SCHOOL
EIS CIRCULATION PHASE

In reviewing the site selection and the EIS report, we offer the following comments:

1. The final school site may require a community plan amendment and zoning change.
2. Master plans and supporting documentation (i.e., drainage and soil erosion report, traffic studies, etc.) for drainage, sewer, and road improvements up to the year 2010 should be required.

A more detailed review can then be made upon submittal of the above.

Mr. Aaron Shimoto
Administrator
Land Use and Codes Administration
Department of Public Works
County of Maui
200 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Shimoto:

Subject: Upcountry Maui High School EIS Public Review Phase

Thank you for your February 4, 1991 comments on the subject project. We offer the following responses to your comments:

1. The need for a community plan amendment and zone change to develop the school has been noted in Section XI of the final EIS.
2. After a site for the proposed school has been selected, various master plans and studies will be prepared or required in support of applications for the above land use approvals. Your office will be consulted in this regard.

We appreciate your input for this project. If there are any questions regarding the EIS, please have your staff contact Mr. Allen Tanaka of the Planning Branch at 586-0403.

Very truly yours,

[Signature]
State Public Works Engineer
MEMO TO: Mr. Ralph Hagman, Engineering Division Chief
FROM: Mr. Aaron Shimoto, Administration
SUBJECT: Upcountry Maui High School
EIS Consultation Phase

In reviewing the site selection and the EIS report, we offer the following comments:

1. The final school site may require a community plan amendment and zoning change.

2. Master plans and supporting documentation (i.e., drainage and soil erosion report, traffic studies, etc.) for drainage, sewer, and road improvements up to the year 2010 should be required.

A more detailed review can than be made upon submittal of the above.

Mr. Aaron Shimoto
Administrator
Land Use and Zoning Administration
Department of Public Works
County of Maui
200 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Shimoto:

Subject: Upcountry Maui High School
EIS Public Review Phase

Thank you for your February 4, 1991 comments on the subject project. We offer the following responses to your comments:

1. The need for a community plan amendment and zone change to develop the school has been noted in Section XI of the EIS.

2. After a site for the proposed school has been selected, various master plans and studies will be prepared or required in support of applications for the above land use approval. Your office will be consulted in this regard.

We appreciate your input for this project. If there are any questions regarding the EIS, please have your staff contact Mr. Allen Yamashita of the Planning Branch at 586-0483.

Very truly yours,

[Signature]

State Public Works Engineer
May 31, 1991

Mr. Russel Nagata
State of Hawaii
Department of Accounting & General Services
P. O. Box 115
Honolulu, Hawaii 96810

Dear Mr. Nagata:

Subject: UPCCOUNTRY MAUI HIGH SCHOOL - Site Selection Report and Draft Environmental Impact Statement

Thank you for giving our Department the opportunity to review the site selection report and draft environmental impact statement for the proposed upcountry Maui high school.

Our Department has the following comments:

1. Page III-8 of the report indicated that during fiscal year 1987 1.39 million gallons per day (MGD) of water was withdrawn from the Wailea ditch and treated at the Kanole treatment plant. Based on fiscal year 1989 data, the average flow was 2.4 MGD. The 1989 data should be used since it is representative of the current flow.

2. Page III-8 of the report indicated approximately 0.26 MGD of water from the Kanole treatment plant supplemented the Kula system during the 1987 fiscal year. Please note that the Kula system relies on surface runoff as its source for water. During periods of low rainfall when surface runoff flow is inadequate to meet water demands, water is diverted from the Kanole treatment plant into the Kula system. Our records indicate flows of up to 6 million gallons were processed within 24 hour periods at the Kanole treatment plant.

The report should be revised to indicate that the Kanole treatment plant periodically is required to treat approximately 6 MGD of water in a 24-hour period when the surface source of the Kula system is unable to meet system demands. The 6 MGD figure is appropriate in the report if it is intended to determine the reserve capacity of the Kanole treatment plant and its ability to supply additional water required by the proposed high school.

Concerning the offsite water system improvements proposed for the various school sites, page A-22 of the report does not contain adequate information to allow our Department to provide comments. Please submit engineering data such as fire, domestic and irrigation flow requirements for the school sites. Maps or plans showing the location of the proposed water improvements should also be submitted.

Sincerely,

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI

[Signature]

Kme H. Shikuma
Director

bc
AUG 22 1991

Mr. Rae Shikuma
Director
Department of Water Supply
County of Maui
P. O. Box 1109
Wailuku, Maui, Hawaii 96793-7109

Dear Mr. Shikuma:

Subject: Upcountry Maui High School
Draft Environmental Impact Statement (DEIS)

Thank you for your May 31, 1991 comments regarding the subject project. Our responses to your comments are as follows:

   The EIS will be revised to reflect 1989 data which indicates that an average water flow of 2.4 MGD was withdrawn from the Waioa ditch and treated at the Kamola treatment plant.

   The EIS will be revised to include the additional information provided on the Na'akanu-Kula water system. The section will be expanded to clarify the relation between the Kulua system and the Kamola treatment plant during periods of low rainfall.

   The proposed offsite water system improvements for the various school sites are conceptual in nature and only intended for comparison purposes. Once a school site has been selected, the design of the water system will be closely coordinated with your office to develop specific plans.

We appreciate your input for this project.

Very truly yours,

Terasue Tomihana
State Public Works Engineer

CT: bk
July 24, 1991

I am very strongly in favor of the Makawao high school. If these concerns are addressed, I am sure we will have an excellent and sorely needed addition to our school system.

Sincerely,

LINDA CROCKETT JINGLE
Mayor, County of Maui

Mr. Russel S. Nagata
July 24, 1991

Enclosures

c:\letter\dags

R2: Uplcountry Maui High School
Environmental Impact Statement Review

The Departments of Planning and Public Works have reviewed the Environmental Impact Statement. Their specific comments are enclosed. In addition to their comments, I offer the following observations:

1. Growth in the upcountry Maui area has been large and continuous over the past 10 years. Using water consumption as an indicator, growth in this key figure has averaged 4.7% per year between 1979 and 1989. Based on the large amounts of land and low infrastructure costs, this growth is expected to continue.

2. There are currently very striking differences in traffic levels on Haleakala Highway between summer vacation and regular school periods. A very significant part of the traffic must be due to students, parents and educators making morning and evening commutes. Transfer of that traffic onto Makawao Avenue, a much inferior highway, will create massive traffic problems.

Based on these observations and others enclosed, I feel very strongly that both a population study and a detailed traffic study needs to be done to clearly define the impact of and projected demand on the school.
The Honorable Linda Crockett Lingle
Mayor
County of Maui
200 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mayor Lingle:

Subject: Upcountry Maui High School
Public Review Phase, EIS

Thank you for your July 24, 1991 comments on the subject project and the departmental reviews that were enclosed. Due to the extensive comments made by your departments, we sent respective responses to them with copies to your office. Regarding the two items of concern you mentioned, we provide the following comments:

1. We appreciate the information provided on growth in the Upcountry Maui area which is being closely monitored by the Department of Education. We agree that an updated population study would be helpful. However, we feel that the population study is beyond the scope of this project.

Since the ultimate decision is the construction of a high school with a specific design consistent with a certain service area, the projected demand on the school has been predetermined. Upon further growth within the area, another school would be considered and could be constructed. Accordingly, for our purposes, we would rely on agencies that regularly provide projections of population growth such as your departments.

2. Upon selection of a final site, we will prepare design plans that will be submitted to your departments for review. Should the need for a traffic study be warranted, we will comply.

We appreciate your input on this project. If there are any further questions regarding the EIS, please have your staff contact Mr. Allen Tamanaha of the Public Works Division at 348-5744.

Respectfully,

[Signature]

State Controller
COUNTY OF MAUI
PLANNING DEPARTMENT

MEMORANDUM

TO:  KIANA PERKINS
      MAYOR'S OFFICE

FROM:  M. SHOEN
      PLANNING DIRECTOR

RE:  URP COUNTY HIGH SCHOOL SITE SELECTION STUDY AND
     DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)

Based on the preliminary information contained in the DEIS as well
as an analysis of surrounding land uses and Community Plan
designations, site No. 4 (Kalani Road) would appear to be the most
appropriate site for the new High School. Site No. 6's favorable
factors include:

- A central location between Makawao and Paalani.
- Proximity to existing and planned residential areas.
- Alternative access routes.

We have concerns, however, about the lack of or possible
inadequacies in the information contained in the DEIS.

1. The assumptions made and the basis for population and student
growth projections should be made clear. Some of the information
presented does not seem realistic. For instance, the projected
pupil growth rates shown in Table 2 actually decline over the
twenty year design period. Also, Table 6 shows decreasing student
enrollments at Pala and Makali Elementary schools in Table 6.
Future developments planned in the Pala/Makali area and recent growth
in the Makani area considered?

2. The assessment of probable long-term traffic impacts is
   inadequate.

   a. The estimate of volume of traffic generated by the project
      seems unrealistically low. Estimates on page 27-6 for
      "pajama peak period" are 137 entering passenger vehicles and
      50 buses. This does not relate in any way to the current
      situation at Maui High School where the average student car
      count is 100, the faculty and administration parking totals
      nearly 100, the regular bus count is 25, and the special
      education bus count is 3. With the addition of cars dropping
      off students, it would appear that the traffic volume for the
      "morning peak period" would be well over six (6) hundred
      passenger vehicles.

   b. It is unclear whether the traffic counts in figures 9 and 10
      represent volumes with or without the High School.

   c. There has been no attempt to analyze the traffic impacts of
      1985 Alternative and how they differ from one another.

   d. There has been no analysis on the impacts to key intersections
      in the area. These intersections include: Makawao Avenue/Makani Road,
      Hula Hula Apartment/Makani Road, Hula Hula Apartment/Makawao Avenue.
      See previous sections along the new bypass at Paalani High School.
      These intersections should be evaluated as well as impacts to
      intersections directly affected by each alternative.

   e. Currently, during morning peak hours, the Baldwin Avenue, Hula Hula
      Avenue, and Kula High School intersections have
      extremely heavy levels of service. All of the alternatives
      would increase volumes at these intersections. Site 1 and increased
      left turns from Hula Hula Avenue onto Kula High school and likely cause
      major traffic disruptions.

   f. Improvements necessary to mitigate potential adverse traffic
      impacts should be identified.

   g. There should be consultation with the State Department of
      Transportation to discuss impacts on the proposed bypass. The
      results of this discussion should be discussed in the final DEIS.

   h. The State Department of Transportation's current plans for the
      bypass calls for only one intersection to be signalized (at
      Makaula Avenue). Would any of the sites lead to increased need
      for signalization of the Makani Road, or either of the two
      Makaula High school Intersections?

   i. Neighbors property owners have expressed concern regarding
      potential negative impacts due to traffic, lowering and other
      impacts which arise from living across the street from a high
      school. There should be a discussion of these potential impacts
      and identification of mitigation measures such as landscaped buffer
      areas and security which could alleviate these impacts.
For your information, Table 3 was developed to estimate only busing costs and does not represent student growth. The projected enrollments are shown on Table 6.

1b. The future developments in the Pāia area were not considered in the draft EIS because they received approval after the enrollment figures in Table 6 were obtained. Accordingly, the Department of Education (DOE) updated their enrollment projections and the higher estimates will be reflected in the revised EIS.

2a. We appreciate your analysis of the current traffic situation at Maui High School. However, we do not agree that it should be used as a basis for traffic analysis at the proposed high school because it is site specific. Instead, the traffic assessment was designed to be general for comparison purposes only and relied on assumptions consistent with the DOE's method of estimating busing costs by assuming that a certain percentage of the initial 1,200 students would be walking or biking, while the majority of the remainder would use the bus service. This will be clarified in the final EIS.

2b. The traffic counts in Figures 9 and 10 represent volumes without the high school. We will clarify this in the final EIS.

2c. Once a school site is selected, traffic impacts in the immediate vicinity of a selected school site will be studied in greater detail as a basis for designing vehicular and pedestrian access to the school. The need for improvements such as lane widening, signalization and installation of sidewalks to alleviate projected traffic congestion will be considered at that time. Alternative access routes will also be examined.

2d. Same comments as 2c.

2e. Same comments as 2c.

2f. The State Department of Transportation has been apprised of the project plans and has no comments to offer at this time. They will be consulted during the design phase for the selected school site.
We shall add a discussion concerning potential community perceptions of adverse impact a new school may have on surrounding land uses as well as mitigation measures such as security, fencing and landscaping which could reduce such impacts.

We appreciate your input for this project. If there are any further questions regarding the RIS, please have your staff contact Mr. Allen Yamano of the Planning Branch at 586-0483.

Very truly yours,

TEIKAH TONIHAMA  
State Public Works Engineer

AF: 14k  
cc: Mayor Linda Crockett Lingle
University of Hawaii at Manoa
Environmental Center
A Unit of Water Resources Research Center
Crawford 317 - 2560 Corry Road - Honolulu, Hawaii 96822
Telephone (808) 956-7381

June 21, 1991
RE:0584

Governor, State of Hawaii
Office of Environmental Quality Control
220 South King Street, 4th Floor
Honolulu, Hawaii 96813

June 21, 1991

Dear Governor Dillingham:

Draft Environmental Impact Statement (EIS)
Upcountry Maui High School
Wailea, Maui

This document reflects the Department of Education's proposal to construct a new high school in the Upcountry area of Maui with a design enrollment of 1,760 students. Students and facilities in that region are currently served by Maui High School in Kahului and represent approximately 75% of its enrollment. This project will satisfy the school service area and the feeder systems from the intermediate schools. Major increases in the student populations of Maui and Baldwin High Schools have caused overcrowding and indicate the need for this project which is estimated to cost $44,381,000. The proposed high school will be located on approximately 35 acres and will consist of 70 classrooms, athletic, administrative, and library facilities, and a dining room. This document provides a site selection report which evaluates 5 sites based on criteria established by the Department of Education. All 5 sites are situated on cultivated pineapple fields.

The review of this document and subsequent comments on were prepared with the assistance of Jim Horpertze, School of Education, Sheldon Vareny, School of Public Health, Richard Heyer, Maui Community College, and Alex Brafman of the Environmental Center.

Alternative Considered

Our reviewers note that adding another school to the options given on Page 3 is the alternative of reducing high schools to a maximum of 500 students and building several smaller community schools. Increasingly, the 1990s approach of building large high schools is being reexamined in favor of smaller, community-based schools.

Public Services

Section III.C.1.A (Page 3-7) states, "Additional proposed facilities in the Upcountry area include a youth center and a county-funded public swimming pool." We suggest that it would be desirable for Department of

Governor Dillingham: p. 2
June 21, 1991

Education officials to combine a high school and community center.

Community Plan

We note that section IV.A.4 (page IV-5) should mention another recommendation of the Community Plan that suggests more coordination between the school and community.

Flora and Fauna

The brief description of the impacts upon flora and fauna given in section VII.A.6 (page VII-4) should be expanded.

District Boundary

Our reviewers were unable to understand the rationale for including the water level area extending from Maui Beach to Kehalani Beach in the Upcountry district boundary. The busing distance to the preferred site would have the adverse impacts of larger and more uncomfortable bus rides for the students as compared with busing them to Kehalani or another closer high school site which may be developed in the future.

General Comments

A difference of opinion on the preferred site was expressed by our reviewers. While most reviewers agreed with the selected site, others opted for Site 4 at Wailea Heights, because it is the least expensive and scored consistently high on other criteria.

Our reviewers note that this EIS very adequately identifies the relative advantages and disadvantages of the sites and meets the general requirements of this type of document.

Thank you for the opportunity to review this document and we hope you will find our comments helpful.

Sincerely,

John T. Harrison, Ph.D.
Environmental Coordinator

UCJ/GEHC
EGC
Westerdahl/Hillman and Associates Inc.
Honolulu, Dept. of Accounting and General Services
Roger Pujols, UCJ
Jima Horpertze, School of Education
Richard Heyer, Maui Community College
Alessio Brafman

An Equal Opportunity Affirmative Action Institution
Dr. John T. Harrison
Environmental Coordinator
University of Hawaii
Environmental Center
2560 Campus Road, Crawford Center
Honolulu, Hawaii 96822

Dear Dr. Harrison:

Subject: Upcountry Maui High School
EIS, Public Review Phase

Thank you for your June 21, 1991 comments on the subject project. Our responses to your comments are as follows:

1. The alternative of reducing the enrollment of high schools to a maximum of 500 students is not a viable option because of the high cost of support facilities for each high school and because of the very limited program that small schools offer. Since the limit of 500 students seems to be self-defeating, both economically and programatically, we would appreciate any research data you may have on this matter.

2. While the DOE is not adverse to combining community based school facilities, past experiences has shown that there are basic problems regarding construction, operation, maintenance and use of these facilities. Please note that the new school will share at least some of its facilities after its needs are met.

3. The EIS will be revised to include the additional recommendation of the Community Plan that suggests more coordination between the school and community.

4. The effects on flora and fauna will be expanded to mention the displacement of pineapple and other common grasses and weeds, as well as associated insects, small mammals and other fauna.

5. The service area boundary for the new high school is currently under review by the DOE and will be revised for publication in the final EIS.

6. Since this document is an impartial examination of various sites and does not have a specific selection recommendation, we could not ascertain which site was the "selected site". However, your preference for Site #4 is noted and will be considered during selection of the final site.

7. Your confirmation that the NEIS adequately identifies the relative advantages and disadvantages of the Site and meets the general requirements of a NEIS is appreciated.

We appreciate your input for this project. If there are any future questions regarding the EIS, please have your staff contact Mr. Charles Inatsuka of the Planning Branch at 548-5709.

Very truly yours,

[Signature]

Teddie Tokihara
State Public Works Engineer

CT:bk
June 5, 1991

Wilson Okamoto and Associates, Inc.
1150 South King St., Suite 800
Honolulu, HI 96814

Dear Sir:

I have reviewed your environmental impact statement for the Maui Up-Country High School and I am disappointed that we were not consulted during the evaluation. The proposed site #4 is the only corridor for our fire flow and irrigation water for the hallimaile area and the only Haiku-makai connecting fields that allow heavy equipment to be moved on our own property.

It should also be noted that Site #4 is the most productive pineapple lands in the State and has been designated "Prime" in the State General Plan.

It is my opinion that the traffic flow problems have been inadequately evaluated at Site #4, considering the By-Pass Highway connections and the present morning traffic problems. To add 1,000 students to Site #4 will clog Makani and Makawao Avenue for long periods of time during morning traffic hours.

The Maui County General Plan designates Site #4 as a buffer zone between Pukalani and Makawao thus using this site for a school would allow the two communities to merge.

Unfortunately your plan did not have the expected input prior to evaluation. Please feel free to contact me if I can be of any assistance in correcting the deficiencies in your plan.

Sincerely,

[Signature]

L. D. MacLean
Plantation Manager

June 5, 1991

Department of Accounting & General Services
State of Hawaii
P.O. Box 119
Honolulu, Hawaii 96810

Ladies and Gentlemen:

We have a number of concerns with the favored location of the Maui up-country high school which we understand is Site #4 as listed on the environmental impact statement. First of all, let us apologize for not responding to the original draft of the EIS; somehow it fell between the two stools of our Hallimaile Plantation operation and the Corporate Office. Regardless of that, we do have some concerns with the selection of Site #4:

1. Site #4 is a forested area and the proposed high school would be in the core of a restricted wildlife area. A full study of the possible environmental impact must be conducted. It is our belief that the high school should be located where there is a more open setting.

2. The environmental impact statement did not mention the potential impact on the Haiku-Makai corridor, which is the only direct route between Pukalani and Makawao. This corridor is the spine of the area and any disruption of traffic flow would be detrimental to the local community.

3. The proposed water supply system for the high school is not feasible. The current water supply system is already overused, and there is no guarantee that the proposed system will meet the future needs of the community.

We believe that a more comprehensive study is necessary to ensure that the high school is located in the most appropriate location.

Sincerely,

[Signature]

L. D. MacLean
Plantation Manager
Department of Accounting & General Services  
June 2, 1991  
Page 2

4. Contrary to the statements in the EIS, Site #4 has major traffic problems. At present, Makawao Avenue and Makani Road are substandard to handle the proposed traffic flow. The addition of 1,000 students to this site would significantly impact and impede the normal traffic flow along both of these roads.

Of the sites selected, we believe that Site #1, which is located just west of the existing Pokahilan town, is much more acceptable to us from an agricultural point of view. With the completion of the Pokahilan Highway bypass, which will be done prior to the building of the school, Site #1 should also provide good traffic flow and good access from Pokahilan and Haleiwa.

Site #4, below the "Y" where the Upper and Lower Haleiwa Roads meet, is also an acceptable site. Traffic flow into the school would be excellent, as stated in the EIS.

We look forward to meeting with Mrs. Lindsey to discuss this further and hopefully with Wilson Okamoto and Associates or representatives of DACS as well.

Sincerely,

Colin G. Cameron  
Chairman & President

/ab  
Lokelani, Lindsey  
L. Doug MacGilliver

June 14, 1991

Mr. Russell Magasani  
Department of Accounting & General Services  
State of Hawaii  
P.O. Box 119  
Honolulu, Hawaii 96810

Dear Mr. Magasani:

During our June 12, 1991, meeting with Mrs. Lokelani Lindsey on the proposed Upcountry High School we presented our concerns and other comments on the sites discussed in the EIS. She suggested that we present these in written form to you for consideration in the selection process. We would have liked to present these earlier, but unfortunately the consultants and engineers did not approach us even though we are the owner of all parcels under consideration. However, I trust our comments will be given appropriate weight in making final recommendations to the Board of Education.

We understand that Site 4 is currently favored, at least by the consultants and some local school groups. However, we do not feel Site 4 is appropriate for a school for these reasons:

1. Selection of this site would cut off our upcountry pineapple fields from our downcountry ones. This field is currently used as a corridor for transportation of heavy equipment which now can easily and quickly cross Makawao Avenue. If we are unable to use this corridor, it would not only be significantly more costly for us for this purpose but also more disruptive to traffic, particularly on Makawao highway.

   In addition, our main waterline passes through this site. At the very least we would have to retain an easement for this waterline as we have no other alternative location for it.

2. We feel the consultants misjudged the traffic situation along Makawao Avenue. According to our personal experience, traffic is a serious situation now, particularly on this relatively inadequate road, and morning school hour traffic would considerably congestion with rush-hour traffic. This could significantly disrupt production.

3. Site 4 is probably our best pineapple field in terms of production.
Mr. Russell Hagesa
June 14, 1991
Page 2

4. When the EIS was prepared we do not know if the final routing of the Pukalani by-pass road had been determined. In any event, it appears this road comes quite close to Site 4 and could significantly impact the noise level at the school. We feel this situation should be reevaluated.

We believe Site 1 is most desirable for a number of reasons:

1. Traffic flow using the new Pukalani by-pass road would allow easy and safe access without increasing traffic on either Makawao Avenue or Makaha Highway through the town of Pukalani. This would apply both to students coming from upcountry as well as those coming from Haiku who could easily access this site through Makaha. Access to Site 1 is also available through Pukalani Terrace Subdivision on the Kahalani side of the parcel.

2. From a farming point of view Site 1 is already an isolated parcel and thus would be much less disruptive to our operations if it were lost.

Site 2 would also be acceptable:

1. Its traffic flow pattern is excellent and with the new Pukalani by-pass road it would be equally good as Site 1 for students coming either from Halawa or upcountry. Students from Makawao would still have to pass through Makawao Avenue but could presumably turn up on the new Pukalani by-pass road which would lighten the overall traffic load in that area.

2. We were informed that one of the reasons for downgrading Site 2 was the cost of bringing in 10,000 feet of waterline from above. Again, we feel that the consultants did not consider the new waterline, seen to be constructed, which will pass just below this site. It might have to be re-sized and a short extension run up the hill, but this would be a lot less expensive than the other proposed alternatives.

Thank you for your consideration.

Sincerely,

[Signature]

Colin C. Cameron
Chairman & President

Job
c. Charles Inouhe
Lindsey
L. Douglas MacCuer

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
DIVISION OF PUBLIC WORKS
P. O. BOX 107, HONOLULU, HAWAII 96811

Aug 29, 1991

Mr. Colin C. Cameron
Chairman and President
Haiku Land and Pineapple Company, Inc.
P. O. Box 107
Kahului, Maui, Hawaii 96732

Dear Mr. Cameron:

Subject: Upcountry Maui High School
EIS Public Review Phase

Thank you for your June 5 and 14, 1991 comments on the subject project. Our responses to your comments are as follows:

1. Your objections to the selection of Site #4 are noted and will be considered in selecting the final site. We appreciate the additional information provided on the productivity, possible buffer designation, location of water transmission lines, traffic problems and use as a corridor for transportation of heavy equipment.

2. Regarding our lack of coordination with your company on the subject project, we discussed the matter with our consultant Wilson Okamoto and Associates (WOA) and provide the following comments:

a. A project initiation meeting was held on March 21, 1989 to discuss the project schedule and potential sites. Mr. K. J. W. Mcllvanon, Jr. of your firm was present.

b. Following the above meeting, representatives of the DOE, DWR, WOA and members of the community toured the service area and the candidate sites. Thereafter, our consultant met with Mr. Mcllvanon to discuss the candidate sites. We understand that although Site #1 was preferred, no strong objections to the other sites were voiced.
c. We invited Maui Land and Pineapple Company, Inc. to two public informational meetings for the purpose of discussing the site selection process and the candidate sites. However, we do not have any record of attendance by representatives of your firm at the meetings which were held respectively on January 8, 1990 and October 8, 1990.

d. On December 10, 1990 we sent your firm a copy of the EIS Preparation Notice (EISPN) as part of the consultation process since your firm was listed as a consulted party. The EISPN was essentially a predraft of the Site Selection Report and Draft EIS. No comments were received from your firm during the consultation phase.

3. Although the final alignment of the Pukalani by-pass road was not determined by the time we published the DEIS, the intent was to locate Sites #3 and #4 approximately 500 feet from the road in accordance with the criteria for sites along a major highway. Accordingly, the effect of road noise should be minimized. However, this criterion will be reviewed due to the finalization of the roadway alignment.

4. Your preference for Sites #1 and #2 for the reasons given are noted and will be considered in selecting the final site.

We appreciate your input for this project. If there are any questions on this matter, please have your staff call Mr. Charles Inatsuka of the Planning Branch at 946-5703.

Very truly yours,

[Signature]

TAKAYA TOMIKOA
State Public Works Engineer

CI: bk

STATE OF HAWAII
OFFICE OF DISTRICT SUPERINTENDENT
DEPARTMENT OF EDUCATION
P.O. BOX 187
KAPALUA, HAWAII 96732

July 19, 1991

Mr. Colin C. Cameron
Chairman & President
Maui Land and Pineapple, Inc.
P.O. Box 187
Kahului, Hawaii 96732

Dear Mr. Cameron:

Thank you for meeting with Hays Ueoka and me to discuss your concerns regarding preliminary recommendation of a site for the Upcountry High School.

In discussing alternatives, it is my understanding that, in relation to a proposal to select Site #1, Maui Land and Pine will:

- Donate a site for the water storage tank.
- Provide access to the tank site.
- Look into the possibility of changing the 12" pipe leading to the Maui Land and Pine housing from Honabau Tank to a 16" line. (Note: Cost considerations will be determined at a later date.)
- Sell the land to the Department of Education at a fair price.

I am certain that there will be other questions as we proceed but, with the promise of continuing dialog, feel that these will be addressed quickly.

Please call me if my understanding of the agreements are not as stated above.

Again, my appreciation to you for your assistance.

Sincerely,

[Signature]

JESSE LINDSEY
District Superintendent

cc: Mr. Hays Ueoka
Assistant, Board of Education

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER
Re: UPCOUNTRY HIGH SCHOOL SITE

Dear Sirs:

I am writing as the outgoing President of the Kalama Intermediate PTA and as a concerned resident/parent of Pukalani regarding the Wilson Okumoto EIS and the "preferred" site #4 (Apana Road and Makawao Avenue).

First of all, I attended the June 4th meeting wherein Pukalani Lindsey presented the final draft of the EIS and many, many comments regarding same showed, for the most part, dissatisfaction of the Apana Road site.

I and my three children, ages 14, 8 and 6, live right behind the Pukalani Square (#1 Makawao Avenue). We enjoy being near everything. However, to have a high school a block or so away would impact the traffic tremendously.

I feel that site 2 near the Kuil and Kaleakula Highways would best fit everyone's needs:

- it is in a quiet section to enable the students to study and yet make noise during recess, etc., as there are no residential homes immediately adjacent to that property;

- it would not be right off of Makawao Avenue, which is one of the most highly traveled upcountry avenues due to the prosperity of the Pukalani Superette, the Pukalani Post Office, the Pukalani Square and the Cinemapic Video store; and

- it already has two access roads, which may also include the new upcountry by-pass road, to be fairly easily accessible for most "feeder" schools.

Sincerely,

Kitty K. Alday
President, Kalama Intermediate
1990-91
AUG 13 1991

Ms. Kitty L. Alday
President
Kalama Intermediate PTA
61 A Makawao Avenue
Makawao, Hawaii 96768

Dear Ms. Alday:

Subject: Upcountry Maui High School
Draft Environmental Impact Statement (DEIS)

Thank you for your June 5, 1991 comments concerning the subject project. Your objection to Makawao Avenue/Apane Road, Site 4 and your support of Kula/Haleakala Highway Junction, Site 2 for the reasons given are noted and will be considered in the selection of the final site.

We appreciate your input for this project.

Very truly yours,

Teryn Tominaga
State Public Works Engineer

CR: bk
Meyer Ueoka
Chairman of the Facility Committee
Board of Education
2103 Weliai Street
Wailuku, Hawaii 96793

Dear Mr. Ueoka:

Thank you for the opportunity to meet with you today and to present the concerns of many Upcountry residents regarding site No. 4 for the Upcountry High School. As Chairman of the Board of Education Facility Committee, we would appreciate your recommendation of Site No. 2, Kula Highway - Helekala Highway as far more favorable due to:

A) The ability to absorb increased traffic loads
B) Available open acreage allowing for future school and sports complex expansion
C) Its central location and easy access from Makawao, Kula, Makawao, and Haiku
D) Located away from major residential areas, therefore, maintaining an organized and peaceful community

Thank you for your positive support in this matter.

Sincerely,

Leinasala Teruya Drummond
Council Member

LTD: wmr
cc: DAGS
Leinaalii Lindsey
with respect to those selecting sites 3 or 4 for the new upcountry High School; as a citizen of upcountry, please consider sites 1 or 2 as safer and better for traffic.

Site 1 is located next to the Makawao Fire Station. Site 4 is across the street and both being on Makawao Avenue as in the fire station. If there should be an alarm when school begins in the morning or is dismissed in the afternoons, there will be a dangerous grid-lock situation. No vehicle would be able to move on Makawao Avenue. Loss of a single of valuable structure because fire trucks could not get to an emergency situation soon enough is reason to locate the new H. S. on site 1 or 2.

Also, please consider the fact that site 3 and 4 are more expensive and that in itself should determine the new school be located at site 1 or 2.

Respectfully,

Vincent Hanf

AUG 27 1991

Ms. Vivian Herrick
P. O. Box 1505
Makawao, Hawaii 96768

Dear Ms. Herrick:

Subject: Upcountry Maui High School Draft Environmental Impact Statement (DEIS)

Thank you for your June 9, 1991 comments concerning the subject project. Your objections to Site 3 and 4 and your support of Site 1 or 2 for the reasons given are noted and will be considered in the selection of final site.

We appreciate your input for this project.

Very truly yours,

Ted Nishio
State Public Works Engineer

CI:bk
With all due respect as a concerned citizen of upcountry, Maui, I write to ask your consideration of the sites 1 or 2, even 3 for the location of the Upcountry High School.

There are two very important reasons for the right location of the new school.

1. Maui Pines considers the currently favored sites 3 and 4 more valuable parcels and therefore it must stand to reason that it would cost accounting more in these days of budgeting cuts.

2. The Makawao Fire Station is located right next to site 3 and right across Makawao Avenue from site 4. There would be a potential gridlock in a fire alarm situation should the school be located on either site 3 or 4. Can you imagine or consider the possible loss of a single life because fire rescue could not reach a burning structure or or rescue a child from danger because of bumper to bumper traffic when a fire alarm went off at the same time school began or was dismissed?

I know I speak for many people that may not have the time to write you personally.

Again, please consider sites 1 or 2 or 5 for the upcountry H.S.

Thank you sincerely,

[Signature]

A. V. Herrick
P. O. Box 1505
Makawao, HI 96768

June 9, 1991

Mr. Arnold Herrick
P. O. Box 1505
Makawao, Hawaii 96768

Dear Mr. Herrick:

Subject: Upcountry Maui High School
Draft Environmental Impact Statement (DEIS)

Thank you for your June 9, 1991 comments concerning the subject project. Your objections to sites 3 and 4 and your support of Sites 1, 2 or 5 for the reasons given are noted and will be considered in the selection of the final site.

We appreciate your input for this project.

Very truly yours,

[Signature]

FREDANE TONINOA
State Public Works Engineer
With respect to these selecting sites 3 or 4 for the new upcountry High School, as a citizen of this community, please consider sites 1 or 2 as better and safer sites to locate the new H S.

Site 3 is located next to the Kakamo Fire Station. Site 4 is across from site 3, both on Makawao Avenue as is the fire station. Locating the H S. at either site 3 or 4 is unsafe and the State cannot afford that. If there is an alarm at the fire station when school begins or when school is dismissed the potential for a gridlock poses a very dangerous situation. The bumper to bumper traffic would not allow any vehicle to move on Makawao Avenue. Loss of a single life, or very valuable structure because fire trucks could not get to an emergency situation soon enough should be reason enough to locate the H S. on site 1 or 2.

Also, please consider the fact that sites 3 and 4 are more expensive to purchase and that in itself should be a factor in locating at sites 1 or 2.

Respectfully,

A.K. Herrick

AUG 27 1991

A. K. Herrick
P. O. Box 1505
Makawao, Hawaii 96768

Dear A. K. Herrick,

Subject: Upcountry Maui High School
Draft Environmental Impact Statement (DEIS)

Thank you for your June 9, 1991 comments concerning the subject project. Your objections to sites 3 and 4 and your support of site 1 or 2 for the reasons given are noted and will be considered in the selection of the final site.

We appreciate your input for this project.

Very truly yours,

Teunae Toninaga
State Public Works Engineer

CT: bk
I am very opposed to the plan (site 1) to put the high-school in a crowded residential area.

2) Makani road is already overloaded at the intersection with Kahului Highway.

3) The site is adjacent to residences at "Oheo Estates", east side of Hana Rd. These property values would decrease drastically.

4) Another suggestion is to put the school downhill of the new development on the east side of Kahului Highway. downhill from Pokaiki. Since the individual home-owners have not yet bought their lots, they will at least have bought their lots. This is the information before purchase. This is an alternate suggestion to my preferred site #2 in Kul."
Dear Concerned Makawao Residents:

Subject: Upcountry Maui High School Draft Environmental Impact Statement (DEIS)

Thank you for your comments on the subject project. Your objections to the selection of Site 1 and your support of Site 2 are noted and will be considered in the school site selection.

We appreciate your input for this project.

Very truly yours,

[Signature]

State Public Works Engineer
Dear Sir or Madame,

I should like to make my opinion known regarding the Upcountry School Site selection.

I am against Site #4 for the following (attached) reasons.

Thank you for your consideration in this matter.

J. M. Caldwell
192 Kapiolani St.
Makawao

UPCOUNTRY HIGH SCHOOL SITE SELECTION

The following persons are against the selection of Site No. 4, Makawao Avenue-Apuna Road, as the proposed location of the Upcountry High School for the following reasons:

A. The proposed High School & By-pass route will greatly increase traffic on the already congested Makawao Avenue, Makani & Apuna Roads.

B. Site No. 4 is prime agricultural land to Maui Land & Pineapple Company with high returns on these crops.

C. The lack of sidewalks & safety road barriers on Makawao Avenue & Makani Road will make it impossible to walk to school safely.

D. Lack of space to accommodate for future school expansion. The proposed sports center possibly exceeding residential noise guidelines & creating street parking problems.

E. The close vicinity to major residential areas, Uplands Estates, Maui Uplands & Makani Subdivision will create the potential for littering, vandalism and unsafe roadways. (NOTE: parking accommodations for the students was not considered)

We believe Site No. 3, Hula Highway-Maaleakula Highway is far more favorable due to the following reasons:

A. The ability to absorb increased traffic loads.

B. Available Open acreage allowing for future school & center expansion.

C. Centralized location & easy access from Makawao, Kula, Pukalani & Haiku.

D. Located away from major residential areas, therefore maintaining a organized & peaceful community.
JUL 29 1991

L. J. McDonnell
192 Kapuhi Street
Nakawao, Hawaii 96768

Dear L. J. McDonnell:

Subject: Upcountry Maui High School
Draft Environmental Impact Statement (DEIS)

Thank you for your June 18, 1991 comments concerning the subject DEIS. Your objections to Nakawao Avenue/Apama Road, Site 4 for the reasons given are noted and will be considered in the selection of the final site.

We appreciate your input for this project.

Very truly yours,

TEDANE TOMIHAGA
State Public Works Engineer

SM:jk
June 10, 1991

Dear Mr. Nakashima,

I am writing to arrange a meeting to discuss the proposed new elementary school site on Makawao Avenue near its intersection with Hana Highway. It appears that the site selected by the public hearing held last week

I realize the need for a high school as well. While there are two proposed sites bordering Makawao Avenue, the choice of which to proceed with will be determined by the traffic study presented at the public hearing.

We appreciate your interest in this project.

Sincerely,

[Signature]

C. Nakasone

AUG 13 1991

C. Nakasone
80 Alapio Place
Makawao, Hawaii 96768

Dear C. Nakasone:

Subject: Upcountry Maui High School
Draft Environmental Impact Statement (DEIS)

Thank you for your June 10, 1991 comments concerning the subject project. Your objection to Sites 3 and 4 and your support of Sites 1, 2, or 5 for the reasons given are noted and will be considered in the selection of the final site.

We appreciate your input for this project.

Very truly yours,

[Signature]

TEURNE TOHIMA
State Public Works Engineer

CI:bk
Be: Maui, Upcountry high school site selection.

I support the location of the new high school at site #4: Apane Rd and Makawao Ave. At the 4 June 1991 meeting held by Ms. Lindsey some objected to the site on the grounds that 1) it was prime farm land, 2) they did not want a school next to their homes, and 3) it will cause traffic problems for the area. The last two are not valid considerations.

The Pukalani bypass will take a portion of the farm land and other sites, except site 2, are also prime land per the representatives from Maui Land & Pine. Site 1 would be an acceptable alternate but for the traffic tie ups a school there would cause. The "not in my neighborhood" whining should be dismissed out of hand. Regarding traffic, the overall affect on Upcountry will be quite positive. Placing the school at site 4 will reduce traffic as many students will be able to walk or bike (my children will be biking).

Site 4 is by far the best site and I urge the Department to place the school there. By the way, Haleakala High is a great name.

Sincerely yours,

WILLIAM F. OGLE

Mr. William F. Ogle
Lawyer
2120 Main Street, Suite 700
Wailuku, Maui, Hawaii 96793

Subject: Upcountry Maui High School
Draft Environmental Impact Statement (DEIS)

Thank you for your June 6, 1991 comments concerning the subject DEIS. Your support of Site 4 for the reasons given are noted and will be considered in the selection of the final site.

We appreciate your input for this project.

Very truly yours,

TANAE TONOHAGA
State Public Works Engineer

CI: bk

2120 Main Street, Suite 700 - Wailuku, Hawaii 96793
Telephone (808) 242-6445, 242-6456
UPCOUNTRY HIGH SCHOOL SITE SELECTION

The following persons are against the selection of Site No. 4, Makawao Avenue-Mauna Road, as the proposed location of the Upcountry High School for the following reasons:

A. The proposed High School & By-pass route will greatly increase traffic on the already congested Makawao Avenue, Makani & Apama Roads.

B. Site No. 4 is prime agricultural land to Maui Land & Pineapple Company with high returns on these crops.

C. The lack of sidewalks & safety road borders on Makawao Avenue & Makani Road will make it impossible to walk to school safely.

D. Lack of space to accommodate for future school expansion. The proposed center possibly exceeding residential noise guidelines & creating street parking problems.

E. The close vicinity to major residential areas, Upland Estates, Maui Uplands, & Makani Subdivision will create the potential for littering, vandalism & unsafe roadways. (NOTE: parking accommodations for the students was not considered)

We believe Site No. 2, Kula Highway-Nalaulua Highway is far more favorable due to the following reasons:

A. The ability to absorb increased traffic loads.

B. Available open acreage allowing for future school & center expansion.

C. It's centralized location & easy access from Makawao, Kula, Pukalani & Haiku.

D. Located away from major residential areas, therefore maintaining a organized & peaceful community.

S. signed petition because I believe

David Regan

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
DIVISION OF PUBLIC WORKS

SEP - 4 1991

Mr. David Regan
260 Kapalii Street
Haiku, Hawaii 96708

Dear Mr. Regan:

Subject: Upcountry Maui High School
Draft Environmental Impact Statement (DEIS)

Thank you for your comments concerning the subject project. Your objection to Site 4 and your support of Site 2 for the reasons given are noted and will be considered in the selection of the final site.

We appreciate your input for this project.

Very truly yours,

TUEDEE TOMIKO
State Public Works Engineer

CG: DA
With respect to those selecting sites 3 or 4 for the new upcountry
High School, as a citizen of this community, please consider sites
1 or 2 as better and safer sites, to locate the new H. S.

Site 3 is located next to the Makawao Fire Station. Site 4 is
across from site 3, both on Makawao Avenue as is the fire station.
Locating the H. S. at either site 3 or 4 is unsafe and the State
cannot afford that. If there is an alarm at the fire station when
school begins or when school is dismissed the potential for a grid
lock poses a very dangerous situation. The bumper to bumper traffic
would not allow any vehicle to move on Makawao Avenue. Loss of a
single life or very valuable structure because fire trucks could
not get to an emergency situation soon enough should be reason
enough to locate the H. S. on site 1 or 2.

Also, please consider the fact that sites 3 and 4 are more expen-
sive to purchase and that in itself should be a factor in locating
at sites 1 or 2.

Respectfully,
Mary Ann Ruiz

State Public Works Engineer
Dear Mr. Shepard:

Re: Site Selection of the Upcountry High School, Maui.

It is lamentable that Wilson Chandler and Associates in their consideration of sites for the Upcountry high school restricted the choice to prime agricultural lands currently under pineapple production. Said lands are rated A (highest productivity rating) under the Detailed Land Classification - Island of Maui, U.S. Bulletin No. 7, May 1967.

It appears to be a failure of imagination and planning to get a high school on 35 acres of prime agricultural lands when there are many other sites on the slopes of Haleakala which are not prime ag lands and admirably amenable to development of the high school.

Said high school is long overdue and all stages of a full-scale selection of less desirable ag lands. A mistake must be made in selecting one of the first sites, I hope it will be rectified to 5th site which is the least agriculturally desirable.

Sincerely,

Glenn L. Shepherd

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
DIVISION OF PUBLIC WORKS
P.O. BOX 70, HONOLULU, HAWAII 96810

AUG 29 1991

Mr. Glenn L. Shepherd

477 South Ali Road

Wailuku, Maui, Hawaii 96793

Dear Mr. Shepherd:

Subject: Upcountry Maui High School
EIS Public Review Phase

Thank you for your June 21, 1991 comments on the subject project.

Regarding the agricultural productivity of the lands under consideration, we reviewed the Detailed Land
Classification - Island of Maui, U.S. Bulletin No. 7, May 1967 and provide the following observations:

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Land Classification</th>
<th>Map No.</th>
<th>Land Use</th>
<th>Selected Crop</th>
<th>Productivity Rating</th>
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<tr>
<td>1</td>
<td>62</td>
<td>44</td>
<td>B</td>
<td>C</td>
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<tr>
<td>2</td>
<td>63</td>
<td>21 &amp; 37</td>
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<td>C</td>
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</tr>
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<td>21</td>
<td>C</td>
<td>B</td>
<td></td>
</tr>
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<td>62</td>
<td>1 &amp; 49</td>
<td>C/C</td>
<td>C/C</td>
<td></td>
</tr>
</tbody>
</table>

With irrigation, Sites 1 through 4 would be upgraded to a productivity rating of A and Site 5 would be upgraded to a rating of B. Accordingly, the deletion of such lands from useful agricultural production is a negative factor. However, it is difficult to avoid such a factor due to other criteria considered for selection of the most suitable site.

Based on minimum site criteria such as proximity to population centers, central roadways, and water lines, we identified developable lands within the service area that were
Mr. Glenn L. Shepherd  
Ltr. No. (P)1924.1  

Page 2

approximately 35 acres in size. However, to avoid the mass relocations of families, the sites selected for evaluations are all agricultural lands owned and under cultivation by Maul Land & Pineapple Co. (MLP). Accordingly, to minimize the impact of taking such lands, the Department of Education is working with MLP to reach a mutual agreement on a new school site.

We appreciate your input for this project.

Very truly yours,

[Signature]

THANE TAKINO
State Public Works Engineer

CI: bk
June 19, 1991

Department of Education
1380 Miller Street
Honolulu, Hawaii 96813

Attention: Mr. Charles Taguchi

Subject: Upcountry High School Site Selection

Gentlemen:

I am writing this letter because we (Upland Estates Association) are concerned about the Upcountry High School site selection.

The fact that proposed site numbers 3 and 4 were given a high ranking by the consulting firm of Wilson Okimoto & Associates indicates that traffic flow patterns were not analyzed. The amount of traffic on Makawao Avenue will greatly increase once the State Bi-pass route is installed. By locating the high school in the same vicinity, you have only increased the traffic loads to this area. Makawao town as a whole will be hampered by this traffic congestion, not helped.

Site numbers 1 and 2 offer greater flexibility in handling traffic flow as their locations are not central to any major residential areas. Therefore, the downtown traffic would not interfere with the school traffic.

Enclosed for your information and use are copies of a petition against site number 4 selection. This petition was circulated throughout the Upcountry area. The general consensus here is that the Makawao community does not want the high school built on site number 4 but site number 2.

Also consider that Maui Land and Pineapple Company has publicly opposed site number 4 and endorsed selection of site numbers 1 and 2 for agricultural reasons. Site number 4 yields high returns on crops compared to sites 1 and 2.

Department of Education
Upcountry High School Site Selection
June 19, 1991
Page 2

School expansion will be better suited at site number 2. The proposed sports center will easily fit into site 2 acreage (792 acres). Note that Maui High and Baldwin High schools are similar in acreage to proposed site number 4 (See enclosed statistics sheet). Both schools are experiencing extreme overcrowding. Site number 2 would not pose this problem.

We ask that you recognize and acknowledge the concerns of the Makawao community. We all agree that an Upcountry high school is needed. We disagree with Mr. Lokelani Lindsey's selection of site number 4 as the best location for the community.

We look forward to your response to this matter.

Cordially yours,

UPLAND ESTATES ASSOCIATION

Jeffrey T. Weller
Coordinator

cc: Dept. of Accounting & C.S
Lokelani Lindsey
Leinisa Drummond
STATISTICS
Baldwin High School
- Approximately 1,700 students attend Baldwin High.
- Acreage is 41.961
- Maui Sac Memorial is on 38.192 acres
- Total acreage is 90.153

School officials of Baldwin feel extreme overcrowding and no space to expand.

Maui High School
- Approximately 1,600 students attend Maui High.
- Acreage is 71.332

Again officials of Maui High feel overcrowding and no space to expand.

Site #4
- Acreage 84.35 (area for new by-pass)

Site #5
- Acreage 792.032

UPCOUNTRY HIGH SCHOOL SITE SELECTION

The following persons are against the selection of Site No. 4, Makawao Avenue-Apapa Road, as the proposed location of the Upcountry High School for (but not limited to) the following reasons:

A. The proposed High School & by-pass route will greatly increase traffic on the already congested Makawao Avenue, Hana & Apapa Roads.

B. Site No. 4 is prime agricultural land to Maui Land & Pineapple Company with high returns on these crops.

C. The lack of sidewalks & safety road borders on Makawao Avenue & Hana Road will make it impossible to walk to school safely.

D. Lack of space to accommodate for future school expansion. The proposed sports center, possibly exceeding residential noise guidelines & creating street parking problems.

E. The close vicinity to major residential area's, Upland Estates, Maui Uplands, & Hana Subdivision will create the potential for loitering, vandalism & unsafe walkways. (NOTE: parking accommodations for the students was not considered)

We believe Site No. 2, Kula Highway-Maialaka Highway is far more favorable due to (but not limited to) the following reasons:

A. The ability to absorb increased traffic loads.

B. Available open acreage allowing for future school & center expansion.

C. It's centralized location & easy access from Makawao, Kula, Pukalani & Hana.

D. Located away from major residential areas, therefore maintaining a rural & peaceful community.
UPCOUNTRY: School and Road Plans

THE HIGH SCHOOL
These are the five sites being considered for an Upcountry high school. All sites are on land owned by Maui Land & Pineapple Co.
1. Lower Puukalani, directly below a residential area.
3. Makawao Avenue-Maika’i, east of the fire station.
4. Makawao Avenue-Apina Road, east of the proposed byway.
5. Baldwin Avenue, a short distance away from the Veterans Cemetery.

PUKALANI BYPASS
Existing roadways
Bypass route
Makawao Fire Station
Plan for the Pukalani bypass calls for a traffic light at its intersection with Makawao Avenue and a merging lane for traffic from Makawao Road. The project will not require relocation of any homes.

(continued) petition regarding Upcountry high school plans

NAME

ADDRESS

Bob & Cathy (2)
Chilekana #1
Kula, HI 96790

Lorine Leake (2)
562 Baldwin Ave Suite A
P.O. Box 547 Kula, HI 96790

Vanessa Crain
868 Kinona Rd
Makawao, HI 96768

Lance Volckman
220A Kula Hwy
P.O. Box 49
Kula, HI 96790

Wendy Pagan
2173 Kula Hwy
P.O. Box 128
Kula, HI 96790

Chad Morrison
427 Kula Hwy
P.O. Box 547
Kula, HI 96790

Mark A. Hewes (2)
Beulah Heights
Kula, HI 96790

Rebecca Nelson
1120 Kula Hwy
P.O. Box 357
Kula, HI 96790

Don McBurney
220 Kula Hwy
P.O. Box 192
Makawao, HI 96768

Sara Chen
241 Kula Hwy
P.O. Box 101
Makawao, HI 96768

Shawn Taylor
231 Kula Hwy
P.O. Box 288
Makawao, HI 96768

Kim Aoki
241 Kula Hwy
P.O. Box 101
Makawao, HI 96768

Judy Hollingsworth
<table>
<thead>
<tr>
<th>NAME</th>
<th>ADDRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naomi Muraske</td>
<td>314 Leiki Place</td>
</tr>
<tr>
<td>Ruth Alexander</td>
<td>176 Mint Place</td>
</tr>
<tr>
<td>Judy Haggan</td>
<td>27 Queen St</td>
</tr>
<tr>
<td>Erika C. Choy</td>
<td>82 Middle St</td>
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<td>Sheryl Jechord</td>
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<td>Adil C. Fazeli</td>
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<td>David King</td>
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<td>Brian R. Fazeli</td>
<td>1175 Kaulaau St</td>
</tr>
<tr>
<td>T. C. Talley</td>
<td>1101 Kualoa St</td>
</tr>
<tr>
<td>Alistair K.</td>
<td>1117 Kaukahi St</td>
</tr>
<tr>
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<td>2103 Makahiki St, Pearl City, HI 96782</td>
</tr>
<tr>
<td>Adam Habeck</td>
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<tr>
<td>Edward J. Fein</td>
<td>205 Banyan Dr. 1372 Poling 96714</td>
</tr>
<tr>
<td>Susan J. Angstrom</td>
<td>5327 Banyan Dr. 1372 Poling 96714</td>
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<tr>
<td>Matthew S. Miller</td>
<td>5397 Banyan Dr. 1372 Poling 96714</td>
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<tr>
<td>John E. Young</td>
<td>110 Woohale Pl. Naha, HI</td>
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<tr>
<td>Cecilia R. Evans</td>
<td>27 Malute St. Makawao 96763</td>
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<tr>
<td>Anna M. Hughes</td>
<td>P.O. Box 153 Makawao 96763</td>
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<tr>
<td>Karen A. Freitas</td>
<td>5311 Banyan Dr. 1372 Poling 96714</td>
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<td>5331 Banyan Dr. 1372 Poling 96714</td>
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<td>Chris A. Winter</td>
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</table>
AUG 13 1991

Mr. Jeffrey T. Weller
Coordinator
Upland Estates Association
333 Leoki Place
Hakawao, Hawaii 96708

Dear Mr. Weller:

Subject: Upcountry Maui High School
Draft Environmental Impact Statement (DEIS)

Thank you for your June 19, 1991 comments concerning the subject project. Your objections to Site 4 and your support of Site 2 for the reasons given are noted and will be considered in the selection of the final site.

We appreciate your input for this project.

Very truly yours,

[Signature]

TEDANE TOSHIZA
State Public Works Engineer

CI:bk
PREPARERS OF THE EIS DOCUMENT

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

George Moriwaki: Civil Engineer
University of Hawaii, B.S., Civil Engineering
University of Southern California, B.S., Electrical Engineering
Registered Professional Engineer, Hawaii
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

Bruce Gorst: Planner
University of Hawaii, B.A., 1989, English
Area of Expertise for Project: Land Use Research and Analysis, Production
REFERENCES


3. County of Maui. *Ordinance 1663 - Amending Section 280.050 of the Maui County Code. Pertaining to the adoption of the Makawao-Pukalani-Kula Community Plan*.


APPENDIX A

Candidate Site Evaluations and Results
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 for the New Upcountry Maui High School.

A. School Site and Community Criteria Results

SITE 1: LOWER PUKALANI SITE

School Site Criteria

1. Environmental Characteristics

<table>
<thead>
<tr>
<th>(a) Highway Noise</th>
<th>Poor</th>
<th>The site is adjacent to Haleakala Highway</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b) Aircraft Noise</td>
<td>Good</td>
<td>Outside the 55 Ldn Noise Contour.</td>
</tr>
<tr>
<td>(c) Industrial and Agricultural Nuisances</td>
<td>Fair</td>
<td>Degree of effect: Periodic disturbance from nearby agricultural activity is likely.</td>
</tr>
<tr>
<td>(d) Rainfall</td>
<td>Good</td>
<td>Average Annual Rainfall: 29 inches</td>
</tr>
<tr>
<td>(e) Foundation</td>
<td>Good</td>
<td>Soil Character Code: I2L.</td>
</tr>
<tr>
<td>(f) Slope</td>
<td>Fair</td>
<td>Degree of Slope: Rises 8 percent in a southwest direction.</td>
</tr>
<tr>
<td>(g) Soil</td>
<td>Fair</td>
<td>Description: The soils are non-rocky with well drained surfaces. The underlying material, at a depth of 6 to 10 feet, is consolidated lava</td>
</tr>
</tbody>
</table>
h. **Natural Beauty** ........................................... Fair
   The site is a pineapple field.
   Potential for beautification: Yes.
   Crossed by overhead lines: No.

**RATING TOTALS**

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<tr>
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2. Roadways and Utilities

a. **Adequacy of Roads** ................................... Good
   The site is served by Haleakala Highway which has a right-of-way width of 80 feet.

b. **Adequacy of Water Supply** ............................. Fair
   Adequate service can be provided by the addition of transmission lines and increased storage capacity.

c. **Adequacy of Sewer Service** ............................ Poor
   A separate wastewater treatment facility and accompanying leaching field will be required.

d. **Adequacy of Drainage Facilities** .................... Good
   Because of the well-drained nature of the soil and the areas low rainfall, no drainage facilities will be required.

e. **Adequacy of Power and Communications** ............. Good
   The site is proximate to adequate existing lines.

**RATING TOTALS**

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<thead>
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<td>Fair</td>
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<tr>
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</tbody>
</table>
3. Accessibility

a. Pedestrian Access .......................... Poor
   No pedestrian access.

b. Pedestrian Safety .......................... Poor
   In addition to paved walkway/shoulder improvements,
   the site may require traffic signals.

c. Automobile Access .......................... Poor
   The site will only have access along
   Haleakala Highway, the site's short side.

d. Bus Service ................................. Poor
   Service Availability: There is no public
   bus service on Maui.

e. Traffic Flow ................................. Poor
   Existing conditions: The site is proximate
   to Haleakala Highway which is congested during
   morning hours and which would require left-hand
   access turns into the school site.

RATING TOTALS

Good ............... 0
Fair ............... 0
Poor ............... 5

Community Criteria

1. Governmental

a. State Land Use District Map Designation .... Poor
   District Designation: Agriculture.
   A State Land Use Boundary Amendment
   is required.

b. County Community Plan Designation ........ Poor
   General Plan Designation: Agriculture.
   A Community Development Plan amendment
   is required.
c. County Zoning Designation ................. Poor
   Zoning Designation: No zoning designation is shown on agricultural lands

d. Agricultural Land Classification .......... Fair
   Productivity Rating: D.

RATING TOTALS

   Good .................. 0
   Fair ................... 1
   Poor ................... 3

2. Community Effects

a. Interference with Institutions .............. Good
   Nearest hospitals, rest homes, etc. located in Kahului.

b. Existing Land Use .......................... Poor
   Present Use: Agriculture.

c. Proximity to Commercial Centers .......... Good
   Distance from commercial centers: .7 mile.

d. Aesthetic Value .............................. Fair
   The site has little aesthetic value to the community: Yes.
   Site development may partially obstruct scenic vistas: Yes.

e. Location .................................... Poor
   Estimated percentage of students within 1 mile radius of site: 18.7 percent.

RATING TOTALS

   Good ..................... 2
   Fair ...................... 1
   Poor ...................... 2
**SITE 2: KULA/HALEAKALA HIGHWAY JUNCTION SITE**

**School Site Criteria**

1. Environmental Characteristics

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
</table>
| a. | **Highway Noise** ......................... Fair  
  The site is about 500 feet from Kula Highway. |
| b. | **Aircraft Noise** ......................... Good  
  Outside the 55 Ldn Noise Contour. |
| c. | **Industrial and Agricultural Nuisances** ............... Fair  
  Degree of effect: Periodic disturbance from nearby agricultural activity is likely. |
| d. | **Rainfall** ......................... Fair  
  Average Annual Rainfall: 33 inches. |
| e. | **Foundation** ......................... Good  
  Soil Character Code: I2L. |
| f. | **Slope** ......................... Fair  
  Degree of Slope: Rises 7 percent in a southwest direction. |
| g. | **Soil** ......................... Fair  
  Description: The soils are non-rocky with well-drained surfaces. The underlying material, at a depth of 6 to 10 feet, is consolidated lava. |
| h. | **Natural Beauty** ......................... Fair  
  The site is a pineapple field.  
  Potential for beautification: Yes.  
  Crossed by overhead lines: No. |
RATING TOTALS

Good ............. 2
Fair ............. 6
Poor ............. 0

2. Roadways and Utilities

   a. Adequacy of Road ................. Good
      The site is served by Haleakala Highway which
      has a right-of-way width of 80 feet.

   b. Adequacy of Water Supply .......... Fair
      Adequate service can be provided by the addition
      of transmission lines and increased storage capacity.

   c. Adequacy of Sewer Service .......... Poor
      A separate wastewater treatment facility and
      accompanying leaching field will be required.

   d. Adequacy of Drainage Facilities .... Good
      Because of the well-drained nature of the soil
      and the areas low rainfall, no drainage
      facilities will be required.

   e. Adequacy of Power and Communications .... Good
      The site is proximate to adequate existing
      lines.

RATING TOTALS

Good ............. 3
Fair ............. 1
Poor ............. 1

3. Accessibility

   a. Pedestrian Access ................. Poor
      The site has no pedestrian access.
b. **Pedestrian Safety** .......................... Poor
   Existing conditions: No paved walkways or
   shoulders exist along Haleakala Highway. The
   site may require traffic signals in addition
   to walkway and shoulder improvements.

c. **Automobile Access** .......................... Fair
   Existing conditions: The site will have
   access along one long side.

d. **Bus Service** ................................. Poor
   Service Availability: There is no public
   bus service on Maui.

e. **Traffic Flow** ............................... Fair
   Existing conditions: Haleakala Highway has a low
   level of service where it fronts the site. However,
   this portion of road is off the commuter route.

**RATING TOTALS**

- Good ............... 0
- Fair ............... 2
- Poor ............... 3

**Community Criteria**

1. **Governmental**

   a. **State Land Use District Map Designation** .......................... Poor
      District Designation: Agriculture.
      A State Land Use Boundary Amendment
      is required.

   b. **County Community Plan Designation** .......................... Poor
      General Plan Designation: Agriculture.
      A Community Development Plan amendment
      is required.

   c. **County Zoning Designation** .......................... Poor
      Zoning Designation: No zoning designation is
      shown on agricultural lands
d. **Agricultural Land Classification** ................. Poor
   Productivity Rating: B and C.

**RATING TOTALS**

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<tr>
<td>Poor</td>
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2. **Community Effects**

a. **Interference with Institutions** ................. Good
   Nearest hospitals, rest homes, etc. located
   in Kahului.

b. **Existing Land Use**  ................. Poor
   Present Use: Pineapple.

c. **Proximity to Commercial Centers** ................. Fair
   Distance from commercial centers:
   .5 mile.

d. **Aesthetic Value**  ................. Fair
   The site has little aesthetic value to the
   community: Yes.
   Site development may partially obstruct scenic
   vistas: Yes.

e. **Location**  ................. Poor
   Estimated percentage of students within 1 mile
   radius of site: 9.8 percent.

**RATING TOTALS**

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SITE 3: MAKAWAO AVENUE MAUKA SITE

School Site Criteria

1. Environmental Characteristics

   a. Highway Noise ........................................ Good
      Distance from highway/truck route:
      1700 feet.

   b. Aircraft Noise ........................................ Good
      Outside the 55 Ldn Noise Contour.

   c. Industrial and Agricultural Nuisances ............... Fair
      Degree of effect: Periodic disturbance
      from nearby agricultural activity is likely.

   d. Rainfall ............................................... Fair
      Average Annual Rainfall: 33 inches.

   e. Foundation ............................................ Good
      Soil Character Code: I2L.

   f. Slope .................................................. Fair
      Degree of Slope: Rises 5 percent in a
      southwest direction.

   g. Soil ................................................... Fair
      Description:
      The soils are non-rocky with well-drained
      surfaces. The underlying material, at a
      depth of 6 to 10 feet, is consolidated
      lava.

   h. Natural Beauty ........................................ Fair
      The site is a pineapple field.
      Potential for beautification: Yes.
      Crossed by overhead lines: No.

A - 9
RATING TOTALS

Good ............... 3
Fair ............... 5
Poor ............... 0

2. Roadways and Utilities
   a. Adequacy of Road ......................... Fair
      The site is served by Makawao Avenue
      which has a right-of-way width of 56 feet.
   b. Adequacy of Water Supply ............... Fair
      Adequate service can be provided by the addition
      of transmission lines and increased storage capacity.
   c. Adequacy of Sewer Service .............. Poor
      A separate wastewater treatment facility and
      accompanying leaching field will be required.
   d. Adequacy of Drainage Facilities ......... Good
      Because of the well-drained nature of the soil
      and the areas low rainfall, no drainage
      facilities will be required.
   e. Adequacy of Power and Communications .... Good
      The site is proximate to adequate existing
      lines.

RATING TOTALS

Good ............... 2
Fair ............... 2
Poor ............... 1

3. Accessibility
   a. Pedestrian Access ....................... Poor
      The site has no pedestrian access.
   b. Pedestrian Safety ...................... Poor
      The site may require traffic signals in
      addition to walkway and shoulder improvements.

A - 10
c. **Automobile Access** ......................... Poor
   Existing conditions: Access to the site
   is only available along a short span of
   Makawao Avenue.

d. **Bus Service** ............................... Poor
   Service Availability: There is no public
   bus service available on Maui.

e. **Traffic Flow** ............................... Fair
   Existing conditions: Makawao Avenue has a low
   level of service, but access to this site will require
   left-hand turns for a majority of users.

**RATING TOTALS**

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**Community Criteria**

1. **Governmental**

   a. **State Land Use District Map Designation** ........ Poor
      District Designation: Agriculture.
      A State Land Use Boundary Amendment is
      required.

   b. **County Community Plan Designation** ............... Poor
      General Plan Designation: Agriculture.
      A Community Development Plan amendment
      is required.

   c. **County Zoning Designation** ....................... Poor
      Zoning Designation: No zoning designation is
      shown on agricultural lands

   d. **Agricultural Land Classification** .................. Fair
      Productivity Rating: C.
RATING TOTALS

Good ............... 0
Fair ............... 1
Poor ............... 3

2. Community Effects

a. Interference with Institutions .................. Good
   Nearest hospitals, rest homes, etc. located
   in Kahului.

b. Existing Land Use ................................. Poor
   Present Use: Pineapple.

c. Proximity to Commercial Centers ................ Fair
   Distance from commercial centers: .3 mile.

d. Aesthetic Value ................................. Fair
   The site is an aesthetic asset to the
   community: No.
   Site development may partially obstruct
   scenic vistas: Yes.

e. Location .................................. Poor
   Estimated percentage of students within 1 mile
   radius of site: 19.8 percent.

RATING TOTALS

Good ............... 1
Fair ............... 2
Poor ............... 2
SITE 4: MAKAWAO AVENUE/APANA ROAD SITE

School Site Criteria

1. Environmental Characteristics

   a. Highway Noise .................................. Good
      Distance from highway/truck route: 1700 feet.

   b. Aircraft Noise .................................. Good
      Outside the 55 Ldn Noise Contour.

   c. Industrial and Agricultural Nuisances ............. Fair
      Degree of effect: Periodic disturbance
      from nearby agricultural activity is likely.

   d. Rainfall ........................................... Fair
      Average Annual Rainfall: 33 inches.

   e. Foundation ....................................... Good
      Soil Character Code: I2L.

   f. Slope .............................................. Fair
      Degree of Slope: Rises 5 percent in a
      southwest direction.

   g. Soil ............................................... Fair
      Description:
      The soils are non-rocky with well-drained
      surfaces. The underlying material, at a
      depth of 6 to 10 feet, is consolidated
      lava.

   h. Natural Beauty .................................... Fair
      The site is a pineapple field.
      Potential for beautification: Yes.
      Crossed by overhead lines: No.
RATING TOTALS

Good .................. 3
Fair .................. 5
Poor .................. 0

2. Roadways and Utilities

a. Adequacy of Road .................. Fair
   The site is served by Makawao Avenue
   which has a right-of-way width of 56 feet.

b. Adequacy of Water Supply ............... Fair
   Adequate service can be provided by the addition
   of transmission lines and increased storage capacity.

c. Adequacy of Sewer Service .............. Poor
   A separate wastewater treatment facility and
   accompanying leaching field will be required.

d. Adequacy of Drainage Facilities ........... Good
   Because of the well-drained nature of the soil
   and the areas low rainfall, no drainage
   facilities will be required.

e. Adequacy of Power and Communications ....... Good
   The site is proximate to adequate existing
   lines.

RATING TOTALS

Good ................. 2
Fair ................. 2
Poor ................. 1

3. Accessibility

a. Pedestrian Access .................. Fair
   The site has pedestrian access from Apana Road.
b. **Pedestrian Safety** ........................................... Fair
   Safe walkways/shoulders may be provided along
   Apana Road.

c. **Automobile Access** ................................. Good
   Existing conditions: The site will have
   access along Apana Road and Makawao Avenue.

d. **Bus Service** .............................................. Poor
   Service Availability: There is no public
   bus service on Maui.

e. **Traffic Flow** ............................................ Good
   Existing conditions: Makawao Avenue has a low
   level of service and will allow most users to
   make right-hand access turns. It offers the most
   alternative access routes.

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<tr>
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**Community Criteria**

1. **Governmental**

   a. **State Land Use District Map Designation** ........ Poor
      District Designation: Agriculture. A State
      Land Use Boundary Amendment is required.

   b. **County Community Plan Designation** ............... Poor
      General Plan Designation: Agriculture.
      A Community Development Plan amendment
      is required.

   c. **County Zoning Designation** ........................ Poor
      Zoning Designation: No zoning designation is
      shown on agricultural lands

   d. **Agricultural Land Classification** .................. Fair
      Productivity Rating: C.

   A - 15
RATING TOTALS

Good ............... 0
Fair ............... 1
Poor ............... 3

2. Community Effects

a. Interference with Institutions ................. Good
   Nearest hospitals, rest homes, etc. located
   in Kahului.

b. Existing Land Use .......................... Poor
   Present Use: Pineapple.

c. Proximity to Commercial Centers ............ Fair
   Distance from commercial centers:
   .3 mile.

d. Aesthetic Value ............................ Fair
   The site is an aesthetic asset to the
   community: No.
   Site development may partially obstruct
   scenic vistas: Yes.

e. Location .................................. Poor
   Estimated percentage of students within 1 mile
   radius of site: 21.8 percent.

RATING TOTALS

Good ............... 1
Fair ............... 2
Poor ............... 2

A - 16
SITE 5: BALDWIN AVENUE SITE

School Site Criteria

1. Environmental Characteristics

   a. Highway Noise ........................................ Good
      Distance from highway/truck route:
      2 miles.

   b. Aircraft Noise ........................................ Good
      Outside the 55 Ldn Contour.

   c. Industrial and Agricultural Nuisances ................. Fair
      Degree of effect: Periodic disturbance
      from nearby agricultural activity is likely.

   d. Rainfall ............................................... Poor
      Average Annual Rainfall: 47 inches.

   e. Foundation ............................................ Good
      Soil Character Code: I2L.

   f. Slope .................................................. Fair
      Degree of Slope: Rises 8 percent in a
      southwest direction.

   f. Soil .................................................... Fair
      Description:
      The soils are non-rocky with well-drained
      surfaces. The underlying material, at a
      depth of 6 to 10 feet, is consolidated
      lava.

   g. Natural Beauty ........................................ Fair
      The site is a pineapple field.
      Potential for beautification: Yes.
      Crossed by overhead lines: No.
RATING TOTALS

Good .............. 3
Fair ............... 4
Poor .............. 1

2. Roads and Utilities

a. Adequacy of Road .................. Good
   The site is served by Baldwin Avenue which
   has a 60 foot right-of-way width.

b. Adequacy of Water Supply ........ Fair
   Adequate service can be provided by the addition
   of transmission lines and increased storage capacity.

c. Adequacy of Sewer Service .......... Poor
   A separate wastewater treatment facility and
   accompanying leaching field will be required.

d. Adequacy of Drainage Facilities ....... Good
   Because of the well-drained nature of the
   soil and the areas low rainfall, no drainage
   facilities will be required.

e. Adequacy of Power and Communications .... Good
   The site is proximate to adequate existing
   lines.

RATING TOTALS

Good .............. 3
Fair ............... 1
Poor .............. 1

3. Accessibility

a. Pedestrian Access .................. Poor
   The site has no pedestrian access.
b. **Pedestrian Safety** .................................. Poor
   No paved walkway/shoulders exist along Baldwin
   Avenue. The site may require traffic signals in
   addition to shoulder improvements.

c. **Automobile Access** ................................. Fair
   Existing conditions: Access to the site
   is available along Baldwin Avenue which runs
   along one long side of the school lot.

d. **Bus Service** ......................................... Poor
   Service Availability: There is no public
   bus service on Maui.

e. **Traffic Flow** ......................................... Fair
   Existing conditions: Baldwin Avenue has a low
   level of service but will require most users to
   make left-hand access turns into the site.

**RATING TOTALS**

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>0</td>
</tr>
<tr>
<td>Fair</td>
<td>2</td>
</tr>
<tr>
<td>Poor</td>
<td>3</td>
</tr>
</tbody>
</table>

**Community Criteria**

1. **Governmental**

   a. **State Land Use District Map Designation** .......................... Poor
      District Designation: Agriculture.
      A State Land Use Boundary Amendment is required.

   b. **County Community Plan Designation** ................................. Poor
      General Plan Designation: Agriculture.
      A Community Development Plan amendment is required.

   c. **County Zoning Designation** ......................................... Poor
      Zoning Designation: No zoning designation is shown on agricultural lands

   A - 19
d. Agricultural Land Classification .................. Fair
   Productivity Rating: C.

RATING TOTALS

   Good ..........  0
   Fair ..........  1
   Poor ..........  3

2. Community Effects

a. Interference with Institutions .................. Good
   Nearest hospitals, rest homes, etc. located
   in Kahului.

b. Existing Land Use ................................. Poor
   Present Use: Pineapple.

c. Proximity to Commercial Centers ................. Good
   Distance from commercial centers:
   .7 mile.

d. Aesthetic Value ................................. Fair
   The site is an aesthetic asset to the
   community: No.
   Site development may partially obstruct
   scenic vistas: Yes.

e. Location ......................................... Poor
   Estimated percentage of students within 1 mile
   radius of site: 5.6 percent.

RATING TOTALS

   Good ..........  2
   Fair ..........  1
   Poor ..........  2

A - 20
B. Cost Considerations

As a basis for further comparing the relative merits of each candidate site, cost estimates were developed for site acquisition, off-site development, on-site development, and the busing subsidy.

1. Site Acquisition Costs

Site acquisition costs are commonly estimated to determine approximate costs for acquiring privately owned land, based on the County’s assessed property tax valuation. The assessed valuation is regarded as the amount the State must expend to acquire a school site. However, these cost estimates do not reflect market assessment of land values, but instead estimate magnitudes of order and relative valuations among the sites.

Agricultural land is generally assessed at a much lower rate. Table A-1 estimates are based on the County’s assessed property tax valuation.

<table>
<thead>
<tr>
<th>SITE</th>
<th>TMK of Parcel Occupied</th>
<th>Value Per Acre</th>
<th>Site Acreage</th>
<th>Site Value (Rounded to nearest 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site 1: Lower Pukalani Site</td>
<td>2-3-09:7</td>
<td>$551</td>
<td>35</td>
<td>$19,300</td>
</tr>
<tr>
<td>Site 2: Kula/Haleakala Hwy. Site</td>
<td>2-3-07:1</td>
<td>$558</td>
<td>35</td>
<td>$19,500</td>
</tr>
<tr>
<td>Site 3: Makawao Avenue Mauka Site</td>
<td>2-3-17:8</td>
<td>$893</td>
<td>35</td>
<td>$31,300</td>
</tr>
<tr>
<td>Site 4: Makawao Avenue/ Apana Road Site</td>
<td>2-3-09:13</td>
<td>$579</td>
<td>35</td>
<td>$20,300</td>
</tr>
<tr>
<td>Site 5: Baldwin Avenue Site</td>
<td>2-4-01:3</td>
<td>$772</td>
<td>35</td>
<td>$27,000</td>
</tr>
</tbody>
</table>
2. Off-Site Improvement Costs

Significant off-site improvements considered necessary for all five candidate sites include water service infrastructure, and pedestrian and roadway improvements. Water service assessment costs were calculated based on information about the areas existing water system. These estimates are included in Table A-2. The cost for off-site pedestrian and roadway improvements was assumed to be in the same order of magnitude for all candidate sites, inasmuch as they all will likely require new sidewalks and roadway improvements at vehicular access and egress points. New traffic signalization may also be required. The necessity and cost for improvements such as roadway widening, signalization, and installation of sidewalks will be assessed in detail for the selected school site.

Measures to provide adequate water supply and fire flow protection varied among the five sites due to the different site elevations and distance from water sources. Requirements at the Lower Pukalani Site 1 included 3,200 linear feet (L.F.) of 16-inch water line, 4,000 L.F. of 8-inch water line, and an associated pressure reducing valve and compound meter with boxes. Facilities needed at Kula/Haleakala Highway Site 2 include a 300,000 gallon storage tank, pump station, and meters. The Makawao Avenue Mauka Site 3 would also need a 300,000 gallon storage tank plus 1,800 L.F. of 8-inch water line.

Improvements at the Makawao Avenue/Apana Road site involve replacing 4,600 L.F. of existing 12-inch water line with 16-inch, and installing another 1,800 L.F. of 8-inch water line. At the Baldwin Avenue Site 5, 3,200 L.F. of 16-inch and 4,200 L.F. of 8-inch water line would need to be installed. As shown in Table A-2, the cost estimate for improvements at any of the sites is relatively equal despite the different site requirements.

None of the candidate sites require off-site improvements for grading, landscaping, drainage, sewer, or gas (see Table A-2). Grading and landscaping were regarded as unnecessary since slope and natural landscape features offered by the surrounding terrain were judged to be adequate. Also judged adequate is the drainage in the Upcountry area due to its well-drained soils.

A - 22
<table>
<thead>
<tr>
<th>Improvements</th>
<th>Lower Pukalani Site (1)</th>
<th>Kula/Haleakala Hwy. Site (2)</th>
<th>Makawao Avenue Mauka Site (3)</th>
<th>Makawao Avenue Apana Road Site (4)</th>
<th>Baldwin Avenue Site (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>$900,000</td>
<td>$850,000</td>
<td>$800,000</td>
<td>$900,000</td>
<td>$900,000</td>
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<tr>
<td>Roadway</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Grading</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Landscaping</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Drainage</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Sewer</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Elec./Tel.</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Gas</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$900,000</strong></td>
<td><strong>$850,000</strong></td>
<td><strong>$800,000</strong></td>
<td><strong>$900,000</strong></td>
<td><strong>$900,000</strong></td>
</tr>
</tbody>
</table>

There is no County sewerage system in the Upcountry area so all homes are served by cesspools. Due to the magnitude of demand produced by the high school, an individual wastewater treatment system will be required. Wastewater treatment facilities will likely consist of an on-site treatment plant and leaching field. Sewer costs are thus reflected as an on-site cost rather than an off-site cost.

All sites have electrical power/telephone systems along their respective access roads and will not require any off-site installation of overhead lines. The provision of gas lines is also considered unnecessary since none of the sites are near existing gas infrastructure. Instead gas would be trucked in and stored in tanks.

3. On-Site Improvement Costs

On-site improvement costs were assumed to be the same for all sites. Costs were estimated for roadways, parking, grading, drainage, and landscaping, as well as various utilities such as sewerage, water, electrical power/communications,
and gas (see Table A-3). They were calculated based on 1987 on-site improvement costs for an elementary school of 8 acres. A factor of 4.5 was multiplied to the costs to account for a 35 acre area, and this figure was multiplied by 5 percent inflation per year to arrive at a 1990 dollars figure.

Costs for wastewater treatment were an exception. A new Upcountry high school will require an independent wastewater system with a design capacity of 200,000 gallons per day. Based on an average factor of $5/gallon, an independent on-site treatment plant will cost approximately $1 million.

Roadway improvements are estimated to cost $480,000 for driveway, drop-off and parking areas. Water system improvements, including the installation of meters, water lines, and fire hydrants are expected to total approximately $320,000. Drainage costs are estimated at $550,000. The installation of lines and cables for the electrical and telephone system is estimated at $360,000. The gas system, including gas lines and a storage tank, would be approximately $70,000.

On-site landscaping improvements amounting to $960,000 assume the need for topsoil, grassing and an irrigation system for half of the landscaped area. Grading costs for all sites are identical at $1,080,000.

Table A-4 provides a summary of combined off-site and on-site improvement costs at each of the sites.

4. Bus Subsidy Cost

An allowance for bus transportation is provided for students who reside more than one mile in walking distance from school. Bus subsidy costs are computed based on the number of students who qualify for the bus subsidy, and the cost of the bus service.
### TABLE A-3
ON-SITE IMPROVEMENT COSTS

<table>
<thead>
<tr>
<th>Improvements</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grading</td>
<td>$1,080,000</td>
</tr>
<tr>
<td>Roadway</td>
<td>$480,000</td>
</tr>
<tr>
<td>Water</td>
<td>$320,000</td>
</tr>
<tr>
<td>Drainage</td>
<td>$550,000</td>
</tr>
<tr>
<td>Sewer</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Elec./Tel.</td>
<td>$360,000</td>
</tr>
<tr>
<td>Gas</td>
<td>$70,000</td>
</tr>
<tr>
<td>Landscaping</td>
<td>$960,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$4,820,000</strong></td>
</tr>
</tbody>
</table>

### TABLE A-4
COST SUMMARY*

<table>
<thead>
<tr>
<th>Improvements</th>
<th>Lower Pukalani Site (1)</th>
<th>Kula/ Haleakalua Hwy. Site (2)</th>
<th>Makawao Avenue Mauka Site (3)</th>
<th>Makawao Avenue/ Apana Road/ Avenue Site (4)</th>
<th>Baldwin Site (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grading</td>
<td>$1.08</td>
<td>$1.08</td>
<td>$1.08</td>
<td>$1.08</td>
<td>$1.08</td>
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<tr>
<td>Roadway</td>
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<td>$0.48</td>
<td>$0.48</td>
<td>$0.48</td>
<td>$0.48</td>
</tr>
<tr>
<td>Water</td>
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<td>$1.17</td>
<td>$1.12</td>
<td>$1.22</td>
<td>$1.22</td>
</tr>
<tr>
<td>Drainage</td>
<td>$0.55</td>
<td>$0.55</td>
<td>$0.55</td>
<td>$0.55</td>
<td>$0.55</td>
</tr>
<tr>
<td>Sewer</td>
<td>$1.00</td>
<td>$1.00</td>
<td>$1.00</td>
<td>$1.00</td>
<td>$1.00</td>
</tr>
<tr>
<td>Elec./Tel.</td>
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<td>$0.36</td>
<td>$0.36</td>
<td>$0.36</td>
<td>$0.36</td>
</tr>
<tr>
<td>Gas</td>
<td>$0.07</td>
<td>$0.07</td>
<td>$0.07</td>
<td>$0.07</td>
<td>$0.07</td>
</tr>
<tr>
<td>Landscaping</td>
<td>$0.96</td>
<td>$0.96</td>
<td>$0.96</td>
<td>$0.96</td>
<td>$0.96</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$5,720,000</strong></td>
<td><strong>$5,670,000</strong></td>
<td><strong>$5,620,000</strong></td>
<td><strong>$5,720,000</strong></td>
<td><strong>$5,720,000</strong></td>
</tr>
</tbody>
</table>

*Costs, expressed in millions of 1990 dollars, are for planning evaluation purposes only.
An analysis of the distance between each potential site and residential areas within the service area revealed that if the proposed school were to be located at the Lower Pukalani Site (1), approximately 81.3% of the students would require busing. If the school were to be located at the Kula/Haleakala Highway Site (2), approximately 90.2% of all students within the proposed service area would be bused. For the Makawao Avenue Mauka Site (3), Makawao Avenue Apana Road Site (4), and Baldwin Avenue Site (5), approximately 80.2%, 78.2%, and 94.4% of students, respectively, would have to be bused to school.

To assess busing costs, student enrollment for the proposed high school in 1990 was assumed at 1200 students while enrollment for the year 2010 was projected at 1740 students, the design enrollment. The bus subsidy rate established by the Department of Accounting and General Services (DAGS) is $150 per bus per day in 1990. The annual cost is determined by a 175-day school year. Passenger capacities for each bus is placed at 88 students, assuming that each 44-passenger bus can make 2 runs in each direction per day.

Bus subsidy costs were calculated on a present worth basis for an assumed service life of the school of 20 years, from 1990 to 2010. During this period the student population is assumed to grow steadily at a rate of 1.9% per year to achieve the design enrollment. The DAGS-established busing cost of $150.00 per bus per day in 1990 is assumed to increase at a steady annual rate of 5% due to inflation.

Bus subsidy costs calculated on this basis for the Lower Pukalani site and Kula/Haleakala Highway site were estimated at $13.61 and $15.05 million, respectively (in 1990 dollars). The cost of bus subsidy for the Makawao Avenue Sites 3 and 4 is approximately $13.43 million and $13.11 million (in 1990 dollars). Bus subsidy cost for the Baldwin Avenue site was estimated at $15.74 million (in 1990 dollars). Tables A-5 through A-9 show the incremental increase in the number of buses required and the resulting costs.
### TABLE A-5
ESTIMATED BUS SUBSIDY COSTS – LOWER PUKALANI SITE 1

<table>
<thead>
<tr>
<th>Year</th>
<th>Estimated No. of Pupils</th>
<th>No. being bused</th>
<th>No. of buses</th>
<th>Cost (5% inflation/yr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>1,200</td>
<td>976</td>
<td>12</td>
<td>304,000</td>
</tr>
<tr>
<td>1991</td>
<td>1,227</td>
<td>998</td>
<td>12</td>
<td>326,000</td>
</tr>
<tr>
<td>1992</td>
<td>1,254</td>
<td>1,020</td>
<td>12</td>
<td>350,000</td>
</tr>
<tr>
<td>1993</td>
<td>1,281</td>
<td>1,041</td>
<td>12</td>
<td>375,000</td>
</tr>
<tr>
<td>1994</td>
<td>1,308</td>
<td>1,063</td>
<td>13</td>
<td>402,000</td>
</tr>
<tr>
<td>1995</td>
<td>1,335</td>
<td>1,085</td>
<td>13</td>
<td>430,000</td>
</tr>
<tr>
<td>1996</td>
<td>1,362</td>
<td>1,107</td>
<td>13</td>
<td>460,000</td>
</tr>
<tr>
<td>1997</td>
<td>1,389</td>
<td>1,129</td>
<td>13</td>
<td>492,000</td>
</tr>
<tr>
<td>1998</td>
<td>1,416</td>
<td>1,151</td>
<td>14</td>
<td>527,000</td>
</tr>
<tr>
<td>1999</td>
<td>1,443</td>
<td>1,173</td>
<td>14</td>
<td>563,000</td>
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<tr>
<td>2000</td>
<td>1,470</td>
<td>1,195</td>
<td>14</td>
<td>602,000</td>
</tr>
<tr>
<td>2001</td>
<td>1,497</td>
<td>1,217</td>
<td>14</td>
<td>643,000</td>
</tr>
<tr>
<td>2002</td>
<td>1,524</td>
<td>1,239</td>
<td>15</td>
<td>687,000</td>
</tr>
<tr>
<td>2003</td>
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<td>1,261</td>
<td>15</td>
<td>734,000</td>
</tr>
<tr>
<td>2004</td>
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<td>1,283</td>
<td>15</td>
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</tr>
<tr>
<td>2005</td>
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<td>1,305</td>
<td>15</td>
<td>836,000</td>
</tr>
<tr>
<td>2006</td>
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<td>1,327</td>
<td>16</td>
<td>893,000</td>
</tr>
<tr>
<td>2007</td>
<td>1,659</td>
<td>1,349</td>
<td>16</td>
<td>952,000</td>
</tr>
<tr>
<td>2008</td>
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<td>16</td>
<td>1,016,000</td>
</tr>
<tr>
<td>2009</td>
<td>1,713</td>
<td>1,393</td>
<td>16</td>
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</tr>
<tr>
<td>2010</td>
<td>1,740</td>
<td>1,415</td>
<td>17</td>
<td>1,154,000</td>
</tr>
</tbody>
</table>

**TOTAL** $13,613,000

* Based on a calculated population of 18.7% of students within walking distance, or 81.3% being bussed.

** Based on the assumption of 44 students per bus, each bus making two runs per day in each direction.
<table>
<thead>
<tr>
<th>Year</th>
<th>Estimated No. of Pupils</th>
<th>No. being bused *</th>
<th>No. of buses **</th>
<th>Cost (5% inflation/yr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>1,200</td>
<td>1,082</td>
<td>13</td>
<td>336,000</td>
</tr>
<tr>
<td>1991</td>
<td>1,227</td>
<td>1,107</td>
<td>13</td>
<td>360,000</td>
</tr>
<tr>
<td>1992</td>
<td>1,254</td>
<td>1,131</td>
<td>13</td>
<td>386,000</td>
</tr>
<tr>
<td>1993</td>
<td>1,281</td>
<td>1,155</td>
<td>14</td>
<td>414,000</td>
</tr>
<tr>
<td>1994</td>
<td>1,308</td>
<td>1,180</td>
<td>14</td>
<td>444,000</td>
</tr>
<tr>
<td>1995</td>
<td>1,335</td>
<td>1,204</td>
<td>14</td>
<td>475,000</td>
</tr>
<tr>
<td>1996</td>
<td>1,362</td>
<td>1,229</td>
<td>14</td>
<td>509,000</td>
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<tr>
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<td>1,389</td>
<td>1,253</td>
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</tr>
<tr>
<td>1998</td>
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<td>1,277</td>
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<td>582,000</td>
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<td>15</td>
<td>623,000</td>
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<td>1,470</td>
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<td>16</td>
<td>666,000</td>
</tr>
<tr>
<td>2001</td>
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<td>1,350</td>
<td>16</td>
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<tr>
<td>2002</td>
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<td>1,375</td>
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<tr>
<td>2003</td>
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<td>1,399</td>
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<tr>
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<tr>
<td>2006</td>
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<tr>
<td>2007</td>
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<td>18</td>
<td>1,035,000</td>
</tr>
<tr>
<td>2008</td>
<td>1,686</td>
<td>1,521</td>
<td>18</td>
<td>1,123,000</td>
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<td>2009</td>
<td>1,713</td>
<td>1,545</td>
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<tr>
<td>2010</td>
<td>1,740</td>
<td>1,569</td>
<td>18</td>
<td>1,277,000</td>
</tr>
</tbody>
</table>

**TOTAL** $15,052,000

* Based on a calculated population of 9.8% of students within walking distance, or 90.2% being bussed.

** Based on the assumption of 44 students per bus, each bus making two runs per day in each direction.
<table>
<thead>
<tr>
<th>Year</th>
<th>Estimated No. of Pupils</th>
<th>No. being bused *</th>
<th>No. of buses **</th>
<th>Cost (5% inflation/yr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
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<td>962</td>
<td>11</td>
<td>300,000</td>
</tr>
<tr>
<td>1991</td>
<td>1,227</td>
<td>984</td>
<td>12</td>
<td>322,000</td>
</tr>
<tr>
<td>1992</td>
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**TOTAL** $13,434,000

* Based on a calculated population of 19.8% of students within walking distance, or 80.2% being bussed.

** Based on the assumption of 44 students per bus, each bus making two runs per day in each direction.
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**TOTAL** $13,113,000

* Based on a calculated population of 21.8% of students within walking distance, or 78.2% being bussed.

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TOTAL $15,735,000

* Based on a calculated population of 5.6% of students within walking distance, or 94.4% being bussed.

** Based on the assumption of 44 students per bus, each bus making two runs per day in each direction.
APPENDIX B

Archaeological Inventory Survey
Potential Upcountry Maui High School Sites
Archaeological Inventory Survey
Potential Upcountry Maui High School Sites
Lands of Haliimaile, Hokuula, Kailua, and Makaeha
Makawao District, Island of Maui

by
Theresa K. Donham, M.A.
Supervisory Archaeologist

Prepared for
State of Hawaii
Department of Accounting and General Services
c/o Wilson Okamoto & Associates
P.O. Box 3530
Honolulu, Hawaii 96811

April 1990
At the request of Mr. Earl Matsukawa of Wilson Okamoto & Associates (WOA), on behalf of their client, State of Hawaii-Department of Accounting and General Services (DAGS), Paul H. Rosendahl, Ph.D., Inc. (PHRI) conducted an archaeological inventory survey of five potential Upcountry Maui High School sites. The potential school sites are located in the Lands of Haliimaile, Hokuula, Makaaha, and Kailua, Makawao District, Island of Maui. Each potential site (Parcels 1 through 5) consists of approximately 35 acres, for a total survey area of approximately 175 acres.

The survey field work was conducted March 5, 6, and 8, 1990, and consisted of 100% coverage of all observable surface areas within the sites. All of the parcels examined were cultivated pineapple fields. The observable surface area of the fields ranged from 100% to approximately 20% of the total surface area. No archaeological sites were identified during the field survey.

State Inventory of Historic Places (SIHP) records and archaeological manuscripts on file at the Historic Sites Section, Department of Land and Natural Resources, were examined with reference to the potential school sites. No records of previously identified sites were located in the SIHP records. No references to archaeological resources or potential resources within the project areas were located.

During the survey field work, five lithic artifacts and four ceramic sherds were collected from disturbed surface contexts. The artifacts are described in this report. Based on the current findings, no further archaeological field investigations are recommended at potential school site Parcels 1, 2, 3, and 5. If Parcel 4 is further considered for a school site it is recommended that additional historic archival research and a systematic surface collection be conducted within the parcel.
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  by Helen Wong Smith, B.A. ......................................................................................................... A-1

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  A-1 Map of Makawao by C.J. Lyons .......................................................................................... A-1
INTRODUCTION

BACKGROUND

This report presents the results of an archaeological inventory survey conducted at five potential Upcountry Maui High School project areas, located in the Lands of Halimaile, Hokuala, Kailua, and Makaenga, Makawao District, Island of Maui (TMK 2-3-09:7.13;2-3-07:Por.8.1:2-4-01:Por.3). The survey was conducted by Paul H. Rosendahl, Ph.D., Inc. (PHRI) at the request of Mr. Earl Matsukawa of Wilson Okamoto & Associates, on behalf of their client, State of Hawaii-Department of Accounting and General Services. The overall purpose of the survey was to provide information appropriate to and sufficient for preparation of an Environmental Impact Statement (EIS).

The survey field work was conducted March 5, 6, and 8, 1990, by Supervisory Archaeologist Theresa K. Donham, M.A.. Approximately 19 labor-hours were expended during the field work portion of the survey. The literature and record search for the project was conducted March 28, 1990 at the Historic Sites Section, Department of Land and Natural Resources (HHS/DLNR) in Honolulu.

This report constitutes the final report for the project. It includes a scope of work, descriptions of the project areas, a review of previous archaeological work relevant to the project areas, historical documentary research, field methods, findings, and recommendations.

SCOPE OF WORK

The basic purpose of an inventory survey is to identify—to discover and locate on available maps—all sites and features of potential archaeological significance present within a specified project area. An inventory survey 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. This level of survey indicates both the general nature and variety of archaeological remains present, and the general distribution and density of such remains. It permits a general significance assessment of the archaeological resources and facilitates formulation of realistic recommendations and estimates for any subsequent mitigation work as might be necessary or appropriate. Such work could include further data collection involving detailed recording of sites and features, and selected test excavations; and possibly subsequent 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 basic objectives of the current survey were (a) to identify all sites within the project areas, (b) to evaluate the potential general significance of all identified resources, (c) to determine the possible impacts of proposed development on the identified resources, and (d) to define the general scope of any subsequent data collection and/or other mitigation work that might be necessary or appropriate.

Based on a review of available background literature, general familiarity with the Makawao area, and discussions with Mr. Matsukawa of WOA and Ms. Agnez Estioko Griffin, staff archaeologist for Maui and Molokai in the DLNR-HSS/SHPO, the following specific tasks were determined to constitute an appropriate scope of work for the inventory survey:

1. Conduct limited archaeological and historical documentary background research involving review and evaluation of readily available archaeological and historical literature, historic documents and records, and cartographic sources relevant to the immediate project area;

2. Conduct 100% coverage, variable-intensity (30- to 90-ft intervals) surface survey of the project areas in order to identify, record and evaluate any previously identified sites and all newly identified sites;

3. Conduct limited subsurface testing of selected sites and features identified within the school sites (a) to determine the presence or absence of potentially significant buried cultural features or deposits, and (b) to obtain suitable samples for age determination analyses; and

4. Analyze background and field data, and prepare appropriate reports.

PROJECT AREA DESCRIPTION

The five potential Maui High School sites are located in the vicinity of Pukalani and Makawao towns, Makawao District, Island of Maui (Figures 1 and 2). The sites are situated on the eastern slopes of Haleakula, where the bedrock mantle is Pleistocene Age Kula volcanic series lavas (Macdonald, Abbott, and Peterson 1983:370-371).
Figure 1. PROJECT LOCATION MAP
ARCHAEOLOGICAL INVENTORY SURVEY
POTENTIAL UPCOUNTRY MAUI HIGH SCHOOL SITES
Lands of Haliimaile, Hokuula, Kaitua, and Makaeha
Makawao District, Island of Maui
(TMK 2-3-09:7,13; 2-3-07:Por.8,1; 2-4-01:Por.3)
PHRI Project 89-599
April 1990
Figure 2. PROJECT AREA LOCATION MAP
The overlying soils at all five locales are well-drained Halimaile Series silty clay loam. These soils occur on slopes of 3-15% and average 1.5 to 2.0 m thick, except on eroded knolls and ridgetops (Foote, Hill, Nakamura, and Stephens 1972:33). Rainfall in the general area of the sites averages 40-60 inches annually. All parcels are on northwest-facing terrain and range in elevation from 1,100 to 1,860 ft AMSL (above mean sea level).

All five parcels are the property of Maui Land and Pineapple Company (MLP), and were in various stages of pineapple cultivation at the time of survey. According to field managers at the Halimaile Plantation, all fields have been under cultivation by MLP or Baldwin Packers for over 30 years. The parcel number designations assigned by the planners (1-5) are used in this report and are shown in Figure 2. The specific location and a brief description of each parcel follows.

Parcel 1 (TMK 2-3-09:7), Land of Kailua, Paia Quad - This site is located at the northwestern edge of Pukalani town, and fronts the west side of Hanaekula Highway. It is bordered on the north by the Hamakua Ditch and on the south by a subdivision road. The parcel incorporates approximately 70% of Maui Land and Pineapple (MLP) Field No. 280. Elevation of this parcel ranges from 1,100 to 1,180 ft AMSL. At the time of survey, the field was in mature pineapple. There was no surface visibility within the field plots, which were oriented NE-SW and averaged 25.0-30.0 m wide. The field roads were unvegetated, with 100% surface visibility. The crests of low knolls contained relatively high amounts of gravel intermixed with the silty clay loam soils; other areas of the field contained little to no gravel.

Parcel 2 (TMK 2-3-07:Par.1), Land of Makena, Kilohana Quad - This site is immediately east of the intersection of Highways 37 and 377, and fronts along the south side of Highway 377 (Upper Kula Road). The parcel incorporates approximately 30% of MLP Field No. 274. Elevation of this parcel ranges from 1,750-1,860 ft AMSL. At the time of survey, field plots were in mature pineapple, with no visibility between plants. The plots were oriented generally E-W and ranged in width from 10.0 to 30.0 m. The field roads were clear of vegetation, with 100% surface visibility. Soil in this parcel is very rocky, and areas of exposed bedrock are present at the crests of knolls.

At the eastern end of the parcel is an uncultivated woodland, situated along the steep, eastern face of a hillside. This uncultivated area consists of 2-3 acres and is currently used for cattle pasture. The area has been affected by grubbing and livestock.

Parcel 3 (TMK 2-3-07:Par.8), Land of Hokoula, Haiku Quad - Parcel 3 is situated along the south side of Makawao Avenue, roughly midway between Pukalani and Makawao towns. It incorporates approximately 35% of MLP Field No. 273. Elevation of this parcel ranges from 1,590-1,620 ft AMSL. The eastern boundary of the parcel is c. 1.5 km west of Kailua Gulch. At the time of survey, the field was in mature pineapple with no visibility between plants. The field roads were clear, with 100% visibility, and were spaced 20.0-30.0 m between field plots. Plots were oriented generally NE-SW. Soil here is high in gravel content, particularly on the crests of low knolls and ridges.

Parcel 4 (TMK 2-3-09:Par.13), Land of Hokoula, Haiku and Paia Quads - This parcel is situated along the north side of Makawao Avenue, and the west side of Apana Road; it is immediately north of Parcel 3. The parcel incorporates approximately 50% of MLP Field No. 272. Elevation here ranges from 1,400-1,480 ft AMSL, and soils are generally clear of gravel, except on knoll and ridge crests. No exposed bedrock is present. At the time of survey, the field was in very young pineapple with good surface visibility between plants and along field roads. The plots were oriented NE-SW, and averaged 10.0 to 30.0 m wide.

Parcel 5 (TMK 2-4-01:Par.3), Land of Halimaile, Haiku Quad - Parcel 5 is located along the west side of Baldwin Road, c. 0.5 km north from Makawao Town. It incorporates approximately 50% of MLP Field No. 254. Elevation ranges from 1,380-1,420 ft AMSL. The field had been recently plowed at the time of survey and was clear of all plants. Plots and most of the field roads were undefined, and visibility was 100% in all areas of the field. Soil in this parcel contains scattered gravel, with localizations of cobbles and boulders at the eastern (higher elevation) portion of the field, along Baldwin Road.

PREVIOUS ARCHAEOLOGICAL WORK

Very few archaeological field investigations have been conducted in the vicinity of the proposed project sites, and no prior studies have been conducted within the sites. The earliest field study in the vicinity was Walker's (1931) survey of Maui ha'au sites, conducted in 1930. Walker field-verified the names and locations of ha'au that had been previously compiled by Thrum and Stokes, and obtained new information from local residents as he conducted his survey.

Prior to Walker's survey, Thrum reported the presence of a sacrificial ha'au somewhere between Makawao and...
Kula, called Heiau Moomuku (Thrum 1918:126). Walker tentatively located this heiau in Oamaopio (Site 224). Three additional heiau were located in Oamaopio, just north of the Moomuku Heiau (Walker 1931:288).

During his survey, Walker located an unidentified heiau in Aapueo, "in the pineapple lands two miles from Makawao 100 yards east from the main road" (Walker 1931:291). This general location is approximately 1.50 km south of Parcel 2. The heiau was described as a small L-shaped enclosure, 66.0 ft (20.10 m) long and 47.0 ft (14.60 m) maximum width. Adjacent to the enclosure was a terraced platform 35.0 ft (10.70 m) square (Walker 1931:291).

Walker identified no heiau sites in Kailua, Haliiimaile, or Hokuala, wherein the project parcels are located.

As early as 1920, archaeological investigations were conducted in the crater and summit area of Haleakala, primarily by staff from B.P. Bishop Museum. These studies are summarized by Rosenldahl (1978), who provides a description of the 115 sites located to date in Haleakala National Park. Sites located in the park include cave shelters, burial caves, heiau, burial platforms and terraces, trails, and cairns. The study areas for the Haleakala surveys are generally above 4,000 ft AMSL, and in a distinctively different environmental zone than are the current project areas.

Only two systematic surveys conducted in the general vicinity of the project areas have been reported to the HHS/DLNR; both were in areas of prior historic period activities. An archaeological survey was conducted by Environmental Impact Statement Corporation (EISC) in 1980 for the Makawao Subdivision area, located northeast of Parcel 4, between Apana Road and Kailua Gulch (EISC 1980). According to the survey report appended to the Environmental Impact Statement, the subdivision project area had been the prior location of a plantation camp, and was in pasture at the time of the survey. The investigators found no surface cultural materials except broken asphalt and discarded structural concrete. No further work was recommended at the project area. In 1988, Estioko-Griffin conducted a surface survey of a waterline corridor located between the Olinda water treatment plant and the Waikamoi Reservoirs, at c. 4,200 ft AMSL. No sites or surface cultural materials were located along this corridor, which had been mostly affected by prior grubbing and pipeline construction (Estioko-Griffin 1988).

The State Inventory of Historic Places (SIHP) files include two sites within the general vicinity of the project areas. These are the Hamakua Burial Cave (50-50-05-1264) and Puu Pane (50-50-11-1275). The Hamakua Burial Cave is located at the southwestern edge of Pukalani town, along the cliffs of Kaahumanu Gulch, near its intersection with the Hamakua Ditch. It is 1.60 km south of the southern boundary of Parcel 1. The site was mapped and registered by Connolly in 1973. It is described as a 33.00 m long lava tube divided into two narrow chambers c. 3.0 m wide. The disarticulated remains of 30-50 individuals were estimated to be present in 1973. The site had been subjected to vandalism, and nearly all cranial bone had been removed at the time of Connolly’s field inspection.

Puu Pane is located in Aapueo, on the crest of a hill of the same name. The site is approximately 2.50 km south of Parcel 2. The site was first described by M. Manu in an article in Kaokoa (Feb. 23, 1884). According to Manu, Puu Pane was a sacred hill and a heiau for the high chiefs that was reportedly visited by Kihapili. Connolly visited the site in 1973 and reported the presence of a few alignments that might be remnants of the heiau.

A few additional surveys have been conducted in upcountry Makawao District. The most extensive of these is a recent survey of 1,025 acres of uncultivated pastureland in Keokea and Waiohuli, between 1,800 and 3,000 ft AMSL (Brown 1989). Within the survey area, 159 sites with 335 features were located, including agricultural, residential, and ceremonial complexes (Brown 1989).

**SUMMARY OF HISTORICAL DOCUMENTARY RESEARCH**

Nineteenth century descriptions of Makawao District located by Wong Smith (Appendix) contain no specific references to the Lands of Kailua, Haliiimaile, Hokuala, or Makaha. These accounts include remarks on the plentiful rainfall of the district, the general weather and vegetation patterns, specific legendary personae, and important places, such as Alelele, a famous diving pool, the kuku grove of Lili`ko‘i, and Wahine oma‘o, where bird-calling ceremonies were conducted.

A literal translation for Makawao is “forest beginning,” which aptly reflects the commencement of the upland forest vegetation zone at c. 2,000 ft AMSL. The four shupua’s

* State Inventory of Historic Places (SIHP) designation system: four-digit site numbers prefixed by 50-50-05- or 50-50-11- (50=State of Hawaii; 50=Island of Maui; 05,11=USGS 7.5' series quad map ("Paia" or "Kilohana," respectively)).
INTRODUCTION

wherein are located the study parcels, as well as other
windward Makawao shupua'a, do not conform to the general
geographic pattern of extending from coast to mountain top.
The kule boundaries of Kailua, Hokuala, and Makahe are
about 7.5 km from the coast, and are the extensive Wailluku
District, which was established prior to western contact.
Halimaile extends to within 1.5 km of the coast and abuts
a coastal extension of the non-traditional Hamakua Poko lands.

Makawao District, as presently defined, consists of four
traditional Hawaiian political districts. These include
Honokaua to the south, along the lee slopes of Haleakula;
Kula, which overlooks Wailluku District and the Lahaus
lands; and Hamakua and Hamakula along the windward
slopes of Haleakula. The lands of Hokuala, Kailua, and
Makahe were within the Kula District, and Halimaile was
within Hamakua Poko (Spring and Tanaka 1968:xxv).

Halimaile literally translates to stream or spread maile. Maile is a leafy vine used in lei-making for hula and other
important social events. Maile is one of the plants of Laka, goddess of the hula, and its four varieties are believed to be
sisters with human and plant forms (Pukui and Elbert
1986:223). A figurative use of the term hali is in reference
to rain falling, in this case, over the maile vines.

Hokuala literally translates to red star, or royal star.
Kailua is a place generally located at the sea (ka). The
shupua'a of Kailua does not presently extend to the coast;
however, its name suggests that it may have at one time. Of
the various literal translations of ka, it is difficult to
determine which applies in this case. Laka can refer to a
repetition or two, to a duplicate or copy, to a cave or crater,
or to a companion or mate. There are several idioms of this
word as well (Pukui and Elbert 1986:213).

Makahe translates to sore or aching eyes. An alternative
spelling of this shupua'a is given by Keohokalole, who
officially transferred this and other Makawao (Kula) Lands
to the Government during the Mahale, and in the Indices of
Land Commission Awards. In these sources, it is referred to
as Makahu. Kahu is a variant spelling of ku ehu, meaning
of the mist, or spray. Ehu of kahu may also refer to water
mixed with fragrant herbs. Ehu as an adjective refers to
people with a reddish, or red-brown complexion or reddish
hair (Pukui and Elbert 1986:38).

Prior to the Mahale, in 1845 and 1846, land in the
District of Makawao was offered for sale fee simple to
Native Hawaiians. The land was sold at $1.00 per acre, in
parcels ranging from 5 to 100 acres (Appendix). These
parcels were registered as Grants, and are not listed in the
Indices of Land Commission Awards, which begin in 1848
with the Mahale. It is uncertain at this time whether any of
the pre-Mahale grants are within or near the project areas.

Kailua and Makahe were among Kula Lands controlled
by M. Keohokalole, mother of Kalakaua and Liliuokalani.
During the Mahale, Keohokalole conveyed these shupua'a
to the Government. The portion of Kailua which contains
Parcel 1 was sold as Grant 3085. The portion of Makahe
(Makahe, Makahe) which contains Parcel 2 was sold to
W. H. Bailey in 1877. Approximately 792 acres of this
claim is now the property of Maui Land and Pineapple
Company.

Hokuala was retained as Government Land during the
Mahale, and was later subdivided by the Land Commission.
The portion of Hokuala containing Parcel 3 is LCA Award
8452:7; this area is named Kukuiako and is currently owned
by Haleakula Ranch and Maui Land and Pineapple Company.
The portion of Hokuala containing Parcel 4 is subdivided
into five grants, with the bulk contained within Grant 1488.
Four small grants are located along Apana Road, within
Parcel 4. These are Grant 1455, a portion of Grant 1444, a
portion of Grant 1445, and a portion of Grant 1523. The
recipients of these grants have not been researched to date.
These grants may be pre-Mahale land purchases by Native
Hawaiians, and are possibly house or garden sites.

Halimaile was awarded to M. Kekaunohi, the great
granddaughter of Keauzile, King of Maui. Parcel 5 is
within Kekaunohi's LCA Award 11216. A 1.078 acre
portion of this land is now the property of Maui Land and
Pineapple Company.

No information concerning specific land use prior to
the cultivation of pineapple could be located for the study
parcels. Additional historic background information is
presented in the Appendix.

FIELD METHODS AND PROCEDURES

A 100% coverage pedestrian survey of the study parcels
was conducted on March 5, 6, and 8, 1990. In Parcels 1, 2,
and 3 surface visibility was limited to the surfaces and banks
of field roads, which averaged 5.0-8.0 m wide and were
spaced at 10.0 to 30.0 m intervals. In Parcel 4, surface
visibility was 100% on the field roads and 75-80% between
the roads, where young pineapple plants were located. The
sweeps in this field followed the roads; however, more
surface could be viewed from the transects. In Parcel 5,
which had total surface visibility, parallel sweeps oriented
east-west and spaced approximately 20.00 m apart were conducted. In this field, a very broad surface area could be viewed from the sweep lines.

All parcels were examined during or immediately after periods of rainfall, and the fields had been exposed to a period of extensive rain prior to the survey. These conditions greatly enhanced the visibility of portable remains on the soil surface. Lithic and ceramic items were literally washed clean and set atop small soil pedestals.

All traditional Hawaiian artifacts encountered during the surface survey were collected and their approximate locations were plotted on topographic maps of the parcels. The artifacts were individually numbered in order of discovery, and bagged with the parcel number, project number (89-599) and date of collection. After cleaning, the artifacts were weighed, measured and drawn, and were marked with the Maui Land and Pineapple Field Number and artifact number (MLP 273-1).

Historic and recent artifacts observed were collected only if they were diagnostic or potentially diagnostic of nineteenth or early twentieth century production. Other historic or recent artifacts were described and their locations were recorded, but they were not collected.

No temporary site numbers were assigned during the survey and no subsurface testing was conducted.
SURFACE FINDINGS

During the surface survey, no surface structural remains were located, and no archaeological sites were recorded. Portable remains were collected at Parcels 4 and 5. Four lithic artifacts and a ceramic sherd were collected from Parcel 4, and a single lithic artifact was collected from Parcel 5. The materials located and collected at Parcel 4 were widely dispersed across the field, with no indication of concentration or association (Figure 3). The historic ceramic sherd collected at Parcel 4 occurred in association with other non-diagnostic sherds; these tended to cluster along the Apana Road frontage, where the line of small land grants occurred.

Due to the dispersed nature of the lithic artifacts and absence of surface features, a site number was not assigned to the Parcel 4 area. If a site number were to be assigned on the basis of surface artifacts, the entire parcel would have to be included within the area of the site. Additional comments regarding the interpretation of the surface artifacts follows their descriptions.

A brief summary of remains observed and/or collected in each parcel follows:

Parcel 1 - Observed two whiteware sherds, a stoneware sherd with Albany and salt glaze, one porcelain sherd with blue transfer print, a few scattered pieces of glass. The ceramics were widely dispersed in the northeastern portion of the field. Also observed were items relating to the pineapple activities (metal machinery parts, PVC pipe, etc.).

Parcel 2 - Observed one horseshoe, three pieces of machinery metal. All items widely dispersed throughout the field.

Parcel 3 - Observed one small piece of waterworn coral near center of field. Also observed were widely scattered Cellana shells that were obviously of recent deposition.

Parcel 4 - Observed scattered whiteware and porcelain along Apana Road; collected one stumped plate rim. Collected a biface, one ulu maika fragment, a complete small adze, and an adze fragment. Also observed recent refuse along Makawao Avenue.

Parcel 5 - Collected one complete small adze.

PORTABLE REMAINS

Lithic Artifacts

Five lithic artifacts were recovered during the surface survey. Four items were recovered from Parcel 4, and one item was recovered from Parcel 5. The artifacts are described below:

Parcel 4 (MLP 272) -1*: Length 64.5 mm, width 34.5 mm, thickness 16.4 mm, weight 49.5 g (Figure 4a)

This tool is manufactured from a fine-grained basalt flake. The ventral side of the flake has been modified along one edge (proximal), and the dorsal side is heavily flaked on the surface and along the edges. The resulting form is similar to an adze preform. The two ends of the tool exhibit steep edge retouch and wear flaking, indicating that it was used in its current form. Edge wear is also present along the sides of the biface, on both the dorsal and ventral surfaces.

Parcel 4 (MLP 272) -2: Length 66.8 mm, width 66.0 mm, thickness 7.7 mm, weight 37.5 g (Figure 4b)

Approximately one-third of an ulu maika stone is represented by this fragment. The gamestone is made from fine-grained basalt, and is polished to a very smooth, regular surface on the remaining portion of the face and sides. Overall length of the item accurately reflects the diameter of the polished face. The thickness of the stone prior to breakage is indeterminate. The polished face is slightly convex and the side angle is approximately 115 degrees.

Parcel 4 (MLP 272) -3: Length 51.3 mm, width 24.6 mm, thickness 9.0 mm, weight 9.4 g (Figure 4c)

* Artifact number
Figure 3. APPROXIMATE ARTIFACT LOCATIONS, PARCEL 4
Figure 4. LITHIC ARTIFACTS, PARCELS 4 AND 5
This small adze is manufactured from very fine-grained basalt. It is quadrangular, with no indication of a tang. The bit end exhibits flake scars along the ventral side; these appear to be recent. At the butt end, the polished surface on the dorsal and ventral face is worn off by what appears to be small pecking marks. The polished surface around the sides of the adze is unaltered, except at the butt, where weathered flake scars and pecking marks occur.

Parcel 4 (MLP 272) - 4: Length 40.5 mm, width 36.7 mm, thickness 24.0 mm, weight 68.4 g (Figure 4d)

The butt end of quadrangular adze is represented by this artifact. It was manufactured from fine-grained basalt and has remnants of a highly polished surface on both sides and all edges, except the butt edge. The sides exhibit both flake scars and pecking marks, none of which appear to be recent plowscars. The major saw break across the short axis of the adze could have been made by cultivation machinery. Approximately 10% of the polished surface remains on this item.

Parcel 5 (MLP 254) - 1: Length 52.3 mm, width 30.4 mm, thickness 14.0 mm, weight 46.6 g (Figure 4e)

This complete quadrangular adze is made from light grey basalt that contains scattered holes where softer inclusions have weathered out. It is polished to a smooth, regular surface on both sides and all edges except the butt edge. The butt edge exhibits pecking and light battering scars. A small circular area of surface pecking occurs on one lateral edge; otherwise, the polished surface of the adze is unbroken. A small plowscar is present on the ventral side. The bit edge exhibits very minimal use wear.

Ceramic Artifacts

A single ceramic sherd was collected for observation and description. This sherd was recovered from Parcel 4, and represents the rim section of a plate. It is whiteware paste with a clear glaze and red sponge stamped decoration. A red painted band is present along the rim of the plate. The sherd is 4.7 mm thick at the break and 4.0 mm thick at the rim. The sponge decoration consists of at least two motifs; one is a solid pattern resembling a fleur-de-lis, and one is a very similar pattern, but in white relief inside a red outlining background. Sponge stamp decoration on whiteware is generally attributed to the period AD 1840-1900 (Price 1981:38).
CONCLUSION

DISCUSSION

No evidence of prehistoric or early historic period activities were identified in Parcels 1, 2, or 3. A scattering of twentieth century ceramics and glass was located in Parcel 1, but this scatter was too diffuse and thin to indicate the presence of a former house site. There is a possibility, however, that a historic residency was present along Hālākula Highway in Parcel 1. Any traces of a possible structure have since been removed from the field.

In Parcel 5, an isolated lithic adze was located. The general area of this find was closely examined, and no additional artifacts or structural remains could be located. Given the excellent surface visibility in this field at the time of survey, it is probably safe to assume that any nearby surface materials would have been identified if they were present. It should be noted that the eastern portion of the field contained cobbles and boulders that appeared to occur naturally in the soil. There is no way of knowing if some of these stones were once part of a surface structure.

The surface material recovered from Parcel 4 reflects both prehistoric and historic period activities. The lithic items suggest a relatively broad range of activities. The lithics include a biface, engineered for light-duty cutting or scraping, a small adze for light-duty woodworking and/or finishing work, a larger adze for heavier woodworking and/or digging, and a stone fragment indicating recreational activities. These items would most likely occur in the same assemblage at a permanent habitation site. Since they are widely scattered, and are currently hundreds of meters apart, it is indeterminate as to whether the artifacts originated from the same site or assemblage. Since there is no pattern or clustering of the artifacts, even a general location of a possible former habitation site is impossible. The interpretive potential of the artifacts is therefore limited to a consideration of individual function.

Historic period ceramics, including one sherd of likely late nineteenth century manufacture, were found along the northeast edge of Parcel 4, which fronts Apana Road. As mentioned earlier, this section of the field was divided into four small Land Grants, any of which could have been a house site. It is possible that a house or house sites were present here prior to the issue of the grants, and that the grants predated the Melele. The association of lithic tools with early post-contact Hawaiian assemblages is quite feasible, and it is possible that the scattered lithic items were derived from habitation sites that were in the same general area as the Land Grants. Unfortunately, there is no way to field test (by way of subsurface testing) this or any other postulation regarding the surface materials in Parcel 4. Additional surface studies may, however, be of utility. Additional archival research should likewise aid in determining if historic residencies were present along Apana Road.

GENERAL SIGNIFICANCE ASSESSMENTS AND RECOMMENDED TREATMENTS

Significance assessments for sites identified during the current project, if any, were to be based on the National Register criteria for evaluation, outlined in the Code of Federal Regulations (36 CFR Part 60). The Hawaii State DLNR-HSS uses these criteria for evaluating site significance. Sites determined to be potentially significant for information content (Categories A, X) fall under Criterion D, which defines significant resources as ones which “have yielded, or may be likely to yield, information important in prehistory or history.” Sites potentially significant as representative examples of site types (Category B) are evaluated under Criterion C, which defines significant resources as those which “embody the distinctive characteristics of a type, period, or method of construction...or that represent a significant and distinguishable entity whose components may lack individual distinction.

Sites with potential cultural significance (Category C) were to be evaluated under guidelines prepared by the Advisory Council on Historic Preservation (ACHP) entitled “Guidelines for Consideration of Traditional Cultural Values in Historic Preservation Review” (ACHP 1985). The guidelines define cultural value as “...the contribution made by an historic property to an ongoing society or cultural system. A traditional cultural value is a cultural value that has historical depth” (1985:1). The guidelines further specify that “[a] property need not have been in consistent use since antiquity by a cultural system in order to have traditional cultural value” (1985:7).

In order to facilitate future client management decisions regarding site treatments, any sites identified were to be further evaluated in terms of PHRI CRM (Cultural Resource Management) value modes, which are derived from the previously mentioned state and federal evaluation criteria. Sites were to be evaluated in terms of potential scientific
research, interpretive, and/or cultural values. Research value refers to the potential of archaeological resources for producing information useful in the understanding of culture history, past lifeways, and cultural processes at the local, regional, and interregional levels of organization. Interpretive value refers to the potential of archaeological resources for public education and recreation. Cultural value refers to the potential of archaeological resources to preserve and promote cultural and ethnic identity and values.

On the basis of findings of the pedestrian survey, literature search, and limited historic documentary research, it appears that Parcels 1, 2, 3, and 5 contain no known or potential historic/archaeological sites or resources. If such sites were once present in these areas, they have since been destroyed beyond recognition by intensive pineapple cultivation. No additional field work or archival work appears to be necessary for a determination of no adverse effect, should school construction occur in one of these four parcels.

If Parcel 4 is further considered as a construction site, it is recommended that additional archival work be conducted in order to determine (a) the applicants and dates of Land Grants 1444, 1445, 1455, and 1523, located within the parcel, (b) the nature of use, and possible presence of former residences on these lands, and (c) any cartographic sources that would show early historic period residencies in the Pukalani/Makawao area. It is also recommended that prior to construction, Parcel 4 be plowed for 100% surface visibility, and be reexamined by way of a systematic total surface collection. This procedure should determine if any patterning in the distribution of surface artifacts is still discernible, and may permit the identification of a site area within the parcel.
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Thruf, T.


Walker, W.

APPENDIX

HISTORICAL DOCUMENTARY RESEARCH
by Helen Wong Smith, B.A.

The five proposed sites for the New Upcountry Maui High School are in four different ahu'pu'a within Makawao District. According to the USGS 7.5 minute series quad maps ("Paia, Haliaku, Pau o Kali and Kilohana, Hawaii"), Site 1 is located in the ahu'pu'a of Kailua; Site 2 in the ahu'pu'a of Makaha; Sites 3 and 4 in the ahu'pu'a of Hokuula; and Site 5 in the ahu'pu'a of Halimaile. These last two ahu'pu'a once defined the boundary between the ancient districts of Kula and Hamakuapoko, with all ahu'pu'a but Halimaile being in Kula. In common with a number of others in this area, these are not typical ahu'pu'a, which usually run from the mountains to the sea. As presently depicted on maps, all four of the land divisions are cut off from the coast, and Makaha is inland of Kailua. Kailua and Hokuula are denied access to the sea by intervening Wailuku, which is both the ahu'pu'a and modern district which lies below them. The boundary of Halimaile, not impeded by Wailuku, ends about a mile short of the seacoast. To add to the duplication of names, Makawao also designates an ahu'pu'a inland of Halimaile, but the name is applied more commonly to designate this general region of Maui.

Place Names of Hawaii (Pukui et al. 1974) was consulted for translations of the ahu'pu'a names. Halimaile literally means "maile vines strewn"; Hokuula means "red star." No explanation is given for these names. Kailua, whose meaning is readily accepted as "two seas," is strong evidence that this new landlocked ahu'pu'a formerly reached the sea. Makaha means "sore eye." Makawao itself literally means "forest beginning" according to Place Names. Inez Ashdown gives a different meaning and its interpretation: "Maka = eyes, wao = section: watchful eyes of Wa-o meaning timeless or God or eternity. Central Maui is the kula o ka ma'oma'o or land of mirages. Here, the lost souls wandered until they could find their way to rest" (Ashdown n.d.).

Unfortunately, very little could be found regarding the individual ahu'pu'a. For this reason, references to Makawao will constitute this report. Sterling notes that "Makawao includes the ancient districts of Hamakuaao and Hamakuapoko" (Sterling n.d.). As already noted above, Halimaile was formerly within Hamakuapoko (Hamakuapoko is also the name of an ahu'pu'a abutting Halimaile to the north). Historical citations pertaining to Hamakuapoko and Hamakuaaloa are thus included in this report for more complete coverage.

EARLY HISTORICAL ACCOUNTS

Early accounts concerning the Makawao District generally either describe the area or relate early historical events. Areal descriptions often concern the weather. The rain of Makawao is described by Mrs. Minerva Kalama to Sterling (n.d.) in this way: "uku rain = a soft drizzle (the ua Kama'aina of Makawao) when the kii rain cloud from Makawao meets the Naulu rain cloud from Kula then the rain comes, the typical Makawao rain." Pukui mentions this rain as well, in "Olelo No'eau (1983: #1602). In the same source, Pukui gives the following saying:

Keiki holoholo kuua o Makawao
The lad of Makawao who goes about in the rain.

Said of a native of that place who is not afraid of being wet (ibid: #1705).

A passage in Edward G. Beckwith's Journal of a Tour on Maui also speaks of the unusual Makawao rain (Sterling n.d.):

We noticed a peculiar meteorological phenomenon through the whole ride. The trade wind which blows from the ocean across the Northwestern slope of Haleakala, is highly charged with vapor, which is condensed by the cool mountain air, and falls in abundant rains over the region of Makawao. Along the west side of the mountains about half way to the summit, lay a long line of cumulostratus clouds, and between this and the nimbus there was but little space. The former lay along side of the mountain, apparently immovable, while the latter would advance and recede, now coming very near and coquetishly scattering its shining rain-drops beneath the very head of immovable cumulus, and now retreating as though afraid of its more dignified companion. While mentioning this latter peculiarity to a gentleman this evening, he remarked that it was this feature of the clouds which gave the place its name. Makawao, Mako = to be afraid, wao = a cloud. (Hawaiian Mission Childrens Society June 5, 1854) [Sterling notes that this is incorrect, stating that "afraid translates maka'u and ag is cloud."]
Noses of Sterling and Ashdown located in the Maui Historical Society’s Collection also provide the following two descriptions of Makawao. Sterling’s description is somewhat poetic; Ashdown’s description is curiously intermixed with what may be a legend:

O native sons of those sections, the ones who watch for the dancing (hau) of the naked ones (holo) on the plains of Kama’oma’o, where the iwa birds dwell in the ukiu rain of Makawao....S. W. Naiilii, “E noho ana e oe eholo no iki mai ana” Ke Au Okoa. Nov. 6, 1865, Hamakuaokolo and Hamakualo (Sterling n.d.).

In the area of Wahine’oma’o (now called the “Baseball Park” above the modern Poli-Poli camp) and nearby Lua-ma-ma-nee, was a structure said to be for bird catching ceremonies because that region was full of birds. The ‘Oma’o bird is known as the Hawaiian Thrush, and they were plentiful and provided green feathers. The Woman of ‘Omao’ dwelt at Mamane and she was called Mamao because she was of such very high rank. She was so sacred that others must keep their distance. A handsome lesser chief fell in love with her beauty and tried to win her. Of course this was kapu. Her heart was heavy with the knowledge that because he came near to her shadow he had to be punished. A high priest conducted ceremonies of purification at the temple there and revived happiness. Today the Mamane trees are stunted and soon the foreign trees such as California Redwood, Norfolk Pines and others will be replacing the former green verdure (Ashdown 1971:46).

In 1873, Isabella Bird toured the Hawaiian Islands and wrote of her experiences to her sister back home in Edinburgh. These are her impressions of Makawao:

It is very pretty here, and I wish all invalids could revel in the sweet, changeless air. The name signifies “ripe bread-fruit of the gods.” The plantation is 2000’ above the sea, and is one of the finest on the islands; and owing to the slow maturity of the cane, at so great a height, the yield is from 5 to 6 tons an acre. Water is very scarce; all that is used in the boilling-house and elsewhere has been carefully led into concrete tanks for storage, and even the walks in the proprietor’s beautiful garden are laid with cement for the same purpose. He has planted many thousand Australian eucalyptus trees on the hillside in the hope of procuring a larger rainfall, so that the neighbourhood has quite an exotic appearance. Below, the coast is black and volcanic-looking jutting into the sea in naked lava promontories, which nature has done nothing to drape (Bird 1974:228).

Early accounts which mention Makawao in relation to early historical events include those by historians Kamakau and Forandner:

When Kekaulike heard that Alapa’i, the ruling chief of Hawaii was at Kohala on his way to war against Maui, he was afraid and fled to Waialua in his double war canoe named Ke-aka-milo. He sailed with his wives and children, his officers, war leaders, chiefs, and fighting men, including warriors, spearmen, and counselors. Some went by canoe and some overland, and the fleet landed at Kapa’aahu at the pit of ‘Aihako’o in Kula [old name for Makawao]. Here on the shore the chiefs prepared a litter for Kekaulike and bore him upland to Haleki’i in Kukahau (Kamakau 1961:69).

Ke-a-ulu-moku was another celebrated man of Kalanipu’u’s day. His father was the great chief Kau-ua-kahi-akua-nui, son of Lono-maka-i-honua and Kaha-po’oliwi, but his mother belonged to Naohaku in Kohala. He was celebrated as a composer of war chants, chants of praise, love chants, prophetic chants, and genealogical chants. When he went back to Hawaii with Kalanipu’u he was homesick for the two Hamakua districts of Maui [Hamakua is within Makawao District] where he had lived with Kanehameha-nui and Kabekili. His love for the place found expression in a chant he composed, of which the following is an excerpt:

Aloha, Aloha
Affectionate longing, ibid
Aloha wale o’u maka’a la
Affection for my (foster) parents,
e o’u maka’a,
my parents,
Aloha wale o’u maka’a
Affection for my parents
 Mai na ‘aina Hamakua,
Who belong to Hamakua,
He ma’u ‘aina Hamakua elua,
The two districts of Hamakua
No’u ma kaikua’ana i noho ai
Where my elder brothers live.
He ala pali na‘u he mau ali‘i ia
My hillside trails are theirs to rule
(Kamakau 1961:112).

During the fleeing of Kekaulike, [while] Kahekili was carrying on the war on Oahu and suppressing the revolt of the Oahu chiefs, (Kamakau dates this 1785) a serious disturbance on Maui had occurred which gave him much uneasiness. It appears that he had given the charge of his herds of hogs that were running in the Kula district and on the slopes of Haleakala to a petty chief named Kukeawe. This gentleman, not satisfied with whatever he could embezze from his master’s herds, made raids upon the farmers and country people of Kula, Hononuulu, Kahikinui, and even as far as Kaupo, robbing them of their hogs, under pretext that they belonged to Kahekili. Indignant at this tyranny and oppression, the country people rose in arms and a civil war commenced. Kukeawe called the military forces left by Kahekili at Wailuku to his assistance; a series of battles were fought, and finally Kukeawe was killed at Kamaole-i-ka‘ui, near Paluaca, and the revolted farmers remained masters of the situation (Fornander 1969:228).

This uprising of the country people was called the "Battle of the pig-eating Ku-keawe" (‘Aipua’a-a-Ku-keawe) (Kamakau 1961:142).

In conclusion of this section, the following sayings, taken from Pu‘ukai, are offered:

E hu‘e mai ‘oe i ka koa‘i o Makawao.
I defy you to tackle a lad of Makawao.
A boast from a native of Makawao, Maui. (1983:#298)

O ‘Alelele ke awa kaulana o Makawao.
‘Alelele, the famous diving pool of Makawao.
Refers to Makawao, Maui. (1983:#2355)

Ulu kukui o Liliko‘i,
Kukui grove of Liliko‘i. (1983:#2869)

This kukui grove, in Makawao, Maui, was much visited by travelers, for it was a favorite spot of the chiefs. The nuts gathered from the trees produced a fragrant, tasty relish.

LAND COMMISSION AWARDS

A discussion of LCA awards in Makawao must begin prior to the Mahele because Makawao was involved in a pre-Mahele experimental program of land awards. Kuykendall recounts the reasons for this trial fee ownership program:

It will be remembered that the year 1845, during which the new land law was written and in part enacted, was disturbed by an anti-foreign agitation, accompanied by a rather pointed suggestion that lands be given or sold to the common people and that the legislative committee, in its reply to the petitions of the people, approved the idea of selling land to Hawaiian subjects. This was directly in line with suggestions contained in Dr. Judd’s report as minister of the interior, and there were frequent allusions to the subject in the proceedings of the legislature. The agitation among the people probably hastened the decision of the government to make an experimental beginning without waiting for the new law to go into operation. The places selected for the experiment were the Makawao district of Maui [emphasis own] and Manoa valley on Oahu.

During the King’s tour of Maui in December, 1845, and January 1846, the party visited Makawao and it was announced that the entire district, with the exception of McLean’s plantation, was to be offered for sale to the people in fee simple [emphasis own]. Rev. J.S. Green, pastor of the Hawaiian church at Makawao, undertook to manage the business of selling the land. In afterwards relating his experience in connection with the project, Green said he called the people together, showed them his instructions from the government, and explained the plan to them.

A few of them purchased at once, others had less confidence that lands thus purchased would be secure, but soon abandoned their scruples, while others still could not for a long time, be persuaded that there was not some catch about it—some design to enrich the chiefs at their expense. But nearly all of these were finally talked out of their suspicions & took up each a small piece of land (Letter in Polynesian, July 14, 1849).
Another missionary, Rev. Richard Armstrong, assisted the enterprise by making surveys. The land was sold at $1 per acre, and nearly 100 parcels were taken up, most of them ranging from 5 to 10 acres. Altogether about 900 acres were purchased by the people of the district. (Kay kendall 1968:283).

The inception and process of the Mahele in 1848 is described next, based on the works of Chinen.

During the reign of Kamehameha III, the most important event in the reformation of the land system was incorporated. "The Great Mahele" separated and defined the undivided land interests of the King and the high-ranking chiefs and konohiki (originally referred to the person in charge of a tract of land on behalf of the king or a chief; it is in the later statutes that the chiefs or landlords were referred to as "konohikis") (Chinen 1958:vi and Chinen 1961:13). More than 240 of the highest ranking chiefs and konohiki in the kingdom joined Kamehameha III in this division. The first mahele was signed on Jan. 27, 1848 by Kamehameha III and Princess Victoria Kamamalu by her guardians Mataio Kekuanaoa and Jone H. The last mahele was signed by the King and E. Enoka on March 7, 1848 (Chinen 1958:16).

The Mahele did not convey any title to any land. The chiefs and konohiki were required to present their claims to the Land Commission and to receive awards for the lands quickclaimed to them by Kamehameha III. Until an award for these lands was issued, title remained with the government. Because there were few surveyors at the time of the Mahele, the lands were divided by name only, with the understanding that the ancient boundaries would control until a survey of such lands could be made in the future. This was done to expedite the work of the Land Commission in awarding lands to the chiefs and konohiki. However, these chiefs and konohiki were still required to pay commutations to the government for them to receive Royal Patents on their awards. These lands awarded to the chiefs and konohiki became known as Konohiki Lands (Chinen 1961:13).

Lands were identified and separated in 1848 as Crown Lands (for the occupant of the throne), Government Lands, and Konohiki Lands. These were all "subject to the rights of native tenants" (Laws of Hawaii 1848:22). These rights were brought into question when the King, the government and konohiki began selling off parcels of land. To clarify the situation, the Privy Council, on December 21, 1849, adopted four resolutions as a means of protecting the rights of native tenants (Chinen 1958:29).

These resolutions authorized the Land Commission to award fee simple title to all native tenants who occupied and improved any portion of Crown, Government, or Konohiki Lands. Except for the houses located in the districts of Honolulu, Lahaina, and Hilo, these awards were to be free of commutation (ibid).

Before receiving awards for their lands from the Land Commission, the native tenants were required to prove that they actually cultivated those lands for a living. They were not permitted to acquire waste lands or lands which they cultivated "with the seeming intention of enlarging their lots." Once confirmed, they were required to be surveyed before the Land Commission was authorized to issue any award. These lands became known as "Kuleana Lands" (ibid.). Until its dissolution on March 31, 1855, the Land Commission issued thousands of awards to the native tenants for their kuleana. Even so, less than 30,000 acres of land were awarded to the native tenants as kuleana lands.

The ahupua'a of Hokuula was retained as one of the Government Lands (Board of Commissioners 1929:13). The ahupua'a of Haliihimale was awarded to M. Kekauonohi. Kekauonohi was the great-granddaughter of Kekaulike, King of Maui; she was also the wife of A. Kealiiaboni, who died June 23, 1849, and later the wife of L. Haaleleia, who died June 2, 1851. This award of 4260 acres was encompassed in Land Commission Award (LCA) 11216 (ibid:12). Both the ahupua'a of Makaehu and Kailua are listed as "Land Surrendered for Commutation by A. Koehokaloale" (ibid:51). Koehokaloale was the mother of King Kalakaua, Queen Liliuokalani, Miriam Likelike Cleghorn and William Pitt Leleiohoku. In letters to the Minister of the Interior, Koehokaloale names her holdings in Kula:

To His Highness, John Young
Minister of Interior
Greetings:

This is to inform you and the Privy council of my desire to convey some of my lands for the Government's one third in the land which remain as mine. Grant me this, of course, with the approval of the Privy Council. Below is a list of the lands I wish to convey to the government.

Asueo ahupua'a Kula, Maui.
5 Omapio ahupua'a, Kula, Maui
Madehu [sic] ahupua'a, Kula, Maui.
Kuikuiheo ahupua'a, Kula, Maui.
2 Kailua ahupua'a, Kula, Maui.
2 Pukalani ahupua'a, Kula, Maui. (etc.)
The boundaries of all of these lands above have been established.

With appreciation, A. Keohokaloole.
Honolulu, Jan 3, 1850

To His Highness, John Young
Minister of Interior
Greetings:

Here is a list of the names of my lands which has been left for me pending for an approval of its distribution.

Aapueo ahupuaa, Kula, Maui.
Kamehame ahupuaa, Kula, Maui.
Kuikuihoe ahupuaa, Kula, Maui. (etc.)

With appreciation, A. Keohokaloole.
Honolulu, Jan. 3, 1850

It should be noted that in the first letter above, and in the Indices, Makahu is spelled "Makehu."

LAND USE AND TENURE

The Land Index File at the Hawaii State Archives includes a listing of available correspondence relating to lands in the project area. The correspondence provides individual names of those who possibly had an interest in land or land uses in this area and includes a method of monitoring land transactions.

Hallimaile

Privy Council, Vol. 3, pg. 405
Resolution requesting E. Bailey to survey & make a general outline map of the above ahupua'a.
In the same document, an offer from Kekauonohi to John Young to sell Hallimaile.

Interior Dept., July 3, 1847
Application by Wm. Crowningburg to Keoni Ana for the above ahupua'a.

Public Instruction, Oct 30, 1848, Thos B. Cummings to Minister of Pub Instruction
Applying to purchase or to lease 300 acres of the above land, on Maui. Offers $0.25 an acre for lease & $1.50 an acre for purchase.

Hokuula

Interior Dept., June 2, 1853, John T. Gower to Minister
Recommending the sale of 122.45 acres of land...to Thos. C. White at $1 per acre.

Privy Council, Vol. 7, pg. 231
Resolution confirming the sale of 122.45 acres of the above ahupuaa to Thos. C. White.

Privy Council, Vol. 9, pg 101
Resolution directing the Minister of Interior to offer at public auction 732 acres...surveyed in five lots and applied for by five persons.

Interior Dept., March 15, 1855, Minister to J. T. Gower
Enclosing copy of resolution passed by the Privy Council, authorizing the sale of 732 acres in above.

Interior Dept., March 26, 1883, W.P.A. Brewer to Minister of Interior
Informing that since the firm of Brewer & Crowningburg has been formed into a joint stock company under the name of East Maui Stock Co., he now wishes to have the lease of the above Govt. land transferred to the new company as mentioned above.

Public Instruction Land, April 11, 1895, J.T. Gower to Minister of Public Instruction
Estimates that there are about 1000 acres in wheat and looking well and in re land sold by him in the above tract to various parties in 100 acre lots, which he asked the Privy Council to confirm, and partly paid for and improvements made thereon. Now, an order has gone forward to sell lands at Auciton. Requesting that the Privy Council modify its Resolution &c.

Petition, re homesteading above land, attached to letter from Gov to Comm of Public Lands of the above date.

The Interior Department file dated March 31, 1877 contains notes of a survey of Hokuula and Kailua. Unfortunately, it does not reveal any further clues to land use.

The Land of Hamakupoko and those nearby are covered in this list of Land File documents:
Privy Council, Vol. 3, pg. 405
Resolution requesting E. Bailey to survey & make a general outline map of Hamakuapoko.

Privy Council, Vol. 6, pg. 222
Re. Resolution reserving the whole of the above land for educational purposes.

The Eastern 1/2 of Hamakuapoko
In list showing the above ahupua'a in Maui, was set aside to Kamehameha III, in the division made between Leleiohoku & the King.

The Western 1/2 of Hamakuapoko, Int. Dept., Doc. 375
In list showing that above ahupua'a in Hamakuapoko, Maui was set aside to Wm. P. Leleiohoku, in the division made between the King and the said Leleiohoku.

Interior Dept., Bk. 1, pg. 293, Sept. 9, 1846
In letter to Minister of Interior, John Young, Kekauonohi offers the above land for sale to the Govt for $3500.

Interior Dept., Bk. 1 pg. 294, Oct. 6, 1846
In letter of John Young, to Kekauonohi, price asked for too high, offers $800. Govt. has 1/8 interest in above land.
[Translation copies in Interior Dept. files.]

Interior Dept., Bk. 2 pg. 411, Aug. 21, 1849
In letter of the Minister of Interior (by Jones) to Wm. L. Lee. Informing him that his application, on behalf of John Richardson, for 150 acres of upland in Hamakuapoko, has been granted.

Interior Dept., May 27, 1850
In re. division of lands between the Hawn Govt. & the heirs of W. P. Leleiohoku, showing that 1/2 of the western portion of the above land was granted to the government, which was sanctioned by the Privy Council on May 27, 1850.

Interior Dept., Nov 20, 1850
Application by E. Bailey to the Minister of Interior (Young) for some land in the eastern part of the above place.

Interior Dept., Nov 21, 1850
In application by W.P. Alexander to the Minister of Interior (Young) for 300 acres of land in the eastern part of the above place, & also 500 acres in the same place for Rev. C. B. Andrews.

Public Instruction, March 19, 1851
E. Bailey to Minister of Public Instruction. Have finished up the survey of the above land, also survey of Makaehu, &c.

Public Instruction, May 24, 1851, Minister of Public Instruction from P.J. Gulick.
Replying to his note, relative to lands set apart for educational purposes. That 300 acres in the above tract have been sold to Mr. Stevens of the U.S. Navy. Papers for which have not yet made out & money not paid.

Public Instruction, Dec. 13, 1852, E. Bailey to Minister of Public Instruction
Cattle is running on the above land, & that Kiha is catching them up & squeezing owner to fill his own pockets.

Public Instruction, Jan. 6, 1853, E. Bailey to Minister of Public Instruction
Acknowledging receipt of his favor of the 28th ulto. To put a tax on cattle running in the above place at $1.00 a head & that Malahi be appointed Luna for that purpose, instead of Kiha.

Public Instruction, Jan. 19, 1854, E. Bailey to Minister of Public Instruction
Re matter of selling 1000 acres of the above land, to a company of natives at $2. - [$2,000] Payment to be made in 4 installments of $500. each &c. Doc. relating thereto attached.

Public Instruction, June 4, 1855, J.S. Green to Minister of Public Instruction
That Kiha blames him as the cause of his being destitute of land. So strong was his desire for land in the above tract that he gave up all other lands, &c.

Public Instruction, Aug. 20, 1855
In list showing that 150 acres of the above school land on Maui had been sold, and that 5478 acres are unsold.

Interior Dept., Bk 7, pg. 342b, April 12, 1861
In letter from the Minister of Interior to S.N. Castle asking that his rental for a piece of land in the above place belonging to the Oahu College, be reduced to $350 a year or that he be allowed to purchase said land in Fee Simple at $1 per acre &c.
Appendix C. LCA testimony for subject shupuna could not be found at the State Archives. But a look at testimony for the shupuna of Aapeue which abuts Makaha reveals that the primary usage was pastureage (LCA 9026 Native Testimony vol. 7:53). This association with cattle provides Makawao with its reputation as a ranching town. The following excerpt from Mowee tells of the primary inhabitants of the area, the Portuguese:

Although the Portuguese on Maui are engaged in every type of business and industry, and in every part of the island, perhaps the most recognizable group are those living in Maui's so-called Upcountry where ranching and farming are the principal occupations. Portuguese residents there center their activities around the ranching town of Makawao, its Catholic St. Joseph's Church, and at Kula which is the location of the beautiful octagonal church whose altar was brought from Portugal itself. (Speakman 1978:145)

The town of Makawao lost its rural status during World War II when military troops stationed nearby encouraged the opening of various businesses to service the soldiers (Harden and Englewood 1985:91). After the war ended, so did most of the commerce and the town reverted to its slower pace (ibid).

All of the proposed sites are in pineapple cultivation owned by Maui Land and Pineapple Company (pers. comm., Bruce Gorst 3/12/90). Maui Land and Pine has its roots in Alexander and Baldwin, one of the original “Big 5” corporations in Hawaii. The inception of this company is documented in the book Mowee. A company called Baldwin Packers was acquired by “H.P.” along with its lands at Kapalua on the northwest coast of Maui. Baldwin Packers eventually became Maui Pineapple Company, the largest producer of pineapple on Maui. Its development was watched over carefully by J. Walter Cameron who had married Frances Baldwin, granddaughter of “H.P.” Taking over Maui Pineapple, of which A & B owned controlling interest, he led the Maui company as it developed over the 1950s and 1960s. On his father’s retirement, Colin C. Cameron became manager for A & B, then resigned from Maui Pineapple as a struggle for its control ensued. In a surprise move, a multimillion-dollar deal in which the Camerons traded A & B stock and cash for controlling stock in the pineapple company, the Camerons won control. Colin became president,
[and] the name was changed to Maui Land & Pineapple Company. (Speakman 1978:130-131)

In Hokuula, there are four small grants (Numbers 1455, 1444, 1445 and 15237) which may be parcels awarded in the trial fee simple program which took place here prior to the Mahele. A search at the Land Management Office in Honolulu is necessary to confirm or deny this. A report entitled "Archaeological Reconnaissance of the Paia Sewage System, Part 'A', Paia, Maui, Hawaii" by R.M. Bordner and C. Silva was not available at the time of this project. This work, which contains historical research conducted by Ms. Silva, would be a valuable addition to research in the area. Further historical research should make use of it, in addition to data at the Land Management Office.

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