

LINDA CROCKETT LINGLE  
Mayor



BRIAN W. MISKAE  
Director

GWEN Y. OHASHI  
Deputy Director

RECEIVED

COUNTY OF MAUI  
PLANNING DEPARTMENT  
250 S. HIGH STREET  
WAILUKU, MAUI, HAWAII 96793

95 JUN 13 12:54

June 5, 1995

OFFICE OF ENVIRONMENTAL  
QUALITY CONTROL

Mr. Gary Gill, Director  
Office of Environmental Quality  
Control  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

Dear Mr. Gill:

Subject: Negative Declaration for Community Plan  
Amendment Environmental Assessment from Agriculture  
to Public/Quasi-Public for the Seabury Hall  
Gymnasium and Parking Lot Project on 5.381 Acres of  
Land at TMK: 2-4-08: por. of 29, Olinda, Makawao,  
Maui (94/EA-11) (94/CPA-07).

The Maui Planning Department has reviewed the comments received during the 30-day comment period which began on November 8, 1994. A final Environmental Assessment was submitted to our office dated May 22, 1995, on May 24, 1995. The Maui Planning Department has determined that this project will not have a significant environmental effect and issued a negative declaration. Please publish this notice in the next available OEQC Bulletin.

We have enclosed a completed OEQC Bulletin Publication Form and four copies of the final EA.

Please contact Mr. Clayton Yoshida at 243-7735 if you have any questions.

Yours truly,

A handwritten signature in black ink, appearing to read "B. Miskae".

BRIAN MISKAE  
Director of Planning

CIY:tm  
Enclosures  
cc: Barclay Johnson, Seabury Hall  
LUCA  
Gwen Ohashi, Deputy Planning Director  
Colleen Suyama  
Clayton Yoshida, AICP  
Project File  
(a:\feaseabu)

DOCUMENT CAPTURED AS RECEIVED

1995-06-23-MA-SEA-SEABURY HALL GYMNASIUM AND PARKING AREA

JUN 23 1995

SEABURY HALL GYMNASIUM  
AND PARKING LOT  
Final  
ENVIRONMENTAL ASSESSMENT

May 22, 1995

95 MAY 25 P6:45  
DEPT OF FINANCIAL  
COUNTY OF HALL  
RECEIVED

SEABURY HALL GYMNASIUM  
AND PARKING LOT  
Final  
ENVIRONMENTAL ASSESSMENT

May 22, 1995

SEABURY HALL GYMNASIUM  
AND PARKING LOT  
Final  
ENVIRONMENTAL ASSESSMENT

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## INTRODUCTION

This Environmental Assessment considers the impact and mitigations of the Seabury Hall Gymnasium and Parking Lot project. The project began site preparations in October 1993. Final Certificate of Occupancy was issued on December 15, 1994.

## DESCRIPTION OF THE PROPERTY

The subject property is located in Makawao, County of Maui, Hawaii and consists of two parcels to be subdivided from lot 2-4-08: 29. One parcel ( 7.813 ac) will be consolidated into the Seabury Hall present campus (9.352 ac. consisting of lot 2-4-08: 2 and 2-4-08:30 ) to become one parcel designated lot #1 ( 17.165 ac.). The other parcel ( 5.381 ac.) will also be purchased by Seabury Hall and will be designated lot #2. (See section 8.2 map #1 and #2). The remaining portion of lot 2-4-08; 29 (16.98 ac.) will continue to be owned by Haleakala Ranch. The 7.813 acre piece is presently being used by Seabury Hall as a soccer and playing field. The remaining 5.381 acres remains as cleared pastureland and is presently being used for pasturing polo horses owned by Haleakala Ranch.

## LAND USE DESIGNATIONS

See letter from Donald Okuda, Land Use and Codes Administration, regarding Land Use Designation (Appendix F. Maps).

## PROJECT HISTORY

Seabury Hall began as an all girls school located on an estate called Mauna Lei owned by the Baldwin family. Mauna Lei was eventually deeded to the Episcopal Church. It graduated its first class in 1964. In approximately 1974-75 Haleakala Ranch allowed Seabury Hall use of a 7.6 acre pasture which was subsequently graded and leveled for use as a soccer/play field. During the last Community Plan Assessment for the Makawao, Olinda, Kula area, the area was designated for Public/Quasi Public use. Although the present

Seabury Hall campus is properly zoned, the zoning for this soccerfield acreage was never changed since the lot was never subdivided.

In 1994 the Trustees of Seabury Hall purchased the 13.1+ acres from Haleakala Ranch so that a gymnasium and adjacent parking area could be built. A preliminary subdivision approval letter was granted by the County of Maui in April of 1992 and amended in December 1992. In 1993 Seabury Hall applied for and received a Special Use Permit in order to proceed with the construction of the gymnasium. As part of the Special Use Permit and Subdivision requirements, Seabury Hall is presently applying for the proper use and zoning. The 5.3 acre parcel has been approved via committee for Public/Quasi Public and should pass final approval without conflict when the revision of the new Community Plan is approved.

#### SPECIAL USE PERMIT APPROVALS

On March 18, 1994 The Maui Planning Commission recommended approval of the permit to build a gymnasium and related parking lot.

#### REASONS FOR JUSTIFYING REQUESTS

Seabury Hall wants to make sure that all of its owned property is in compliance with the County and State for proper use and zoning and that all acquired property is contiguous with the existing campus. Finally, it is the wish of all Seabury Hall's Trustees that the new gymnasium project and adjacent improvements benefit not only Seabury Hall students' but all of Maui's youth.

## ENVIRONMENTAL ASSESSMENT

### DESCRIPTION OF EXISTING ENVIRONMENT

#### Physical Setting

The project site is located in Makawao which is characterized by a rural setting consisting of single family residential houses on a variety of lot sizes and large pastures. To the north of the property is the Marciel estate consisting of two houses and large pastures, to the east are large estates with extensive pastures, to the south and west is a gulch separating the site from small single family houses.

The climatic pattern is heavily influenced by the northeasterly tradewinds and is typical of windward areas in the Hawaiian Islands. Rainfall averages between 30 and 60 inches annually with showers usually more frequent during the night and early morning. Average temperatures range in the low 60's to mid 80's.

Topography and soil characteristics statistics can be found in a soils analysis prepared by Soils International. (see document appendix)

Flood Hazard data can be found in a drainage report prepared by Wayne Arakaki, C.E. (see document appendix).

Flora and Fauna are consistent with upcountry pasture land. Kikuya grass is predominant with no trees or shrubs in all pasture and soccerfield acreage. There are no indigenous or rare Hawaiian plants. Seabury Hall has applied for and received a grant from the State of Hawaii Land and Natural Resources for planting indigenous Hawaiian Koa trees. Approximately 50-60 trees will be planted by the students. (see document appendix)

Archaeological Resources have been addressed by Ms. Annie Griffin via Phyllis McElderney from the State Land and Natural Resources office. (See document appendix).

Air quality in the area is excellent. There will be no emissions from the project site except during the construction phase of the gymnasium. Substantial effort and money has been set aside for dust control and and grassing of any loose soil during construction of the project.

Noise attributed to children playing should not increase since the playfields will remain the same. The gym is specifically designed

to reduce noise not only for the neighboring community but for the academic campus as well.

Visual view plane is an important selling point for the school and every effort in design and development of the gym and parking lot has been to insure a low key structure tht does not block the view corridor. Parking has been placed in the lowest possible areas of the subject property to avoid any unsightly intrusion. Parking lights have been reduced in height, placed on timers, and surrounded by trees to lessen any visual impact.

#### Public Services

Fire protection for Maui county is headquartered in the Wailuku Station. The Makawao fire department is located 3 miles below the project site and is routinely visited on a school inspection basis to insure proper fire protection for Seabury Hall. The police substation for Makawao is located in the Eddie Tam gym approximately 2 miles below the Seabury Hall Campus.

Seabury Hall recycles a substantial portion of its solid waste with Maui Recycling center. (see document appendix). Remaining solid waste is sent to Puunene landfill via Maui Disposal Company.

Seabury Hall has been the only high school in the Upcountry area, however, by 1995 the new Kekaulike High School should be operational. As a public service, Seabury Hall allow public use of it's soccer field for AYSO use throughout the year.

For further explanation of public and secondary uses of the project area, please refer to analysis of secondary resources in d) located in the original Request for Zoning Change Report.

#### Infrastructure

Roadways to and from Seabury Hall are rural in nature with few if any traffic lights. For a more comprehensive detailed report of traffic surrounding the area, please refer to e) in the original Request for Zoning Change Report.

Wastewater is not presently served by County a wastewater treatment facility. Facilities in this area must provide individual treatment systems. The State Department of Health regulates wastewater disposal through implementation of Chapter 62, Hawaii Administrative rules. A wastewater treatment system has been installed and has been approved by the State and County Health Departments.

Water is provided through the Department of Water Supplies' new Olinda reservoirs and transmitted through a 12 inch water line along Olinda Road. A new fire detector check valve leading to Seabury Hall has been installed in compliance with the County Water Departments construction plans. Three additional fire hydrants have been installed in compliance with Maui Fire Department.

Electrical power is supplied by Maui Electric Company which has provided all electrical service to the project area.

## POTENTIAL IMPACTS AND MITIGATION MEASURES

### Physical Environment

The Makawao-Kula Community Plan encourages development of recreational facilities and improvement of services in the context of a "country atmosphere". It has always been a goal of the Seabury Hall Trustees to insure that the original gift of the Mauna Lei estate would be extensively maintained and preserved as a school that would reflect "upcountry" pride in a quiet, rural setting. The impact of this project has been minimal on the surrounding land use and has enhanced and preserved Maui's natural beauty. For more specific details, refer to a) in the original Request for Zoning Change Report.

The topography has involved approximately 4 acres of grading for the building site, new access roadway, and parking lot. In general finished contours have followed existing grades to minimize earthwork costs. All contours have been grassed and landscaped. There has been no negative impact on the topography or landform.

The flora and fauna have been impacted very little and with the planting of indigenous koa and native shrubbery via the Land and Natural Resources grant there has been substantial improvement in the general landscaping of the project site.

Results from the archeological inventory survey indicated that no apparent significant cultural resources were located on the subject parcel, thus, there was little impact to cultural resources. In the event that cultural remains had been encountered during the site excavation process, an adequate mitigation plan would have been developed in conjunction with the State Historic Preservation Office.

Air quality and noise was not a factor during the construction phase of the project which was completed on December 15, 1994. Construction was limited to daylight hours and dust control and regrassing were a significant part of the construction contract.

Every aspect of the project's design has been to preserve the view corridor and minimize the structural scope of the buildings. Since Seabury Hall is in the business of selling a college preparatory education, it is in their own best interest to insure a pleasant, quiet atmosphere conducive to academic study.

Public Services

The proposed project has provided much needed recreational gymnasium space for all of Maui. As part of its expanding physical educational program, Seabury Hall intends to increase its summer sports program and thereby, increase community participation as much as possible. For a more detailed explanation of the project's impact on public services refer to section a) and d) in the Request for Zoning Change Report.

Infrastructure

There has been no significant increase in traffic on Meha Road now that the gymnasium and access easement roadway have been completed. Although there was substantial vehicular and truck traffic during construction, the student traffic is now the same as it always was.

Available water service for the Makawao-Olinda area has increased with the installation and operation of the new Olinda Reservoir System. Per construction plans, a new double-valve fire detector check valve was installed to meet the new water code specifications at the entrance to the Seabury Hall campus. Construction plans required an extension to the existing two hydrants, a cut-off safety valve, and the installation of three additional hydrants to improve fire protection for the school and surrounding area.

Drainage within the project site has not been altered. For further details concerning drainage, refer to k) in the Request for Zoning Change Report.

All wastewater has been handled through a septic tank system designed and approved by the State Department of Health.

Solid waste has not had any significant increase in volume and has not had any negative on impact County infrastruc

**ENVIRONMENTAL ASSESSMENT  
COMMENTS AND CORRESPONDENCE**

The following agencies were consulted in preparing this environmental assessment:

**1. Responses without comments**

- Police Department
- County of Maui Planning Department
- State Department of Transportation
- United States Army, Engineering division
- State Department of Accounting and General Services
- Department of Agriculture, Soil Conservation Service
- State Department of Land and Natural Resources
- Office of Environmental Quality Control
- Fire Department
- County Department of Parks and Recreation
- Maui Electric Company
- State Department of Education
- 

**2. Responses with comments and resulting correspondence**

- Office of State Planning
- State Land Use Commission
- County Water Department
- Department of Public Works and Waste Management
- State Department of Health

RESPONSES WITHOUT COMMENTS

LINDA CROCKETT LINGLE  
Mayor

A4



BRIAN W. MISKAE  
Director  
GWEN Y. OHASHI  
Deputy Director

94 SEP 28 8 21

COUNTY OF MAUI  
PLANNING DEPARTMENT  
250 S. HIGH STREET  
WAILUKU, MAUI, HAWAII 96793

RECEIVED

DEPT OF PLANNING  
CUB TRANSMITTAL:

- State Agencies:
- Dept of Health, Maui
  - Dept of Health, Honolulu
  - Dept of Transportation, Planning Office (3 copies)
  - DLNR (2 copies)
  - DLNR-Historic Preservation Div. DLNR-Maui Office
  - Dept of Agriculture, Honolulu
  - Dept of Agriculture, Maui
  - DAGS, Survey Division
  - DOE, Office of Business Services
  - Office of State Planning
  - State Land Use Commission
  - DBEDT
  - Dept of Hawaiian Homes Land
  - Office of Hawaiian Affairs
  - Dept of Labor
  - Dept of Human Services, Maui

- Date: September 26, 1994
- County Agencies:
- DPW, LUCA (3 copies)
  - Dept of Public Works
  - Water Department
  - Parks and Recreation
  - Fire Dept
  - Police Department
  - Human Concerns
  - Corporation Counsel
  - County Clerk
  - Mayor's Office
  - Finance Dept
  - Planning, General Planning Div.
- Federal:
- Soil Conservation Service
  - Army Corps of Engineers
  - Fish & Wildlife Service
- Others:
- Maui Electric Company
  - Hawaiian Telephone Co.

SUBJECT: I.D. No. 94/EA-011, 94/CPA-07, 94/DBA-5, 94/CIZ-012  
 TRK 2-4-08 pro. 029  
 Project Name: Gymnasium and Parkway Lot  
 Applicant: Seabury Hall

TRANSMITTED TO YOU ARE THE FOLLOWING:

- |  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> Application              | <input type="checkbox"/> Traffic Report                  | <input type="checkbox"/> Housing Agreements    |
| <input checked="" type="checkbox"/> Project Plans            | <input type="checkbox"/> Archaeological Report           | <input type="checkbox"/> Unilateral Agreements |
| <input checked="" type="checkbox"/> Environmental Assessment | <input type="checkbox"/> Infrastructure Report           | <input type="checkbox"/> Draft Ordinances      |
| <input type="checkbox"/> Shoreline Map                       | <input type="checkbox"/> Drainage Report                 | <input type="checkbox"/> Ordinance(s)-Final    |
| <input type="checkbox"/> Previous Agency Comment             | <input type="checkbox"/> Soils Report                    | <input type="checkbox"/> Decision and Order    |
| <input type="checkbox"/> Dept Report/Recomm                  | <input checked="" type="checkbox"/> Letter dated 9/22/94 | Dated:   |

THESE ARE TRANSMITTED AS CHECKED BELOW:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> For Your Comment/Recommendation | <input type="checkbox"/> For Your Information      |
| <input type="checkbox"/> For Your Approval/Signature                | <input type="checkbox"/> For Appropriate Attention |
| <input type="checkbox"/> As Requested                               |  |

Please Submit Your Comments/Recommendations By October 26, 1994

Remarks:

If additional clarification is required please contact of my office at 243-7735.

*Clayton Yoshida*

cc: Colleen Suyama  
Charles Jencks, DPW  
File  
Applicant

For  
CLAYTON YOSHIDA, Planner  
BRIAN MISKAE, Planning Director  
MAUI PLANNING DEPARTMENT  
250 S. HIGH STREET  
WAILUKU, MAUI, HAWAII 96793

(a:\PLANNING\ALL\FORMS\TRNAGCY1:Rev. 9/15/94)

*We have no objections or comments  
for this project at this time. A/C Mahachan  
Palani Rajan  
9-1-94*

LINDA CROCKETT LINGLE  
Mayor



BRIAN W. MISKAE  
Director

GWEN Y. OHASHI  
Deputy Director

COUNTY OF MAUI  
PLANNING DEPARTMENT  
250 S. HIGH STREET  
WAILUKU, MAUI, HAWAII 96793

MEMORANDUM

Date: October 4, 1994  
From: William Spence, Planner, General Planning *MS.*  
To: Clayton Yoshida, Planner, Land Use Management  
Subject: EA, CPA, DBA, CIZ for Seabury Hall Gymnasium and Parking Lot,  
TMK 2-4-8:029 (por).

---

This proposed project is located in the Makawao-Pukalani-Kula Community Plan Region, the plan for which is currently in the ten year revision process. In the course of this process, a citizen advisory committee (CAC) is formed to review the existing plan and make recommendations to the planning director. The CAC for this region considered a proposal by the landowner to redesignate this parcel from "Ag" to "Public/Quasi-Public" on the community plan land use map for the purposes described in the above applications and supported it by voting 11 in favor, with one abstention and one absence.

The Planning Department is also supporting this proposed amendment in its revisions to the Makawao-Pukalani-Kula Community Plan land use map by showing the parcel as "Public/Quasi-Public." The Maui Planning Commission is scheduled to make its recommendations on the plan on October 24 in which it will also make a recommendation concerning this proposal. Once the Planning Commission votes on the proposed revisions, it will be transmitted to the Maui County Council for further revision and adoption.

cc: Brian Miskae, Director of Planning





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



REPLY TO  
ATTENTION OF

October 20, 1994

Planning Division

Mr. Clayton Yoshida, Staff Planner  
Planning Department  
County of Maui  
250 South High Street  
Wailuku, Maui, Hawaii 96793

Dear Mr. Yoshida:

Thank you for the opportunity to review and comment on the Application for Community Plan Amendment and Environmental Assessment for the Seabury Hall Gymnasium and Parking Area, Makawao, Maui (TMK 2-4-8: 29). The following comments are provided pursuant to Corps of Engineers authorities to disseminate flood hazard information under the Flood Control Act of 1960 and to issue Department of the Army (DA) permits under the Clean Water Act; the Rivers and Harbors Act of 1899; and the Marine Protection, Research and Sanctuaries Act.

a. Based on the information provided, a DA permit will not be required.

b. We concur with the flood information provided on page 2 of the drainage report.

Sincerely,

Ray H. Jyo, P.E.  
Director of Engineering

1103

JOHN WAIHEE  
GOVERNOR



'94 OCT 21 P1:39

ROBERT P.  
COMPTROLLER  
COMPTROLLER

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

RECEIVED

FILE NO. \_\_\_\_\_

October 14, 1994

TRANSMITTAL

TO: Mr. Brian Miskae, Director  
ATTN.: Mr. Clayton Yoshida, Planner  
SUBJECT: I.D. No. 94/EA-011, 94/CPA-07, 94/DBA-5, 94/CI2-012  
TKK: 2-4-08 pro. 029  
Project Name: Gymnasium and Parkway Lot  
Applicant: Seabury Hall

REMARKS:

The subject proposal has been reviewed and confirmed that no Government Survey Triangulation Stations and Benchmarks are affected. Survey has no objections to the proposed project.

*Stanley T. Hasegawa*  
STANLEY T. HASEGAWA  
State Land Surveyor

| MAUI<br>PLANNING<br>DEPT | FYI                                 | COMMENTS                            | ASSIGN                   | SEE ME                   | FILE                     | DRAFT RESPONSE           |
|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| BRIAN                    | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| GWEN                     | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| COLLEEN                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CLAYTON                  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| JULIE                    | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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| SECRETARY                | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ASSIGN TO                | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| TODAY'S DATE             | 10/21/94                            |                                     |                          |                          |                          |                          |
| DATE DUE                 |                                     |                                     |                          |                          |                          |                          |
| BY:                      |                                     |                                     |                          |                          |                          |                          |

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UNITED STATES  
DEPARTMENT OF  
AGRICULTURE

SOIL  
CONSERVATION  
SERVICE

70 S. HIGH STREET, RM. 215  
WAILUKU, HAWAII  
96793

Date: October 17, 1994

Mr. Brian Miskae, Planning Director  
Maui Planning Department  
250 S. High Street  
Wailuku, Hawaii 96793

DEPT OF AGRICULTURE  
COUNTY OF HAWAII  
RECEIVED  
94 OCT 24 09:48

Dear Brian,

RE: Gymnasium and Parkway Lot, TMK: 2-4-08: por.  
I.D. No. 94/EA-011, 94/CPA-07, 94/DBA-5, 94/CI2-012.

I have no comment on the subject application.

Sincerely,

*Neal S. Fujiwara*

Neal S. Fujiwara  
District Conservationist

GOVERNOR OF HAWAII



KEITH ARIKI, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES  
JOHN P. KOPPELBERG  
DORA L. HANAUKE

AQUACULTURE DEVELOPMENT PROGRAM  
AQUATIC RESOURCES CONSERVATION AND ENVIRONMENTAL AFFAIRS  
CONSERVATION AND RESOURCES ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION DIVISION  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

94 OCT 31 P12:59

STATE OF HAWAII

DEPT OF PLANNING DEPARTMENT OF LAND AND NATURAL RESOURCES  
COUNTY OF MAUI RECEIVED

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

October 27, 1994

Mr. Brian Miskae, Director  
Maui Planning Department  
250 South High Street  
Wailuku, Maui, Hawaii 96793

LOG NO: 13059 ✓  
DOC NO: 9410KD28

Dear Mr. Miskae:

SUBJECT: County of Maui, Historic Preservation Review of the Seabury Hall Gymnasium and Parking Area (I.D. No. 94/EA-011, 94/CPA-07, 94/DBA-5, 94/CIZ-012) Makawao, Makawao District, Island of Maui  
TME: 2-4-08: por. 29

Thank you for the opportunity to review the Environmental Assessment and applications for Change in Zoning, Community Plan Amendment, and Land Use District Boundary Amendment for the Seabury Hall Gymnasium and parking area. The proposed project will be located between existing buildings and playing fields within the Seabury Hall campus area.

Our office has previously reviewed the proposed actions (letter to Mr. B.W. Johnson November 6, 1992), and indicated that the rezoning and gymnasium construction would have "no effect" on historic sites.

There has been no substantive modifications in the proposed plan since our prior review. We therefore have no new comments at this time.

Please contact Ms. Theresa Donham at 243-5169 if you have any questions.

Sincerely,

DON HIBBARD, Administrator  
State Historic Preservation Division

KD:jen

c: Roger Evans (OCEA File)

MAUI PLANNING DEPT  
BRIAN  
GWEN  
COLLEEN  
CLAYTON  
JULIE  
BILL  
SECRETARY

ASSIGN TO

MAUI PLANNING DEPT

1384

JOHN WAINES  
GOVERNOR OF HAWAII



KEITH W. AMUE, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES  
JOHN P. KEPPELER II  
DONA L. KANAHE

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621  
HONOLULU, HAWAII 96809

REF: OCEA: SKETCH OF PLANNING  
COUNTY OF MAUI  
RECEIVED

AQUACULTURE DEVELOPMENT PROGRAM  
AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
CONSERVATION AND ENVIRONMENTAL AFFAIRS  
CONSERVATION AND RESOURCES ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

NOV 2 1994  
FILE NO.: 95-186  
DOC. ID.: 5071

The Honorable Brian W. Miskae, Director  
Planning Department  
County of Maui  
250 South High Street  
Wailuku, Maui, Hawaii 96793

Dear Mr. Miskae:

SUBJECT: Community Plan Amendment (94/CPA-07); Land Use District Boundary Change (94/DBA-5); and Change in Zone (94/CIZ-012) Applications: Seabury Hall Gymnasium and Parkway Lot, Makawao, Maui, TMK: 2-4-08: por. 29

We have reviewed the information for the subject applications transmitted by your memorandum dated September 26, 1994, and have no comments to offer at this time.

Thank you for the opportunity to comment on this matter. Please feel free to call Steve Tagawa at our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,

*Keith W. Amue*  
KEITH W. AMUE

|                    |      |  |  |  |  |  |  |  |
|--------------------|------|--|--|--|--|--|--|--|
| MAUI PLANNING DEPT |      |  |  |  |  |  |  |  |
| BRIAN              |      |  |  |  |  |  |  |  |
| GWEN               |      |  |  |  |  |  |  |  |
| COLLEEN            |      |  |  |  |  |  |  |  |
| CLAYTON            |      |  |  |  |  |  |  |  |
| JULIE              |      |  |  |  |  |  |  |  |
| BILL               |      |  |  |  |  |  |  |  |
| SECRETARY          |      |  |  |  |  |  |  |  |
| ASSIGN TO          |      |  |  |  |  |  |  |  |
| TODAY'S DATE       | 11/3 |  |  |  |  |  |  |  |
| DATE DUC           |      |  |  |  |  |  |  |  |

LINDA CROCKETT LINGLE  
Mayor



BRIAN W. MISK  
Director

GWEN Y. OHAS  
Deputy Director

COUNTY OF MAUI  
PLANNING DEPARTMENT  
250 S. HIGH STREET  
WAILUKU, MAUI, HAWAII 96793

October 13, 1994

Mr. Bruce S. Anderson, PhD.  
Acting Director  
State of Hawaii  
Office of Environmental Quality Control  
220 South King Street Fourth Floor  
Honolulu, Hawaii 96813

Dear Mr. Anderson:

Subject: Draft Environmental Assessment (EA) for Community  
Plan Amendment from Agriculture to Public/Quasi-  
Public for the Seabury Hall Gymnasium and Parking  
Lot Project at TMK: 2-4-028: 029 (per.), Makawao,  
Maui. (94/EA-11) (94/CPA-7) (94/DBA-5) (94/CIZ-12)

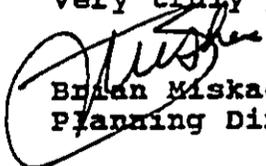
The Maui Planning Department has reviewed the subject  
environmental assessment prepared for the subject project and  
anticipates a negative declaration determination. Please publish  
notice of availability for this project in the next available OEQC  
Bulletin.

We have enclosed a completed OEQC Bulletin Publication Form  
and four copies of the following:

1. Draft EA;
2. Letter from Barclay Johnson to Brian Miskae dated  
September 22, 1994;
3. Project Plans dated December 29, 1993; and
4. Final Subdivision Plat Revised on July 26, 1994.

Should you have any questions, please contact Clayton Yoshida  
of this office at 243-7735.

Very truly yours,

  
Brian Miskae  
Planning Director

Encl.  
cc: Barclay Johnson, Gwen Ohashi, Colleen Suyama, Clayton  
Yoshida



SENT BY: COUNTY MAUI PLANNING ; 4-19-95 ; 5:47PM ;

8082437634→

5727196:# 5



**DEPARTMENT OF  
PARKS AND RECREATION  
COUNTY OF MAUI**

1580 KAAHUMANU AVENUE, WAILUKU, HAWAII 96793

LINDA CROCKETT LINGLE  
Mayor  
CHARMAINE TAVARES  
Director  
MIKE DAVIS  
Deputy Director

94 OCT 14 01:18

(808) 243-7210

DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED

October 11, 1994

Mr. Brian Miskae  
Planning Director  
Maui Planning Department  
250 S. High Street  
Wailuku, Maui, Hawaii 96793

Attention: Clayton Yoshida

Subject: I.D. No. 94/EA-011, 94/CPA-07, 94/DBA-5, 94/CIZ-012  
TMK 2-4-08: por. 29  
Gymnasium and Parkway Lot  
Seabury Hall

Dear Mr. Miskae:

We support the Seabury Hall's effort to improve and provide additional recreational facilities for their students on site.

Thank you for allowing us to comment on the subject applications.

Sincerely,

A handwritten signature in cursive script that reads 'Charmaine Tavares'.

CHARMAINE TAVARES  
Director

CT/rt



SENT BY: COUNTY MAUI PLANNING ; 4-19-95 ; 5:47PM ;  
JOHN WAIHEE  
GOVERNOR

8082437634→

5727196:# 4

HERMAN M. AIZAWA, Ph.D.  
SUPERINTENDENT



'94 OCT 14 P12:35

DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVES

STATE OF HAWAII  
DEPARTMENT OF EDUCATION  
P. O. BOX 2360  
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

October 10, 1994

Mr. Brian Miskae  
Planning Director  
Maui Planning Department  
250 South High Street  
Wailuku, Hawaii 96793

Dear Mr. Miskae:

SUBJECT: Gymnasium and Parkway Lot at Seabury Hall  
I.D. No. 94/EA-011, 94/CPA-07, 94/DBA-5, 94/CI2-012  
TMK: 2-4-08 pro. 029

We have reviewed the subject application and have no comment on the proposed development.

Thank you for the opportunity to respond.

Sincerely,

Herman M. Aizawa, Ph. D.  
Superintendent

HMA:hy

cc: A. Suga, OBS  
R. Murakami, MDO

MAUI  
PLANNING  
DEPT  
BRIAN  
GWEN  
COLLEEN  
CLAYTON  
JULIE  
BILL  
SECRETARY

ASSIGN TO:

TODAY'S DATE

DATE DUE

By:

Handwritten routing slip with names and checkboxes, including a checkmark next to COLLEEN.

RESPONSES WITH COMMENTS



# OFFICE OF STATE PLANNING

Office of the Governor

MAILING ADDRESS: P.O. BOX 2040, HONOLULU, HAWAII 96820-2040  
STREET ADDRESS: 250 SOUTH HOTEL STREET, 4TH FLOOR  
TELEPHONE: (808) 527-8944, 527-8900

FAX: Director's Office 647-1  
Planning Division 647-4

94 OCT 27 PM 2:17

Ref. No. C-891

DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED

October 20, 1994

The Honorable Brian Miskae  
Planning Director  
Planning Department  
County of Maui  
250 S. High Street  
Wailuku, Hawaii 96793

| MAUI PLANNING DEPT | COMMENTS                 | ASSIGN                   | SERIAL                   |
|--------------------|--------------------------|--------------------------|--------------------------|
| BRIAN              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| GWEN               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| COLLEEN            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CLAYTON            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| JULIE              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| BILL               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| SECRETARY          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ASSIGN TO          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| TODAY'S DATE       | 10/21                    |                          |                          |
| DATE DUE           |                          |                          |                          |
| BY:                |                          |                          |                          |

Dear Mr. Miskae:

Subject: 94/EA-011, 94/CPA-07, 94/DBA-5, 94/CIZ-012; Gymnasium and Parking Lot; Seabury Hall, Makawao, Maui

The applicant, Seabury Hall, is requesting an environmental assessment (EA) review and is seeking to reclassify 13.194 acres of land in the State Agricultural District to the State Urban District. The subject property is Community Planned and Zoned Agriculture. The applicant is seeking a Public/Quasi-Public designation for both the Community Plan and Zoning.

The subject property is located in Makawao, Maui, Hawaii and is identified as TMK: 2-04-08:29 (por). Approximately 7.813 acres of the property are currently used by Seabury Hall as a soccer and playing field. The remaining portion is currently used for pasturing polo horses owned by Haleakala Ranch and will eventually house the proposed gymnasium and parking lot. The owner of the property, Haleakala Ranch, has authorized the proposed land use designations as mentioned above. The Trustees of Seabury Hall have entered an Option to Purchase Agreement with Haleakala Ranch.

The proposed reclassifications are required by conditions imposed on the applicant by the County to establish the appropriate zoning for the current and proposed uses on the property. These conditions were part of Seabury Hall's preliminary subdivision approval granted by Maui County in April 1992 as amended in December 1992 and their Special Use Permit granted in 1993 by Maui County.

A series of maps showing the property in relation to current State Land Use Districts, Community Plan Designations, and Zoning would be helpful to justify the proposed reclassifications. The current Community Plan Designation for the property is unclear. The Community Plan Application form indicates that the property is designated Public/Quasi-Public and Single Family while the EA states that the property is designated Agriculture.

The Honorable Brian Miskae  
Page 2  
October 20, 1994

The applicant should discuss how the proposed State Land Use Urban reclassification meets the Urban District standards and how it conforms to the Hawaii State Plan. Since the applicant is proposing to take lands out of the Agricultural District, a discussion of the impacts of the action should be provided including a discussion of soils associated with the property as identified by the Land Study Bureau, Agricultural Lands of Importance to the State of Hawaii (ALISH), and the Soil Conservation Service.

We are assuming that the EA will be used for the previously mentioned land reclassifications. The information provided should meet the requirements of Chapter 343.

Thank you for the opportunity to comment. Should you have any questions, please contact Robyn Loudermilk at 587-2889.

Sincerely,

*Norma Wong*  
Norma Wong  
Director



## Seabury Hall

480 Olinda Road, Makawao, Hawaii 96768 (808) 572-7235 Fax (808) 572-7196

May 16, 1995

Dr. Gregory Pai, Ph.D, Director  
Office of State Planning  
250 South Hotel Street  
Honolulu, Hawaii 96811

RE:EA, CPA, DBA, CIZ for Seabury Hall Gymnasium and Parking Lot  
(TMK 2-4-08: 029 por.)

Dear Dr. Pai,

Thank you for responding to the circulated draft EA.

In your letter you had requested that a reponse should be made as to the impact of moving the agriculture district land in question to Urban district. At present the master productivity rating is C, indicating marginal agriculture productivity. As you had noted in your letter, the acreage has been used as pastureland for polo horses and has not been used for commercial purposes for many years. The gymnasium has not been placed near the acreage in question. It is anticipated that any development by Seabury Hall in the near future would probably be restricted to either additional soccer fields or a baseball diamond. Until then, it will remain pastureland.

The property purchased by Seabury Hall from Haleakala Ranch consists of a 13.194 acre parcel of which 5.381 acres is in the a Agricultural district. The remaining 7.813 acres are designated as Urban. It is the intent of the Trustees of Seabury Hall to consolidate the entire parcel into Seabury Hall's existing 9.352 acres to conform uniformly to its intended use as a school.

In these terms it should meet the State Land Use Urban District rules in determining Urban district boundaries. As a school, it can be characterized as "city-like", considering concentrations of people, structures, and urban levels of services. It is close to Makawao town and school and provides college preparatory education for all of

Maui. The property is free from the danger of floods, tsunami, and unstable soil conditions.

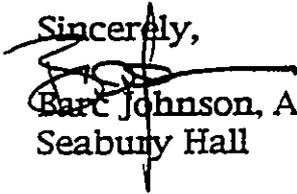
The project conforms to the Hawaii State Plan by providing more educational opportunities for college-bound students, and promoting employment opportunities for teachers and professionals in education in the State.

The Upcountry Community Plan has recommended that the remaining 5.381 acre property be designated Public/Quasi Public. It will not contribute to spot urban development, and, in fact, it will consolidate the intended use by incorporating all school property within a singular boundary. Since any development will be funded privately, there will be no expenditure of public funds. Such development will be according to the aesthetic standards that Seabury Hall has already established.

Finally, the maps that relate to State Land Use Districts, Community Plan Designations, and Zoning have been remade to conform to the proper classifications and were resubmitted to Mr. Clayton Yoshida at the Maui County Planning Department.

Thank you for allowing me to comment on your response. Should you have any further comments, please contact me at the above address.

Sincerely,

  
Bart Johnson, Agent  
Seabury Hall

JOHN WAIHEE  
GOVERNOR



ESTHER UEDA  
EXECUTIVE OFFICER

STATE OF HAWAII

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

LAND USE COMMISSION

Room 104, Old Federal Building  
335 Merchant Street  
Honolulu, Hawaii 96813  
Telephone: 587-3822

October 5, 1994

94 OCT -7 P2 A3  
DEPT OF B...  
RECEIVED

Mr. Brian Miskae  
Planning Director  
Maui County Planning Department  
250 South High Street  
Wailuku, Hawaii 96793

Dear Mr. Miskae:

Subject: Applications for Community Plan Amendment, Land Use Commission District Boundary Amendment and Change in Zoning, and Environmental Assessment (EA) for the Seabury Hall Gymnasium and Parking Area, TMK No.: 2-4-08: 29

We have reviewed the applications for the subject amendments and the EA transmitted with your memorandum of September 26, 1994, and have the following comments:

- 1) We confirm that the subject parcel is located within the State Land Use Agricultural District. We understand that the boundary amendment request involves only a portion of the subject parcel, consisting of approximately 13.194 acres.
- 2) In section 8.2 of the EA, it appears that the second map entitled "Land Use District Boundary Amendment Map No." incorrectly states the applicant's boundary amendment request. Based on paragraph 6.1 of the EA, it appears that the correct request would read, "From: Agricultural - To: Urban," instead of "From: Urban - To: P-Public/Quasi-Public." The land use designation for "Parcel 29 (13.194 Acres)" on the map should also reflect the applicant's request.

We have no other comments to offer at this time. We appreciate the opportunity to provide comments on this matter.

Should you have any questions, please call me or Bert Saruwatari of our office at 587-3822.

Sincerely,

A handwritten signature in cursive script, appearing to read "Esther Ueda".

ESTHER UEDA  
Executive Officer

EU:th



## Seabury Hall

480 Olinda Road, Makawao, Hawaii 96768 (808) 572-7235 Fax (808) 572-7196

May 16, 1995

Ms. Esther Ueda, Executive Officer  
State of Hawaii  
Land Use Commission  
335 Merchant Street  
Honolulu, Hawaii 96813

RE: EA, CPA, DBA, CIZ for Seabury Hall Gymnasium and Parking Lot  
(TMK 2-4-08: 029 por.)

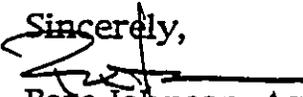
Dear Ms. Ueda,

Thank you for responding to the circulated draft EA.

New maps have been made reflecting the changes that you have pointed out and have been given to Mr. Clayton Yoshida of the Maui County Planning Department.

Paragraph 6.1 has also been changed to "From: Agriculture - To: Urban" deleting, "To: P- Public/Quasi Public".

Sincerely,

  
Barc Johnson, Agent  
Seabury Hall



BOARD OF WATER SUPPLY '94 NOV 10 P3:18  
COUNTY OF MAUI  
P.O. BOX 1108  
WAILUKU, MAUI, HAWAII 96793-7108

November 2, 1994

Mr. Brian W. Miskae, Director  
Maui County Planning Department  
250 South High Street  
Wailuku, Hawaii 96793

Dear Mr. Miskae,

Re: Proposed 7.8-acre gymnasium complex with parking lot at TMK:  
2-4-08:portion of 29; Comments on the applications 94/EA-11,  
94/CPA-7, 94/DBA-5 and 94/CIZ-12 submitted by Seabury Hall

The Board of Water Supply provides comments as follows:

1. The project will hook-up to the Makawao water system on two existing water meters;

2. In an effort to illustrate the proposed development's water use rate, we provide the following comparison. We roughly estimate that the users, landscape and maintenance will demand at least a peak water supply of 19,900 gallons-per-day. An equivalent rate is approximately the full volume of Lahaina Aquatic Center's 50 Meter pool used every three weeks;

3. As part of the associated subdivision, the applicant is required to construct water system improvements according to the standards;

4. New transmissions lines which run to newly-approved projects can have side effects on land-use pressures and growth under certain conditions. These effects are best reviewed by the Planning Department. For your information, this project would require no new transmission lines;

5. We ask you to assist us in promoting the following water conservation measures:

a. Building and stand-alone mechanical equipment, including but not limited to air-conditioners and commercial ice-makers, should be specified as air-cooled or recirculating water-cooled. Single-pass water-cooled systems should be eliminated per Maui County Code Subsection 14.21.20;

(\* 165 feet X 75 feet X average 4.5 feet; 413,000 gallons)

*"By Water All Things Find Life"*

Printed on recycled paper (

November 2, 1994

Mr. Brian W. Miskae, Director

Proposed 7.8-acre gymnasium complex, TMK: 2-4-08:por. 29, Makawao  
page 2

b. Full, attractive plantings are encouraged, yet should be designed to survive on the site's natural rainfall, be irrigated with reclaimed water, if possible, and/or use low amounts of drinking water as supplemental irrigation water.

The subject site is located in what is naturally part of the boundaries of the mixed mesic, dryland forest and subalpine zone. Native plants characteristic of these vegetation zones include, but are not limited to the following species:

trees - Hao (Rauvolfia sandwicensis, 20'ht.), Koki'o ke'oke'o (Hibiscus waimeae, 20'ht.); shrubs - Hō'awa (Pittosporum spp., 12'ht.), Alahe'e (Canthium odoratum, 12'ht.), Lama (Diospyros sandwicensis, 12'ht.), Naio (Myoporum sandwicense, 10'ht.), Kulu'i (Nototrichium sandwicense, 8'ht.), 'A'ali'i (Dodonaea viscosa, 6'ht.), Kolomona (Senna gaudichadii, 5'ht.); groundcovers - 'Ulei (Osteomeles anthyllidifolia, 4'ht.), 'Akia (Wikstroemia uva-ursi and W. species, 2'ht.), Nehe (Lipochaeta lavarum, 3'ht.); 'Uki 'uki (Dianella sandwicensis, 2'ht.), 'Ahinahina (Artemisia mauiensis, 2'ht.); plants for higher water requirement zone - Koa (Acacia koa, 60'ht.), Kamani (Calophyllum inophyllum, 60'ht., polynesian intro.), 'Ōhi'a lehua (Metrosideros polymorpha, 25'ht.), Kōlea (Myrsine spp., 15'ht.), 'Ahinahina kuahiwi (Artemisia australis, 2'ht.) 'Uala (Ipomoea batatas, 1'ht., polynes. intro).

Planting with these or similar species, as soil and site conditions permit, saves developed water. The plants survive on the site's rainfall supplemented with low amounts of irrigation during the first year and summers. Turf species with low water use requirements are, for example, Buffalograss (18"-28"/year), Common Bermuda and 'No Mow' Bermuda.

Further guidance in water conservation in landscaping may be found in the attached document or in the Maui County Planting Plan.

Sincerely,



David R. Craddick, Director

DDScc:\dda\seabury-072

enclosure

copy: Applicant

XERISCAPE

Water Conservation Through Creative Landscaping

Xeriscape Defined

Seven Water Conservation Fundamentals

Planning and Design

Soil Improvement

Efficient, Zoned Irrigation

Limited Turf Area

Use of Mulches

Use Of Low Water-Demand Plants

Appropriate Maintenance

Community Water Management

## XERISCAPE

The Department of Water Supply is faced with increasingly more difficult demands regarding water—its supply, quality, distribution, purification, management, and associated costs. Potable water is becoming scarce and the costs of building delivery systems and water treatment plants prohibitive. Consequently, there is a need to conserve water, not only during droughts, but to reduce demands of peak loading on systems in an attempt to delay construction of larger, expensive facilities. Saving water saves energy while conserving other valuable resources.

Water conservation takes on two broad aspects. First, efficient manipulation of physical factors in the landscape - delivery and irrigation systems, soils, percent hardscape used in a design, plants, microclimates, mulch, etc. Secondly, the people factors, which are often more important.

The incorrect perception that water is "cheap" or "inexpensive" has led to the ideas that the water supply is not finite and that it flows towards money. This in turn has fostered a national consciousness that high water use landscapes are normal, desirable and acceptable. Little has been done to change this mind set, particularly as it relates to water conservation in the landscape.

With the increased, continuous demand for high quality water exceeding supply of both surface and below ground sources, a new, philosophy for conservation must be engendered: billing must reflect the real costs of water and people must learn and practice the "whys" and "hows" of water conservation. This is why Xeriscape began.

### Xeriscape Defined

XERISCAPE (zēr' i scap) is an integrated approach to landscape water conservation. Xeriscape was coined from the Greek word "xero" for dry. Thus, Xeriscape means dryscape or low water use landscaping. Xeriscapes are designed through wise planning, plant and construction materials selection, and proper installation to provide beautiful, water efficient, low maintenance landscapes.

In Hawaiian E' Malama Wai meaning "Cherish Our Water" is used to refer to Xeriscaping.

Many have misread the term as xeroscape, which would imply noscape or no landscape plantings. Others have equated xeriscape landscaping with "rockscapes," many of which are not aesthetically pleasing and may not always conserve water or energy. Rockscapes are harsh, produce glare, and do little to prevent noise and air pollution, making them a poor substitute for Xeriscape landscaping.

### Seven Water Conservation Fundamentals

The Xeriscape motto, "Water conservation through creative landscaping," provides the umbrella under which a wide variety of landscape water conservation activities may be taught and employed in a community. And although there are many landscape and horticultural techniques that conserve water, Xeriscape programming has focused on seven broad, fundamental areas.

1. Planning and Design
2. Soil Improvement
3. Efficient, Zoned Irrigation
4. Limited Turf Areas
5. Use of Mulches
6. Use of Low Water Demand Plants
7. Appropriate Maintenance

#### 1. Planning and Design

Architects, planners, and homeowners are encouraged and taught to incorporate standard design elements of function, circulation, topography, exposure, seasonal color, texture, safety, etc. into existing landscapes and new designs with emphasis on conserving, limiting and/or reusing water. 40% to 60% of the water homeowners use goes for yard watering. Appropriate design and planning can provide these very necessary aspects of urban life and conserve water at the same time. Xeriscapes can ameliorate the impact of a severe drought and avoid the costly clean-up resulting from a "boom and bust" water policy. Tree removal, replanting of landscapes and turfgrass fields are eliminated and real savings to Maui County.

Thayer and Richman (1984) suggest that designing water-conserving landscapes should be considered in two parts. First, the physical ecology of plants and plant communities must be integrated within the microclimates of the landscape. Logically plants best adapted to the climate, temperatures, sun, wind, and physical nuances of the site thrive best and require the least expenditures for water, energy and maintenance. Secondly, landscape designers must accept that there is a "human ecology" of water use in landscapes. That is, the intensity of human

activity dictates landscape water use. This includes all uses, whether functional or aesthetic. Thayer and Richman coined the term "hydrozone" to describe the type and intensity of human activity in the landscape and identified four classes of hydrozones. These will be discussed under the heading "Efficient, Zoned Irrigation".

#### Soil Improvement

Residential soils can be difficult soils to manage because they have been badly disturbed by construction and urban activities. Normal soil horizons are mixed unevenly both vertically and horizontally. Often, hardpans exist and impede drainage, and most urban soils have been compacted by heavy equipment or traffic. Many of the physical and chemical soil properties plants require for growth are present at less than optimum levels in urban soils. Soil improvements must correct poor water infiltration, percolation, and drainage, while providing adequate water holding capacity and improving the nutritional status of the soil. Organic amendments meet most of these requirements and improve tilth, making it easier to till the soil and manage weeds. Adding 3-5 cubic yards of well composted organic matter per 1000 square feet and tilling it into the top 8-12 inches of soil is recommended.

Other amendments such as lime be added to adjust an undesirable acid soil condition. These adjustments should be made prior to planting.

#### Efficient, Zoned Irrigation

Matching the amount of water supplied to each plant with the plant's water requirement is the most efficient way to irrigate.

Until recently this was difficult to do and most landscapes were irrigated to meet the needs of the turfgrass or other plants with high water requirements. Sprinklers cover large areas without regard to the water needs of individual plants. To eliminate waste by overwatering and run-off, group plants according to their water requirements and use zoned irrigation systems to deliver water to individual plants or to plants with similar moisture requirements (Figure 10-2). Fewer plants will develop disease or die from overwatering.

Not only are irrigation zones established to meet the physical or ecological water needs of plants, but Xeriscape landscaping also recognizes that human activity will impact plant water needs. Thayer and Richman (1984) describe this irrigation zoning to match man's activity as hydrozone planning, and they define four irrigation regimes (Figure 10-3).

The Principal Hydrozone represents the area with the greatest human activity and consequently the greatest water and energy use: sites in yards, parks, and play fields where people frequently, play, sit, walk, gather, or relax; places where people regularly contact plants.

The Secondary Hydrozone is less physically impacted by humans, but is visually important: areas of passive activities space delineation or focal interest such as flower and shrub beds, entrances, prominent plantings, etc; areas of high visual impact, but seldom touched by humans.

Buffer zones, distant views, median strips, parkways, and embankments—these make up the third hydrozone, called the Minimal Hydrozone. In this case, plants are selected that need minimal supplemental water to survive the natural climatic conditions.

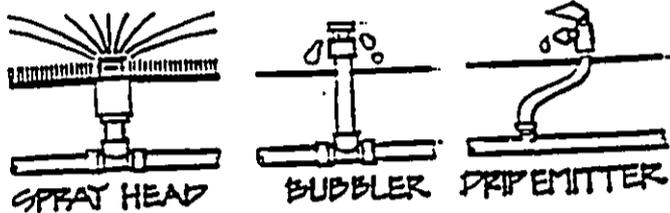
The Elemental hydrozone constitutes landscape plantings that require only natural precipitation to survive and seldom, if ever, incur human activity. Utility areas, mulched native plantings, and naturally sustainable, exotic vegetation belong to this hydrozone (Figure 10-4).

Flexible sprinkler heads and nozzles, adjustable delivery rates and coverage, modern valves, and automated controllers—these allow greater water conservation through zoned irrigation. On-off watering is easily programmed to match water infiltration rates into soils, thus avoiding surface runoff. Also, water is better applied to meet specific plant needs as impacted by seasonal human activity and changes in the weather.

Collection systems should be designed and constructed throughout the landscape to gather storm runoff from roofs, walks, drives, and slopes. By grouping high or moderate water requiring plants near swales and collection basins, much of their water needs can be met by natural moisture accumulations rather than irrigation. On the other hand, drought tolerant species may succumb to frequent accumulations of water and should be located on southern exposures or at the tops of slopes. Because they often only require supplemental irrigation during establishment or during a severe drought, a permanent irrigation system may not be needed.

Limited Turf Area

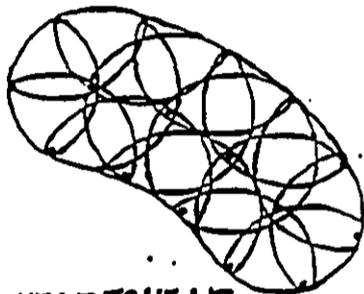
Turfgrass plays a primary role in most landscapes. Turfgrasses make excellent ground covers. They tolerate heavy foot traffic in the backyard, at the park, or on the athletic field. And mowed or unmowed, they stabilize slopes and prevent erosion. They serve to unify designs and instill a sense of pride in home and neighborhood when well kept. Moreover, turf helps keep homes and communities cleaner by reducing particulate and chemical air pollution. Unfortunately, a lawn consumes approximately half the landscape water and requires weekly care. As well, equipment, pest control and periodic cultural practices, such as coring or dethatching contribute to the expense, both in time and money, of maintaining a lawn.



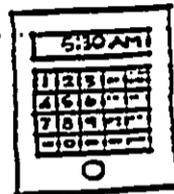
SPRAY HEAD

BUBBLER

DRIP EMITTER



HEAD TO HEAD  
COVERAGE OF  
LAWN AREA



CONTROLLER



ANTI-SIPHON VALVE

1. Separate irrigation lines into high, moderate and low wa use zones or areas and set an automatic valve at head of each line. The same plant material on the n side of a structure or in a sheltered area will require water than in a more severe exposure.
2. To help achieve uniform water distribution for irrig overlap sprinkler spray patterns (100%) so that water one head reaches out to the next nearest head (hea head coverage). Ask your irrigation supplier for gallonage sprinkler heads that have "matched precipit rates."
3. Wire each valve into an automatic timer to control many minutes each valve applies water. Select a t that allows recycling, that is, several cycles of o "runtime" during each irrigation day. Heavy soils, c require several hours between short on periods to i water to move deeper into soils. Sandy soils require time between on times and may require mulch to enhance water retention qualities.
4. Prepare and follow an irrigation schedule by contact local landscape architect or irrigation specialist. Deter the precipitation requirements for your particular t shrubs, lawn and flower beds and program the tim meet their individual water requirements. Settings have to be changed seasonally to meet the plants car for water.
5. Prevent surface run-off by adjusting heads to elim over spray on hard surfaces; reduce misting by spr larger water droplets; utilizing on/off cycling; red slopes; using low precipitation heads and applying r whenever possible.

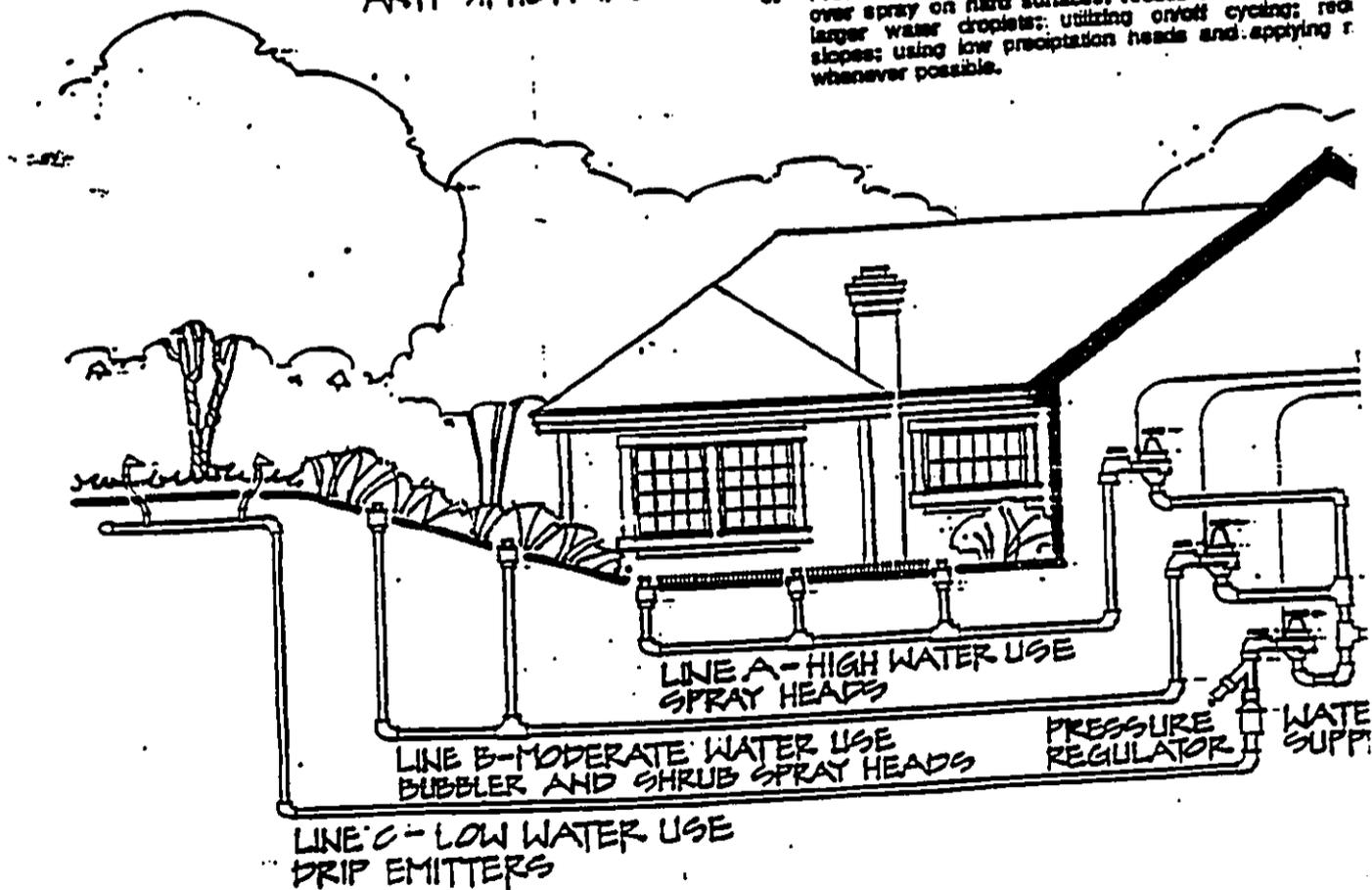


Figure 10-2. Five Steps to Efficient Irrigation

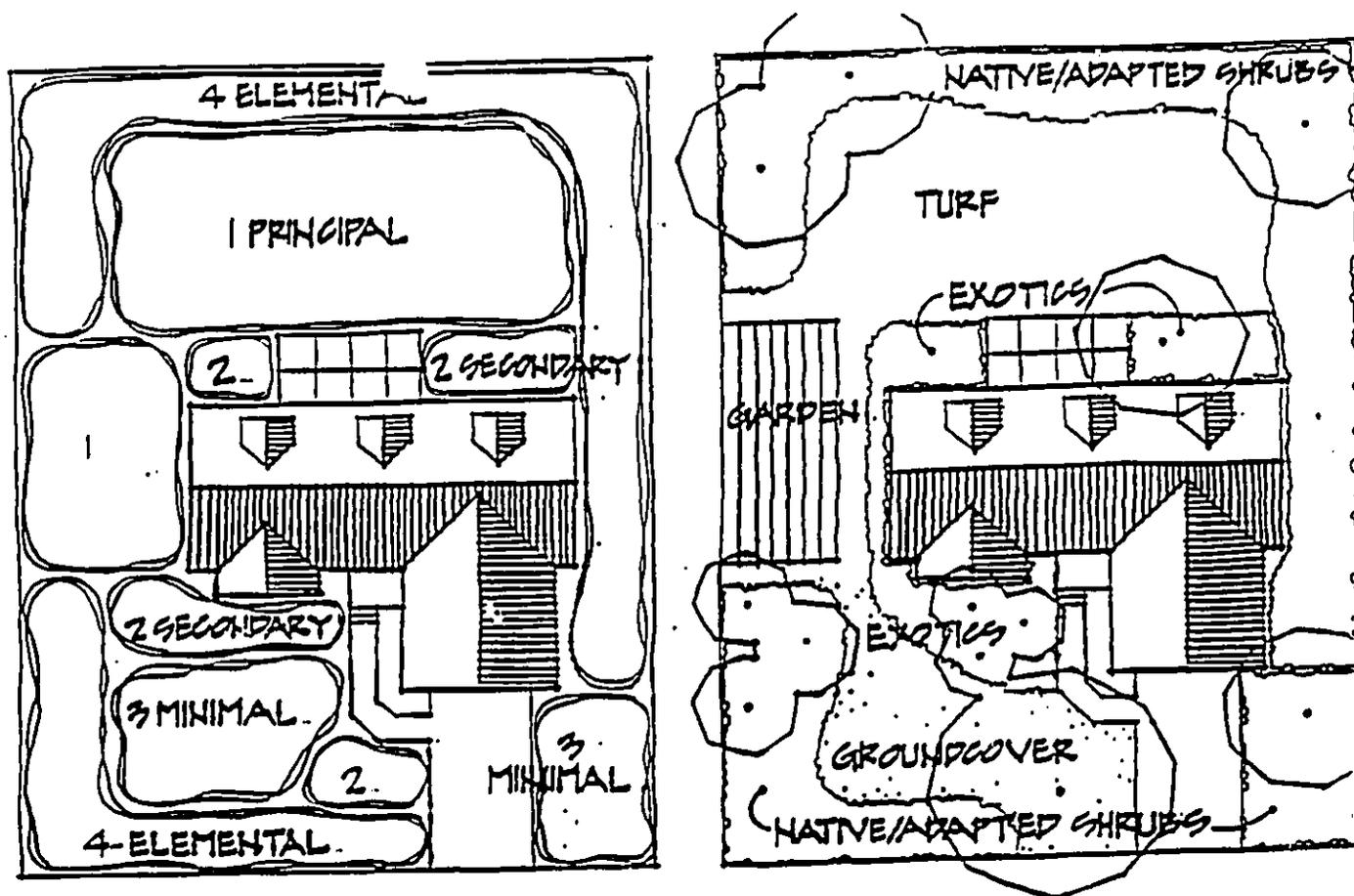


Figure 10-3. Hydrozone Concept Applied to Suburban Lot.

Turf should be limited by design to high-use areas in landscapes and separated from other plantings with different water needs. After reviewing the landscape plans, classify the turf areas as either passive or active use and seed and irrigate accordingly. Plant drought-tolerant species with poor resistance to heavy traffic in less-frequented sites.

Not only should the total turf areas be reduced in a landscape, but the perimeter measurement also must be reduced as much as possible. Long, narrow strips of turf are difficult to properly mow, fertilize, keep pest free, and irrigate. Such strips require hand work to keep them attractive, which increases maintenance time and labor costs. Water from over-spraying turf in narrow planter islands, parkways, side yards, and around entrances not only runs off and is wasted but also contributes to the deterioration of paint, walls, walks, and asphalt in parking lots and streets. Mulches or groundcovers and shrubs on drip or underground irrigation can appropriately replace turf in many landscape sites. Drip emitters or bubblers can be used to irrigate individual-plants and eliminate waste caused by overspray. Mulches need no water, and well chosen groundcovers require less water and maintenance than turf.

Likewise, the amount of turfgrass in a landscape may be reduced by increasing the hardscape. Patios, wooden decks, rocked and graveled walks limit the turf area while reducing the water requirement.

#### Use of Mulches

Mulches function to buffer soils against climatic extremes. In summer, they reduce soil heating and slow evaporation water loss from soil surfaces. They also reduce weeds and make those present easier to remove. Proper use of mulches reduces or prevents soil erosion. Organic mulches also contribute to the nutritional level and tilth of the soil as they breakdown.

These practical functions are important; however, many mulches are included in the landscape for their design flexibility and attractiveness, not simply because they save water, protect roots, and reduce maintenance.

Mulches are classified as organic, inorganic, and living. Organic mulches include plant refuse, such as chips and slash from tree trimming operations, saw dust, composted leaves and manures, peat moss, and graded bark products. Sized and washed rocks and gravels are popular inorganic mulches which come in many sizes, colors, and textures. Impervious sheet plastics covered with either organic or inorganic mulches were popular, but because sheet plastic prevents gas and water exchange between air and soil and creates a water-logged root environment, woven porous plastics are now preferred. Mulches are applied 3 to 4 inches deep over bare soil and only 2 to 3 inches deep over woven fabrics. Living mulches include low growing groundcovers and low maintenance turfgrasses. They function well as mulches, but may be heavy competitors for water and nutrients under newly planted trees and shrubs. If used, select hardy, drought-tolerant species that resist common diseases. These species provide the best results and require less maintenance.

#### Use Of Low Water-Demand Plants

Many beautiful and functional plants, both exotics and natives, are available that thrive with natural precipitation or small amounts of supplemental water.

Chapter Two lists tree characteristics including their water requirements ranging from dry (less-thirsty) to wet (very-thirsty).

All types of plants with low water requirements are now available and more will become available as demand increases. The range of drought-tolerant plant species and those with low water requirements is now wide enough to permit selecting for function, beauty, and seasonal interest. As with all plant selections and planting, take care to match the specific needs of the plant to the environmental conditions and the intensity of human activity at the planting site. This is critical when using drought tolerant and low water use plants in the landscape. Choosing the proper plants and planting them correctly will reduce water consumption and maintenance costs over many years.

#### Appropriate Maintenance

Low maintenance is not no maintenance. The use of all or most of the Xeriscape principles will reduce but not eliminate maintenance. And generally, the greater the human activity at a site, the greater its maintenance requirements will be. Trees, shrubs, groundcovers, and turfgrasses are living organisms that require care. Timely fertilizing, watering, pruning, pest management, and other cultural practices are necessary in Xeriscape landscapes, but at reduced levels compared to conventional landscape plantings. Even mulched sites without plants must have litter removed periodically. Irrigation components for drip and sprinkler systems require routine checks and servicing. Xeriscape landscaping coupled with sound maintenance produces water and energy savings and environmentally adapted landscapes that are aesthetically pleasing.

As has been stressed, integrating these principles in landscapes will conserve water and reduce annual maintenance costs. Most importantly though, Xeriscape landscaping provides these benefits without sacrificing function or beauty. And although these seven points are stressed in Xeriscape literature and are the basis for Xeriscape programming, there is no substitute for creativity as a means of discovering and sharing new ways to conserve water without making yards and parks into zeroscapes.

Community education in Xeriscape landscaping is the key to a successful water conservation program. The principles of Xeriscape landscaping challenge the widespread but mistaken belief that water is cheap, unlimited resource which will always be available. Hopefully, the public will recognize that this is a misconception and that water conserving landscapes are necessary and should be considered "normal" within our society. At the same time, it teaches people the "whys" and "hows" of effective water conserving horticulture. To reach these objectives requires the cooperation of government leaders,

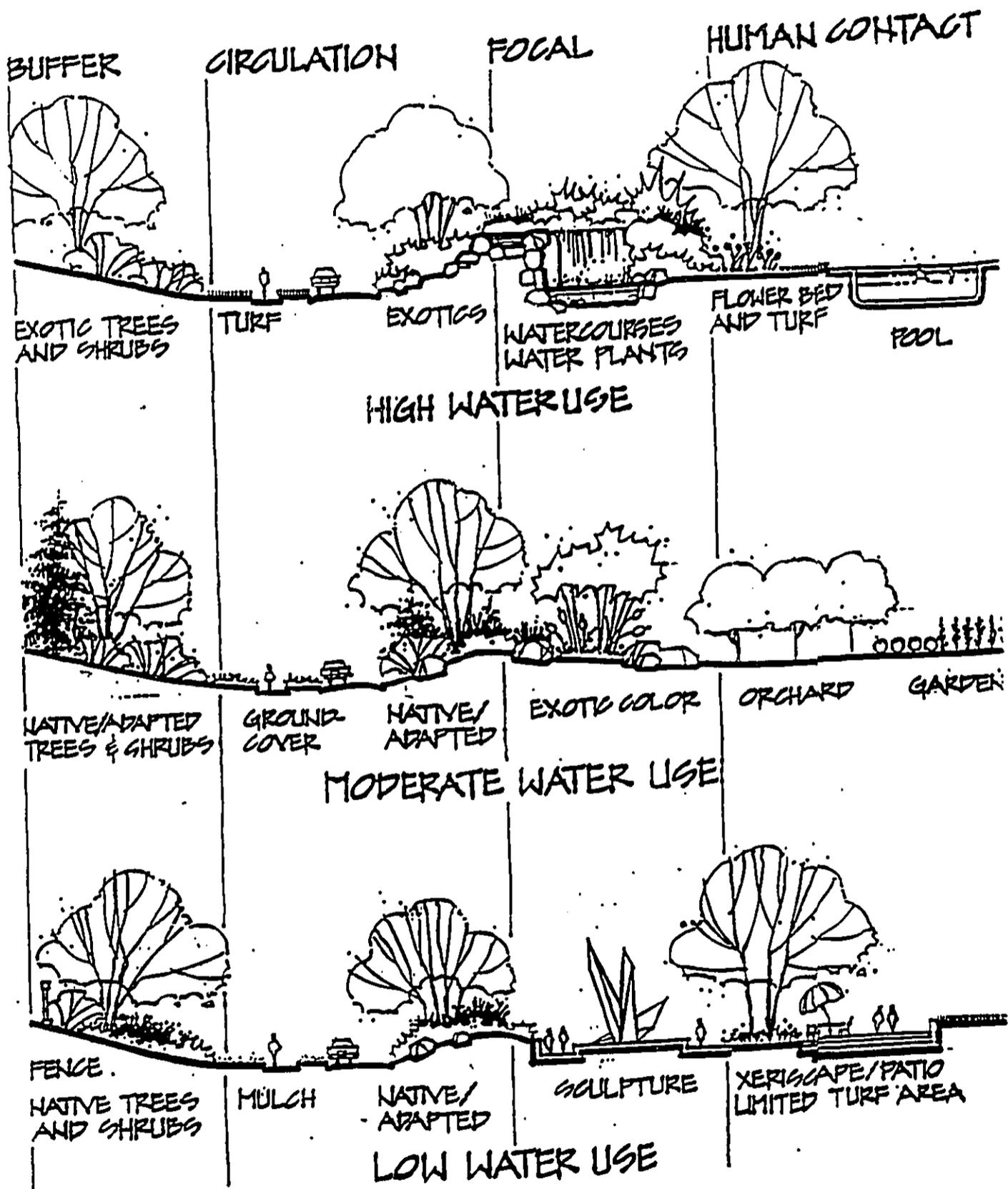


Figure 10-4. Water Use Relating to Human Use—Three Approaches

agencies, landscape professionals, horticulturists, irrigation specialists, concerned citizens, and an army of volunteers enthusiastically supporting and promoting xeriscape programming.

#### Community Water Management

Xeriscape landscaping, when followed, will conserve water, reduce maintenance costs, and establish beautiful, environmentally sound landscapes, parks, recreational facilities and greenspaces throughout a community. Conserving water averts the need to construct costly new delivery systems and waste treatment plants that would otherwise be needed to meet periods of peak loading. Xeriscaping also leads to changes in attitudes about water quality, water use, and how a community's water should be managed, especially in landscape irrigation.

#### Literature Cited

Urban and Community Forestry - A Guide for the Interior Western United States - United States Department of Agriculture - Forest Service

Thayer, Jr., Robert L. and TG. Richman, "Water-Conserving Landscape Design," In Energy Conserving Site Design, Ed. G. McPherson, Am. Soc. Landscape Architects, 1984.

## LOW WATER USE/DROUGHT TOLERANT PLANT LIST

All plants require water for establishment. After they are rooted and growing well their water requirements will vary.

The following is an incomplete list of drought tolerant plants. It is provided for your convenience.

Please review the following reference lists for many other suggestions.

1. Drought Resistant Plants For Hawaiian Gardens by Norman C. Benzona, County Extension Agent, Cooperative Extension Service.
2. Drought Tolerant Native Hawaiian Plants for the Landscape - by Heidi Bornhorst Horticulturist, Honolulu Botanic Gardens.
3. Halawa Xeriscape Garden Registry of Nurseries that grow Less-Thirsty-Plants-Honolulu Board of Water Supply, November 1989.

### Key to Symbols

A- Accent Plant  
F- Flower Color  
GC- Groundcover  
G- Grass  
OG- Ornamental Grass  
S- Shrub  
SC- Succulent  
ST- Small Tree  
MT- Medium Tree  
LT- Large Tree  
V- Vines

### Key to Zones

Zone 1 - Normal watering level.  
Includes lush lawns and gardens.

Zone 2 - Moderate watering level  
Includes lawns, ground covers and shrubs.

Zone 3 - Low watering level.  
Includes self-sustaining plant materials and natural vegetation with emphasis on plants that require little or no supplement irrigation.

| Type     | Botanical Name                 | Zone | Common Name              |
|----------|--------------------------------|------|--------------------------|
| S        | <u>Abutilon menziesii</u>      | 3    | Ko'o Loa'ula             |
| MT       | <u>Acacia koa</u>              | 2    | Koa                      |
| A,F,S,SC | <u>Adenium obeseum</u>         | 3    | Desert Rose              |
| A,F,GC   | <u>Agapanthus africanus</u>    | 2    | Lily of the Nile         |
| A,SC,S   | <u>Agave attenuata</u>         | 3    | Agave                    |
| MT       | <u>Aleurites moluccana</u>     | 2    | Kukui                    |
| S,GC,F   | <u>Aniscanthus thurberi</u>    | 3    | Desert Honeysuckle       |
| V,GC,F   | <u>Antigonon leptopus</u>      | 3    | Mexican Creeper(3 color) |
| S,GC,A   | <u>Asparagus densiflorus</u>   | 2    | Foxtail Asparagus        |
|          | cv 'Meyers'                    |      |                          |
| S,GC,A   | <u>A. densiflorus</u>          | 2    | Sprenger Asparagus       |
|          | 'Sprengerii'                   |      |                          |
| A        | <u>Aspidistra elatior</u>      | 2    | Cast Iron Plant          |
|          | 'variegata'                    |      |                          |
| GC       | <u>Asystasia gangetica</u>     | 3    | Asystasia                |
| V,SC,GC  | <u>Aptenia cordifolia</u>      | 3    | Hearts and Flowers       |
| MT,F     | <u>Bauhinia blakeana</u>       | 2    | Hong Kong Orchid Tree    |
| V,F      | <u>B. galpinii</u>             | 2    | Red Bauhinia             |
| ST,F     | <u>B. tomentosa</u>            | 3    | Yellow Bauhinia          |
| A,SC,ST  | <u>Beaucarnea recurvata</u>    | 3    | Pony tail                |
| A,V,F    | <u>Bougainvillea 'Crimson</u>  | 2    |                          |
|          | <u>Jewel'</u>                  |      |                          |
| A,V,F    | <u>Bougainvillea 'Jamaica</u>  | 2    |                          |
|          | <u>White'</u>                  |      |                          |
| A,V,F    | <u>Bougainvillea 'Rosenka'</u> | 2    |                          |
| A,V,F    | <u>Bougainvillea 'Temple</u>   | 2    |                          |
|          | <u>Fire</u>                    |      |                          |
| ST       | <u>Brexia madagascariensis</u> | 2    | Brexia                   |

| Type    | Botanical Name                      | Zone | Common Name           |
|---------|-------------------------------------|------|-----------------------|
| MT      | <u>Caesalpinia ferrea</u>           | 2    | Brazilian Ironwood    |
| A,S,F   | <u>Caesalpinia pulcherrima</u>      | 3    | Ohai ali'i (3 colors) |
| S       | <u>Calotropis gigantea</u>          | 3    | Crown Flower          |
| ST      | <u>Canthium odoratum</u>            | 3    | Alahe'e               |
| S       | <u>Carissa grandiflora</u>          | 3    | Natal Plum            |
| S,GC    | <u>C. grandiflora prostrata</u>     | 3    | Creeping Natal Plum   |
| S,ST,F  | <u>C. surratensis</u>               | 3    | Kolomona              |
| SC,GC   | <u>Carpobrotus edulis</u>           | 3    | Hotentot Fig          |
| MT,F    | <u>Cassia fistula</u>               | 3    | Yellow Shower         |
| MT,F    | <u>Cassia fistula x</u>             | 2    | Rainbow Shower        |
|         | <u>C. javanica</u>                  | 3    | (All Colors)          |
| ST      | <u>Ceratonia siliqua</u>            | 3    | Carob Tree            |
| V,GC,S  | <u>Clerodendron inerme</u>          | 3    | Glory Bower           |
| MT      | <u>Clusia rosea</u>                 | 3    | Autograph Tree        |
| S       | <u>Clusia sp.</u>                   | 3    | Small Leaf Clusia     |
| MT,F    | <u>Cochlospermum vitifolium</u>     | 3    | Buttercup Tree        |
| MT,F    | <u>Cordia subcordata</u>            | 2    | Kou                   |
| OG      | <u>Cortaderia selloana</u>          | 3    | Pampas Grass          |
| S,SC,A  | <u>Crassula argentea</u>            | 3    | Jade Plant            |
| ST      | <u>Crescentia cujete</u>            | 3    | Calabash Tree         |
| V       | <u>Cryptostegia grandiflora</u>     | 3    | India Rubber Vine     |
| A,S     | <u>Cycas revoluta</u>               | 2    | Sago Palm             |
| G       | <u>Cynodon dactylon</u>             | 3    | Bermuda Grass         |
| A,S,SC  | <u>Dasyliron wheeleri</u>           | 3    | Spoon Flower          |
| MT,A,F  | <u>Delonix regia</u>                | 2    | Royal Poinciana       |
| S       | <u>Dodonaea viscosa</u>             | 3    | (3 colors)            |
|         |                                     |      | 'A'ali'i              |
| LT      | <u>Enterolobium cyclocarpum</u>     | 3    | Earpod                |
| MT      | <u>Eriobotrya japonica</u>          | 2    | Loquat                |
| MT      | <u>Erythrina sandwicensis</u>       | 3    | Wiliwili              |
| MT      | <u>Erythrina "Tropic Coral"</u>     | 2    | Tropic Coral          |
|         |                                     |      | Wiliwili              |
| MT      | <u>E. variegata</u> var.            | 2    | Tigers Claw           |
|         | <u>orientalis</u>                   |      |                       |
| S,SC,A  | <u>Euphorbia cotinifolia</u>        | 2    | Hierba mala           |
| A,GC,SC | <u>E. millii</u>                    | 3    | Crown of Thorns       |
| ST,A    | <u>Feijoa sellowiana</u>            | 2    | Pineapple Guava       |
| S       | <u>Ficus buxifolia</u>              | 2    | Boxwood Ficus         |
| ST,A    | <u>Ficus carica</u>                 | 3    | Fig                   |
| S,A     | <u>F. diversifolia</u>              | 2    | Mistletoe Fig         |
| LT      | <u>F. microcarpa</u>                | 3    | Chinese Banyan        |
| S,GC    | <u>F. microcarpa</u> var.           | 3    | Taiwan Ficus          |
|         | <u>crassifolia</u>                  |      |                       |
| A,SC    | <u>Furcraea</u> aff. <u>giantea</u> | 3    | Variegated Furcraea   |
|         | <u>variegata</u>                    |      |                       |

| Type   | Botanical Name                          | Zone | Common Name             |
|--------|---|------|-------------------------|
| S,A    | <u>Gardenia brighamii</u>               | 2    | Nanu                    |
| S,GC   | <u>G. radican</u>                       | 2    | Creeping Gardenia       |
| S      | <u>Gossypium tomentosum</u>             | 3    | Ma'o                    |
| S,A    | <u>Grewia occidentalis</u>              | 2    | Lavendar Star           |
| ST,A   | <u>Guaiacum officinale</u>              | 3    | Lignum Vitae            |
| S,A,F  | <u>Hibiscus brackenridge</u>            | 2    | Ma'o hau hele           |
| S,GC   | <u>H. calyphyllus</u>                   | 3    | Rock's Hibiscus         |
| S,A,F  | <u>H. 'Carnation'</u>                   | 2    | Carnation Hibiscus      |
| S,A,F  | <u>H. 'Cooperi'</u>                     | 2    | Calico Hibiscus         |
| S,A,F  | <u>H. schizopetalus</u>                 | 2    | Coral Hibiscus          |
| S,A,F  | <u>H. schizopetalus 'Pagoda'</u>        | 2    | Pagoda Hibiscus         |
| S,A,F  | <u>H. waimeae</u>                       | 2    | Koki'o ke'o ke'o        |
| S,F    | <u>Jasminum sambac</u>                  | 2    | Pikake                  |
| S,F    | <u>J. sambac 'Duke of Tuscany'</u>      | 2    | Giant Pikake            |
| GC     | <u>Juniperus chinensis procumbens</u>   | 2    | Japanese Garden Juniper |
| S,GC,F | <u>Lantana camara 'Radiation'</u>       | 2    | Lantana                 |
| GC,F   | <u>Lantana cv 'Gold Mound'</u>          | 2    |                         |
| GC,F   | <u>L. montevidensis</u>                 | 2    | Trailing Lantana        |
| S,A    | <u>Laurus nobilis</u>                   | 2    | Bay Laurel              |
| ST     | <u>Myoporum sandwicense</u>             | 3    | Naio                    |
| S,A    | <u>Nandina domestica compacta nana</u>  | 2    | Dwarf Nandina           |
| S,F    | <u>Nerium oleander</u>                  | 3    | Oleander                |
| S,F    | <u>Nerium oleander f. 'dwarf'</u>       | 3    | Dwarf Oleander          |
| S      | <u>Nototrichium sandwicense</u>         | 3    | Kului                   |
| MT     | <u>Olea europaea</u>                    | 3    | Olive                   |
| S      | <u>Osteometes anthylliditolia</u>       | 3    | 'Ulei                   |
| G      | <u>Paspalum vaginatum</u>               | 2    | Seashore Paspalum       |
| MT     | <u>Pithecellobium dulce 'variegata'</u> | 2    | Variegated Opiuma       |
| S,GC   | <u>Pittosporum tobira 'wheeleri'</u>    | 2    | Wheeler's Pittosporum   |
| S,F    | <u>Plumbago auriculata</u>              | 3    | Cape Leadwort           |
| S,GC   | <u>P. zeylanicum</u>                    | 3    | 'Ilie'e                 |
| MT,F   | <u>Plumeria hybrid (and spp.)</u>       | 2    | Plumeria                |
| S,A,SC | <u>Potulacaria afra</u>                 | 3    | Miniature Jade          |
| MT,F   | <u>Pseudobombax ellipticum</u>          | 2    | Pink Bombax             |
| S,ST   | <u>Punica granatum</u>                  | 3    | Pomegranate             |
| A,GC   | <u>P. granatum nana</u>                 | 3    | Dwarf Pomegranate       |

| Type   | Botanical Name                                 | Zone | Common Name                       |
|--------|--|------|-----------------------------------|
| S      | <u>Rosemarinus officinalis</u>                 | 3    | Rosemary                          |
| GC     | <u>R. officinalis</u> var.<br><u>prostrata</u> | 3    | Creeping Rosemary                 |
| S,A,F  | <u>Russelia equisetifolia</u>                  | 2    | Coral Plant                       |
| T      | <u>Samanea saman</u>                           | 3    | Monkey Pod                        |
| A      | <u>Sansevieria</u> spp.                        | 3    | Sansevieria                       |
| MT     | <u>Sapindus saponaria</u>                      | 2    | Soapberry Tree                    |
| S      | <u>Scaevola taccada</u>                        | 3    | Naupaka                           |
| ST     | <u>Schinus molle</u>                           | 3    | California Pepper T               |
| GC,SC  | <u>Sedum</u> spp.                              | 3    | Sedum                             |
| V,F    | <u>Senecio confusus</u>                        | 2    | Mexican Flame Vine                |
| V,GC   | <u>Stapelia nobilis</u>                        | 3    | Giant Carrion Flower              |
| G      | <u>Stenotaphrum secundatum</u>                 | 2    | St. Augustine Grass               |
| GB     | <u>S. secundatum variegatum</u>                | 2    | Variegated St.<br>Augustine Grass |
| A,F    | <u>Strelitzia reginae</u>                      | 2    | Bird of Paradise                  |
| MT     | <u>Tabebuia argentea</u>                       | 2    | Silver Trumpet Tree               |
| LT     | <u>T. chrysantha</u>                           | 2    | Trumpet Tree                      |
| LT     | <u>T. donnel-smithii</u>                       | 2    | Gold Tree                         |
| MT     | <u>Tamarix aphylla</u>                         | 3    | Desert Athel                      |
| V,GC,F | <u>Thevetia peruviana</u>                      | 3    | Be-still Tree                     |
| GC     | <u>Tradescantia spathacea</u>                  | 3    | Oyster Plant                      |
| S,GC   | <u>Wikstroemia uva-ursi</u>                    | 3    | 'Akia                             |
| A,SC   | <u>Yucca gloriosa</u>                          | 3    | Spanish Bayonet                   |
| G      | <u>Zoysia tenuifolia</u>                       | 2    |                                   |
| G      | 'Elegance'<br><u>Z. tenuifolia 'Emerald'</u>   | 2    |                                   |



## Seabury Hall

480 Olinda Road, Makawao, Hawaii 96768 (808) 572-7235 Fax (808) 572-7196

May 16, 1995

Mr. David Craddick, Director  
Board of Water Supply  
County of Maui  
PO Box 1109  
Wailuku, Hawaii 96793

RE: EA, CPA, DBA, CIZ for Seabury Hall Gymnasium and Parking Lot  
(TMK 2-4-08: 029 por.)

Dear Mr. Craddick,

Thank you for responding to the circulated draft EA.

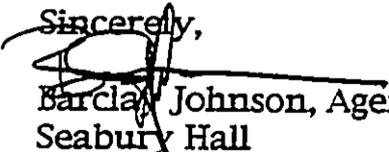
In answering your request to promote the conservation measures listed, please be informed that Seabury Hall has applied for and received a \$500 Kaulunani grant from the State of Hawaii Land and Natural Resources to plant indigenous native trees listed in your response. We have planted native Koa, Iliahi, and others. Our head groundskeeper has attended courses on Maui and Honolulu to further promote water conservation. We intend to apply for it next year also.

Seabury Hall is also following County guidelines in irrigation and soil improvement. In fact we have eliminated irrigation on the playing fields and now rely solely on rain water.

All water system improvements for the gymnasium and parking lot have been completed and have passed inspection.

Thank you again for allowing me to comment on your proposals.

Sincerely,

  
Barclay Johnson, Agent  
Seabury Hall

LINDA CROCKETT LINGLE  
Mayor  
GEORGE N. KAYA  
Director  
CHARLES JENCKS  
Deputy Director  
AARON SHINMOTO, P.E.  
Chief Staff Engineer



RALPH NAGAMINE, L.S.  
Land Use and Codes Adminis  
EASSIE MILLER, P.E.  
Wastewater Reclamation Div  
LLOYD P.C.W. LEE, P.E.  
Engineering Division  
DAVID WISEMAR, P.E.  
Solid Waste Division  
BRIAN HASHIRO, P.E.  
Highways Division

94 NOV -1 10:43  
COUNTY OF MAUI  
DEPARTMENT OF PUBLIC WORKS  
AND WASTE MANAGEMENT  
DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED  
LAND USE AND CODES ADMINISTRATION  
250 SOUTH HIGH STREET  
WAILUKU, MAUI, HAWAII 96783

October 31 1994

MEMO TO: Brian W. Miskae, Planning Director  
FROM: *George N. Kaya*  
George N. Kaya, Public Works & Waste Management Director  
SUBJECT: Community Plan Amendment, Land Use Commission District Boundary  
Amendment, Change in Zoning and Environmental Assessment Applications  
SEABURY HALL GYMNASIUM AND PARKWAY LOT  
TMK: 2-4-008:por. 29  
94/EA-011, 94/CPA-07, 94/DBA-5, 94/CIZ-012

We reviewed the subject application and have the following comments:

1. Comments from the Engineering Division:
  - a. That Meha Road be improved to County standards from Hanamu Road to the gym access road to provide at least two (2) lanes of traffic. This project is expected to create major impacts to Meha Road where existing laneage does not provide a reasonably "safe" two-way traffic patterns. The additional traffic created by this project on Meha Road must be mitigated by requiring the applicant to widen Meha Road as approved by Department of Public Works Engineering Division.
  - b. That all structures, such as walls, trees, etc., shall be removed or relocated from the road widening area.
  - c. That a 30' radius be provided at the intersection of proposed access gym driveway and the adjoining Meha Road.
  - d. That the existing Meha Road does not meet County standards based on roads located in "agricultural" zoning.

Mr. Brian Miskae  
Page 2 of 2  
October 31, 1994  
94/EA-011, 94/CPA-07, 94/DBA-5, 94/CIZ-012

- e. *That a final detailed drainage and erosion control plan including, but not limited to, hydrologic and hydraulic calculations, scheme for controlling erosion and disposal of runoff water, and an analysis of the soil loss using the HESL erosion formula, be submitted to the Department of Public Works, Engineering Division for our review and approval. The plan shall provide verification that the grading and runoff water generated by the project will not have an adverse effect on the adjacent and downstream properties. Please note that the December 3, 1992 drainage report is not acceptable for building/parking lot development.*
- f. *That all existing features, such as, structures, driveways, drainageways, edge of pavement, etc. shall be shown on the project site plan.*
- g. *That site plan and a "sight distance" report to determine required sight distance and available sight distance at existing and proposed street intersections be provided for our review and approval.*
- h. *That the 100-year flood inundation limits, if applicable, be shown on the project site plans.*
- i. *That existing streets providing access to the development shall have a twenty feet minimum pavement width, and therefore must be widened as approved by the Department of Public Works Engineering Division.*

*The applicant is requested to contact the Engineering Division at 243-7745 for additional information.*

2. *Comments from the Solid Waste Division:*

*This division has reviewed this submittal and has no comments at this time.*

4. *Comments from the Land Use and Codes Administration:*

*This division has reviewed this submittal and has no comments at this time.*

RMN:ey  
xc: Engineering Division  
Solid Waste Division  
Wastewater Reclamation Division  
g:\lucal\all\cm\seabury



## Seabury Hall

480 Olinda Road, Makawao, Hawaii 96768 (808) 572-7235 Fax (808) 572-7196

May 16, 1995

Mr. Charles Jenks, Director  
County of Maui  
Department of Public Works  
and Waste Management  
Land Use and Codes Administration  
250 South High street  
Wailuku, Hawaii 96793

RE: Seabury Hall Gymnasium and Parking Lot

Dear Mr. Jenks,

Thank you for responding to the circulated draft EA. Before answering the points raised in your letter, it should be noted that the construction plans to the project may not have been approved by the LUCA Engineering Department at the time of your review. Most have been addressed in the finalized plans submitted by the engineer to the project.

The following were provided in the approved construction plans which coincides with your recommendations:

- a 30' radius was provided at the access entrance to the gym and parking lot (c.)
- a detailed drainage and erosion control plan was submitted by Wayne Arakaki, Engineer and preliminarily approved by the Engineering Department (e).
- all drainageways, driveways, etc. were drawn on the project site plans (f).
- a site plan and a "sight distance" report were established and submitted by Wayne Arakaki, Engineer (g).

- a 100-year flood inundation plan was made by Wayne Arakaki, Engineer and preliminarily approved by the Engineering Department (h).
- a limited paved roadway proposed by Seabury Hall for subdivision requirements to the parking lot (d).

Pursuant to the Special Use Permit granted to Seabury Hall (May 18, 1993), Seabury Hall has completed construction of the gymnasium and parking lot (Certificate of Occupancy January 13, 1995). Since that time, Seabury Hall has hosted many MIL Basketball games with other Maui high schools. It has sponsored a number of volleyball clinics and presently allows various volleyball clubs throughout the County to use the gym on weekends. Its use is as Seabury Hall had intended-- very busy.

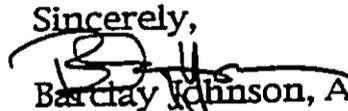
Despite the intense use, the project has not created any major traffic problems along Meha Road. The illuminated parking lot is marked for more than 100 cars, and any excess has been easily handled by parking the overflow on the adjacent soccer field. Entering and exiting the access easement roadway has not been a congestive problem. A sight distance report has been submitted and as part of the access easement construction requirements, has been approved.

Widening Meha Road, as suggested, (a,b,d,) would require the removal of many large Eucalyptus trees and an existing water line to be submerged. This requirement would be resisted by neighbors surrounding Seabury Hall who depend on the 50 year old trees for privacy and wind barriers. Tree removal would not follow the guidelines of the Upcounty Community Plan for preservation of the rural aspects of a farming community. A wider road may also increase speeding. Finally, the majority of frontage along Meha Road is not owned by Seabury Hall, but by Haleakala Ranch, and such road modification may not meet the approval of the ranch. These points have been previously raised during the Special Use Permit process.

The completed project is now functioning well within its intended use and has met the requirements of the Special Use Permit. The access easement was given final approval by the County of Maui. Considering that Seabury Hall has met all the requirements for the access easement, it is anticipated that any problems encountered by widening Meha Road at this time would not be the responsibility of Seabury Hall.

Thank you again for allowing me to comment on your proposals.

Sincerely,

  
Barclay Johnson, Agent  
Seabury Hall

JOHN WAIHEE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
MAUI DISTRICT HEALTH OFFICE  
54 HIGH STREET  
WAILUKU, MAUI, HAWAII 96793

PETER A. SYBINSKY  
Director of Health

LAWRENCE HART, M.D., M.P.H.  
DISTRICT HEALTH SERVICES ADMINISTRATOR (M.D.)

OCT 14 2 3 1994

October 14, 1994

Mr. Brian Miskae  
Director  
Department of Planning  
County of Maui  
250 S. High Street  
Wailuku, Hawaii 96793

Dear Mr. Miskae:

Subject: 94/EA-011, 94/CPA-07, 94/DBA-5, 94/CIZ-012, Gymnasium and Parkway  
Lot, TMK: 2-4-08: por 029, Makawao, Maui, Hawaii

Thank you for the opportunity to review and comment on the subject application. Our comments are as follows:

The proposed project is located in a critical wastewater disposal area, as determined by the County Wastewater Advisory Committee. We recommend that the wastewater disposal be via a treatment individual wastewater system. Details of the wastewater system for the project must be submitted for review and approval to the Maui District Health Office, Wailuku, Maui.

If you have any questions regarding the above, please call me at 243-5255.

Sincerely,

David H. Nakagawa  
DAVID H. NAKAGAWA  
Chief Sanitarian, Maui

RECEIVED  
OCT 14 1994  
10/16



## Seabury Hall

480 Ollnda Road, Makawao, Hawaii 96768 (808) 572-7235 Fax (808) 572-7196

May 16, 1995

Mr. David Nakagawa, Chief Sanitarian  
Department of Health  
Maui District Health Office  
54 High Street  
Wailuku, Hawaii

RE: Response letter dated October 14, 1994 regarding Seabury Hall  
94/EA-011, 94/CPA-07, 94/DBA-5, 94/CIZ-012, Gymnasium  
and Parking lot.

Dear Mr. Nakagawa,

I have enclosed a copy of your letter to Mr. Miskae stating that the details of the wastewater system be submitted for review and approval to the Maui District Health Office, Wailuku, Maui.

I have also included a letter from Mr. Roland Tejano, Environmental Engineer, stating that he has reviewed the subject project plans and has approved them.

I have also included a letter from Mr. Dennis Tulang, PE, regarding the maintenance of the system which will be monitored by Seabury Hall.

Should you have any questions regarding the above, please contact me at the above address or telephone.

Sincerely,

Barclay Johnson, Agent  
Seabury Hall

JOHN WAINEE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
MAUI DISTRICT HEALTH OFFICE  
54 HIGH STREET  
WAILUKU, MAUI, HAWAII 96793

PETER A. SYBINSKY  
Director of Health  
Lawrence Hart, M.D., M.P.H.  
DISTRICT HEALTH SERVICES ADMINISTRATOR

November 7, 1994

File No. 3180

Mr. Barclay Johnson  
480 Olinda Road  
Makawao, Hawaii 96762

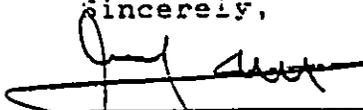
Dear Mr. Johnson:

Subject: Individual Wastewater System for Seabury Gym  
Olinda Road, Makawao, Maui, Hawaii  
TMK: (2) 2-4-8: 29

We have reviewed the revised design data and other pertinent information for the subject project. The revised plans are hereby approved. Our files will be revised to reflect the changes submitted. All other conditions stated in our plans approval letters are still valid. The Department shall be notified immediately if there are any changes in the construction plan or wastewater flow pattern.

Should you have any questions, please call me at 243-5095.  
Wastewater Branch, Maui District Health Office.

Sincerely,

  
ROLAND TEJANO  
Environmental Engineer

Attachment

c: Mr. Wayne Arakaki

BENJAMIN J. CAYETANO  
GOVERNOR OF HAWAII



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

LAWRENCE MIKE  
DIRECTOR OF HEALTH

In reply, please refer to  
EMO / WB

File No. 3180

May 4, 1995

Mr. Barclay Johnson  
480 Olinda Road  
Makawao, HI 96768

Dear Mr. Johnson:

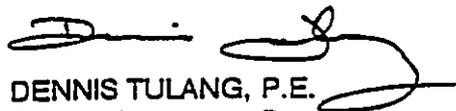
Subject: Individual Wastewater System for  
Seabury Gym  
Olinda Road  
Makawao, Maui  
TMK: (2) 2-4-8: 29

Your individual wastewater system (IWS) consisting of septic tanks and deep soil absorption trenches has been inspected and approved for use by the Department in accordance with Section 11-62-31.1(f), Hawaii Administrative Rules. The Department conducted a visual inspection on January 10, 1995, which revealed that your IWS was installed as per plans approved by the Department. However, per Section 11-62-06(m), the Department's approval does not guarantee that your wastewater system will function or perform properly for any given period of time.

You are responsible for the proper operation and maintenance of the wastewater system. Please be aware that your IWS requires periodic inspections as outlined in your operation and maintenance manual. You should check for the accumulation of sludge and scum on an annual basis. Excessive amounts of sludge and scum must be removed by a pumping firm for proper disposal. You should also check the disposal system for signs of clogging or ponding. You must keep records of the IWS inspections as well as sludge and scum removal. These records shall be available for inspection by the Department.

Should you have any questions, please call Roland Tejano at 243-5095.

Sincerely,

  
DENNIS TULANG, P.E.  
Chief, Wastewater Branch

RT:bhm

c: Mr. Wayne Arakaki

APPENDIX A.-F.



99-1255 WAIUA PLACE  
AIEA, HAWAII 96701  
PHONE: (808) 488-0433  
FAX: (808) 488-9535

360 PAPA PLACE, #102  
KAHULUI, MAUI, HAWAII 96732  
PHONE: (808) 877-3789  
FAX: (808) 871-1592

99-1255 WAIUA PLACE, AIEA, HAWAII 96701

(808) 488-0433 FAX (808) 488-9535

March 12, 1993  
Project No. M-2134-F

Territorial Architects, Ltd.  
P. O. Box 1247  
Wailuku, Maui, Hawaii 96793

Attention: Mr. Frank Skowronski

Gentlemen:

The attached report presents the results of a soils investigation at the site of the proposed gymnasium for Seabury Hall located in Makawao, Maui, Hawaii; TMK: 2-4-08: 1, 2, 29 and 30.

A summary of the findings is as follows:

- 1) The subsurface conditions were explored by drilling four (4) test borings to depths of 14.6 to 20.5 feet below existing grade. In general, the test borings disclosed the site to be underlain by moderately stiff to very stiff, brown and dark-brown clayey SILT to depths of 3 to 13.5 feet below existing grade followed by moderately dense silty GRAVEL and soft to moderately hard BASALTIC ROCK to the final depths of the borings.
- 2) No groundwater was encountered in any of the explorations at the time of the investigation. However, wet seams were observed in Boring 3 at 13.5 feet.
- 3) Based on the findings and observations, no soil or geologic conditions were encountered which would preclude the planned development provided the recommendations contained herein are included in the design and construction of the project.
- 4) Spread footings bearing on firm on-site soils, properly compacted fill or the underlying ROCK may be used to support the proposed structures.

Details of the findings and recommendations are presented in the attached report.

Territorial Architects, Ltd.  
March 12, 1993  
Page Two

This investigation was made in accordance with generally accepted engineering procedures and included such field and laboratory tests considered necessary for the project. In the opinion of the undersigned, the accompanying report has been substantiated by mathematical data in conformity with generally accepted engineering principles and presents fairly the design information requested by your organization. No other warranty is either expressed or given.

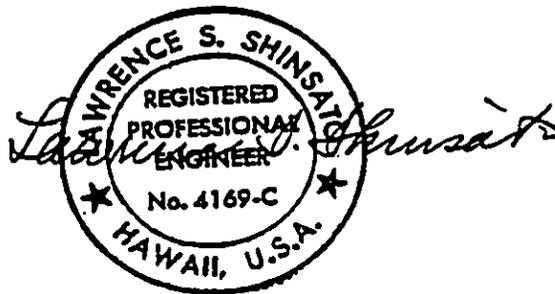
Respectfully submitted,

SOILS INTERNATIONAL

*Lawrence S. Shinsato*

Lawrence S. Shinsato, P.E.  
Vice-President

LSS:ls



This work was prepared by me  
or under my supervision.

**DRAINAGE REPORT FOR  
SEABURY HALL SUBDIVISION**

**TMK: (2) 2-4-08: 2, 29 & 30**

**L.U.C.A. NO. 2.2080**

**PREPARED FOR:**

**SEABURY HALL  
480 OLINDA ROAD  
MAKAWAO, HAWAII 96768**

**PREPARED BY:**

**WAYNE I. ARAKAKI ENGINEER  
P.O. BOX 884  
WAILUKU, MAUI, HAWAII 96793**

**DECEMBER 3, 1992**



## DRAINAGE REPORT

### \* INTRODUCTION:

This report has been prepared to evaluate both the existing site drainage conditions and the proposed drainage plan for the subject development.

### \* SITE LOCATION:

The project site is located in Makawao, Maui, Hawaii. The entry road is located on the westerly side of Olinda Road. There is a proposed access easement "A" for this project site that will be located on the North/East side of Meha Road.

The project site encompasses an area of approximately 39.2 (±) acres.

### \*PROJECT DESCRIPTION:

We are proposing to consolidate and resubdivide parcels 2, 29 and 30 of Tax Map Key: 2-4-08 and subdivide into lots 1, 2, and 3. Also designation of easements "A" and "B".

Seabury Hall School is presently planning for future expansion of the school facilities. The proposed lot 1 will include this expansion. Lot 2 and Lot 3 will remain in the present use as agriculture. It is presently and will remain as vacant land.

### \* EXISTING DRAINAGE:

Presently, runoff from Lot 1 sheet flows in a East to West direction. This runoff flows to a gulch which is parallel to Meha Road. Runoff from Lots 2 and 3 sheet flows from Southeast to a Northwest direction. There are no gulches or drainage swales located on these lots. We are not developing Lots 2 & 3. It will remain the same in its present use.

### \* FLOOD AND TSUNAMI ZONE:

According to the Flood Insurance Rate Map, effective June 1, 1981, prepared by the U.S. Federal Agency, Federal Insurance Administration, the project site is situated in the area designated as Zone C which is prone to minimal flooding.

There are no major gulches running through the project. A gulch which is located parallel to Meha Road does not flood the proposed subdivision.

**\* DRAINAGE PLAN:**

There are no drainage improvements planned for this 3 lot subdivision. Drainage improvements will be made upon future building expansion presently within one year from now.

The proposed 3 lots will remain in its present use. There will be no improvements or development made for this project. Future drainage studies and improvements will be submitted for any type of development.

**CONCLUSION:**

The proposed 3 lot subdivision will remain undeveloped. Presently, there are no drainage problems onsite and offsite. The natural drainage ways will remain the same. There will be no grading to alter the natural drainage pattern.

Therefore, it is our professional opinion that the proposed 3 lot subdivision development will not have an adverse effect on the adjoining properties and down stream properties.

DEPARTMENT OF LAND AND NATURAL RESOURCES  
Division of Forestry and Wildlife

July 15, 1994

Mr. James Coulter  
Seabury Hall  
480 Olinda Road  
Makawao, HI 96768

Reference: "Mini" Grant Application for Athletic Complex

Dear Mr. Coulter,

Congratulations! The Division of Forestry and Wildlife is pleased to announce that your application has been selected by the Kaulunani Council to receive a Kaulunani, Hawaii The Beautiful Urban Forestry "MINI" Grant. The amount that you have been awarded is \$500.

*The money you will be awarded is to be used for:*

16 Bottle brush trees as indicated on the map.

*The Council requests the following information:*

- The size of the trees in gallons
- Placement of trees in relation to the buildings
- The location of any overhead utility lines

**Promoting Kaulunani, Hawaii The Beautiful** - it is the responsibility of each awardee to include Kaulunani, Hawaii the Beautiful as a partner in the promotion of your project. As a condition for receiving these funds, you must display the Kaulunani sign, (which will be mailed to you), at the project site.

Enclosed are 2 copies of the Grant agreement which outline the terms of this agreement between the Division and Seabury Hall. Please read carefully and return one signed copy of the Agreement to: The Division of Forestry and Wildlife, 1151 Punchbowl St., Rm. 325, Honolulu, HI 96813, Attn: ATB Coordinator.

Again, congratulations! We look forward to working with you to improve Hawaii's Urban Forest. Please contact Teresa Trueman-Madriaga at 672-3383, or myself, at 587-0166 for any assistance or questions you may have.

Sincerely,

  
Nelson Ayers  
Service Forester

JOHN WADSWORTH  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION  
33 SOUTH KING STREET, 8TH FLOOR  
HONOLULU, HAWAII 96813

November 6, 1992

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

DEPUTIES

JOHN P. KEPPEL, II  
DONA L. HANAIKE

AQUACULTURE DEVELOPMENT  
PROGRAM

AQUATIC RESOURCES  
CONSERVATION AND

ENVIRONMENTAL AFFAIRS  
CONSERVATION AND  
RESOURCES ENFORCEMENT  
CONVEYANCES

FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
DIVISION

LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

LOG NO.: 6724  
DOC NO.: 9211AG07

Mr. Barclay W. Johnson, Project Manager  
Seabury Hall  
480 Olinda Road  
Makawao, Hawaii 96768

Dear Mr. Johnson:

SUBJECT: Historic Preservation Review of a Rezoning Approval  
for Seabury Hall Subdivision  
Makawao, Maui  
TRK: 2-4-08: 29

This is in response to your letter dated October 29, 1992, requesting our comments on Seabury Hall's proposed application to rezone a 7.6 acre portion of this property to Quasi-Public and reclassify the state land use district boundary to urban for the purpose of building a gymnasium.

According to your letter and supported by the photos that you enclosed, this portion of the property has been graded and is currently used for a play/soccer field. You also have documentation that this property was formerly planted in pineapple by H.P. Baldwin Company before Haleakala Ranch purchased it in 1960. It appears then that this 7.6 acre portion has undergone extensive ground modification and it is highly unlikely that historic sites are present below the surface. (It is obvious from your photos that none exist on the surface.) Therefore, we believe that your proposed zoning change will have "no effect" on significant historic sites.

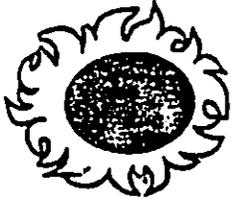
Should you have any questions about these comments, please feel free to contact Ms. Annie Griffin at 587-0013.

Sincerely,

*Phyllis N. M. Udaway*

for DON HIBBARD, Administrator  
State Historic Preservation Division

AG:aal



*Maui Recycling Service, Inc.*

P.O. Box 1596 Makawao, HI 96768  
(808) 878-3476

Seabury Hall  
Olinda Rd.  
Makawao, HI 96768

December 4, 1992

Aloha!

This is a letter of referral stating that Seabury Hall has been participating in a very successful recycling program with us, Maui Recycling Service Inc., since September 23, 1992. We pick up their recyclables on a once a week basis and they have been very cooperative in providing an easy access area with the appropriate bins for separation. It is very encouraging when a Maui school realizes the need for recycling on this island.

Sincerely,

Rene' Ruch, President  
Maui Recycling Service Inc.



Printed on Recycled Paper

INDA GROCKE LL LINGEE  
Mayor  
GEORGE N KAYA  
Director  
CHARLES JENCKS  
Deputy Director



COUNTY OF MAUI  
DEPARTMENT OF PUBLIC WORKS

KAHUNA KAUA IKAU  
KAHUNA KAUA IKAU  
KAHUNA KAUA IKAU

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KAHUNA KAUA IKAU  
KAHUNA KAUA IKAU  
KAHUNA KAUA IKAU

June 27, 1992

Wayne I, Arakaki, Engineer  
P.O. Box 884  
Wailuku, Hawaii 96793

Dear Mr. Arakaki:

Re: Zoning information for TMK: 2-4-008:2, 29, and 30

TMK: 2-4-008:2 and 30

- 1. State Land Use designation of Urban
- 2. County - Interim
- 3. Community Plan - Public/Quasi Public

TMK: 2-4-008:29

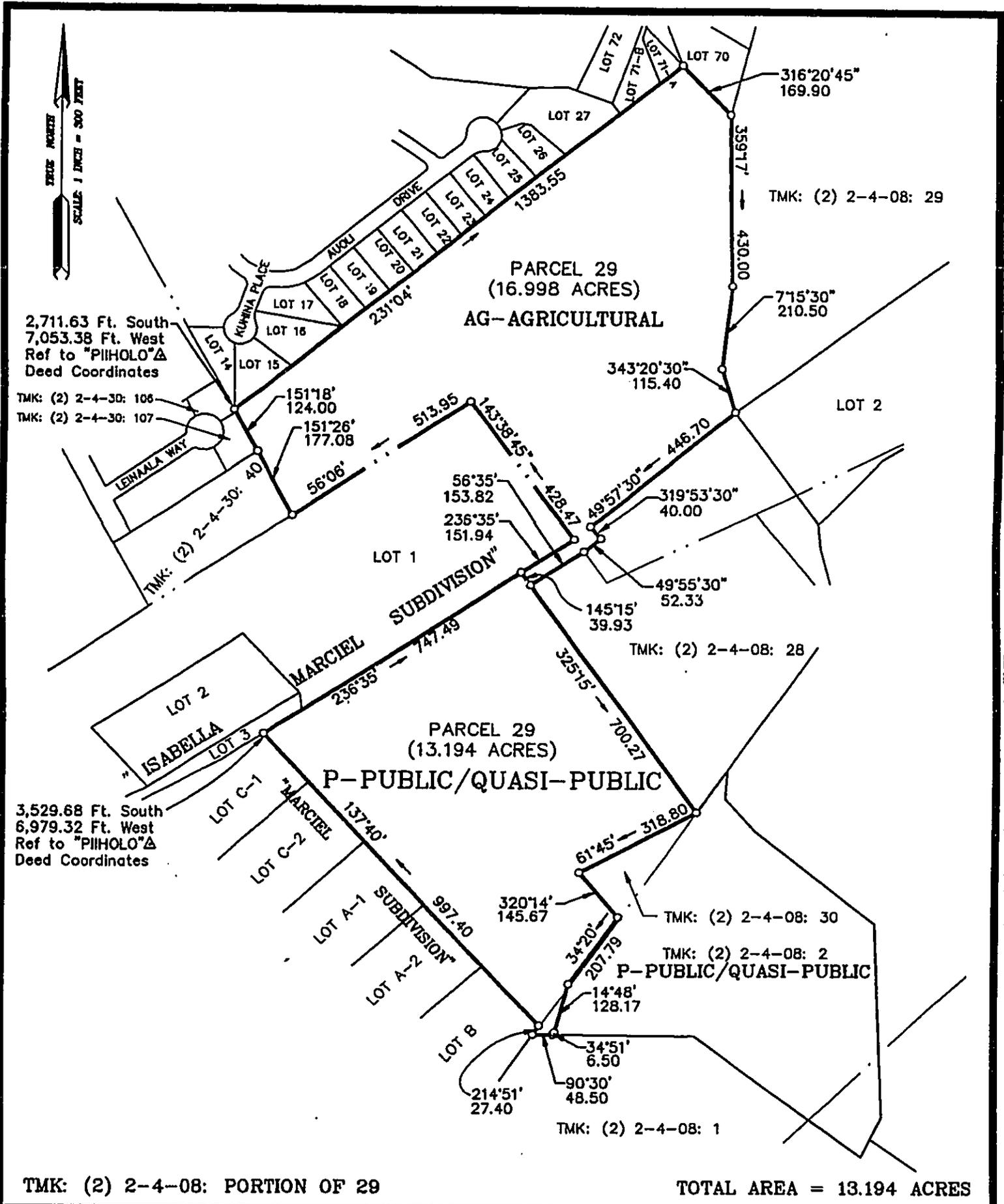
- 1. State Land Use designation of Agricultural
- 2. County Zoning - none
- 3. Community Plan - Single family and Public/Quasi Public

If you have any questions, please call me at 243-7373.

Sincerely,

Donald Okuda, Plans Examiner  
LAND USE AND CODES ADMINIS.

DO:fp



TMK: (2) 2-4-08: PORTION OF 29

TOTAL AREA = 13.194 ACRES

LAND ZONING MAP No.  
 CHANGE IN ZONING - MAKAWAO, MAUI  
 TO ESTABLISH P-1  
 PUBLIC/QUASI-PUBLIC DISTRICT ZONE

APPROVED:

\_\_\_\_\_  
 COUNTY CLERK

PUBLIC HEARING:  
 ADOPTED-COUNCIL:  
 ADOPTED-MAYOR:  
 ORDINANCE:

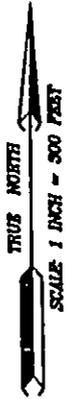
APPROVED:

\_\_\_\_\_  
 PLANNING DIRECTOR

DATE: 1-4-95

SCALE: 1" = 300'

OFFICE OF THE COUNTY CLERK  
 200 SOUTH HIGH STREET, WAILUKU, MAUI, HAWAII 96793



2,711.63 Ft. South  
7,053.38 Ft. West  
Ref to "PIIHOLO"Δ  
Deed Coordinates

TMK: (2) 2-4-30: 108  
TMK: (2) 2-4-30: 107

3,529.68 Ft. South  
6,979.32 Ft. West  
Ref to "PIIHOLO"Δ  
Deed Coordinates

TMK: (2) 2-4-08: Portion 29

TOTAL AREA = 13.194 ACRES

LAND USE DISTRICT BOUNDARY AMENDMENT MAP NO.  
FROM: AGRICULTURAL DISTRICT  
TO: URBAN DISTRICT

APPROVED:

\_\_\_\_\_  
COUNTY CLERK

PUBLIC HEARING:  
ADOPTED-COUNCIL:  
ADOPTED-MAYOR:  
ORDINANCE:

APPROVED:

\_\_\_\_\_  
PLANNING DIRECTOR

DATE: 1-4-95

SCALE: 1" = 300'

OFFICE OF THE COUNTY CLERK  
200 SOUTH HIGH STREET, WAILUKU, MAUI, HAWAII 96793

