DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
COUNTY OF MAUI

CHARMAINE TAVARES
Mayor

LORI TSUHAKO
Director

JO-ANN T. RIDAO
Deputy Director

2200 MAIN STREET • SUITE 546 • WAILUKU, HAWAII 96793 • PHONE (808) 270-7805 • FAX (808) 270-7165
MAILING ADDRESS: 200 SOUTH HIGH STREET • WAILUKU, HAWAII 96793 • EMAIL director.hhc@mauicounty.gov

OCT 2 3 2010

September 28, 2010

Katherine Kealoha, Director
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Ms. Kealoha:

**SUBJECT: Final Environmental Impact Statement for Proposed Ohana Kai Village Affordable Housing Project and Related Improvements at TMK (2)3-6-001:018, TMK (2)3-6-004:003(por.) and 008(por.), Maalaea, Maui, Hawaii**

The County of Maui, Department of Housing and Human Concerns (Department) has accepted the Final Environmental Impact Statement (EIS) for the subject project. We have determined that the document fulfills the definition of an EIS, adequately discloses and describes all identifiable environmental impacts, and satisfactorily responds to review comments. Specifically, the document fulfills the following criteria as set forth in Section 11-200-23, Hawaii Administrative Rules (HAR):

1. The procedures for assessment, consultation process, review, and the preparation and submission of the EIS, have all been completed satisfactorily.

2. The content requirements of an EIS have been satisfied; and comments submitted during the review process have received responses satisfactory to the Department, and have been incorporated into the Final EIS.

We hereby request publication of the Final EIS acceptance determination in the next available issue of The Environmental Notice. Enclosed are the following items:

- One (1) electronic copy (in PDF format) and one (1) hardcopy of the Final EIS
- Completed OEQC publication form (including project summary)
- Completed Final EIS distribution list

Should you have any questions, please contact Jo Ann Ridao, Deputy Director of the Department at (808) 270-7805.

Sincerely,

LORI TSUHAKO, LSW, ACSW
Director of Housing and Human Concerns

Enclosures
cc: Jesse Spencer, MVI, LLC
Mark Alexander Roy, Munekiyo & Hiraga, Inc.
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# ~~Draft~~*Final* Environmental Impact Statement

## Volume I of III

# PROPOSED OHANA KAI VILLAGE AFFORDABLE HOUSING PROJECT AND RELATED IMPROVEMENTS AT TMK (2) 3-6-001:018, TMK (2) 3-6-004:003(por.), and 008(por.), MAALAEA, MAUI, HAWAII

**Prepared for:**

**MVI, LLC**

**Accepting Authority:**

**County of Maui,**
**Department of Housing and Human Concerns**

This document was prepared under my supervision and the information submitted, to the best of my knowledge, fully addresses document content requirements as set forth in sections 11-200-17 and 11-200-18 of the Hawaii Administrative Rules, as appropriate.

Michael T. Munekiyo, AICP
President



~~**December 2009**~~***September 2010***

MUNEKIYO HIRAGA, INC.

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## Executive Summary

| | |
|---|---|
| **Project Name:** | Proposed Ohana Kai Village Affordable Housing Project and Related Improvements |
| **Type of Document:** | ~~Draft~~*Final* Environmental Impact Statement |
| **Legal Authority:** | Chapter 343, Hawaii Revised Statutes<br>***Chapter 11-200, Hawaii Administrative Rules (Environmental Impact Statement Rules)*** |
| **Applicable Environmental Assessment Review "Trigger":** | Use of State Lands (work within Honoapiilani Highway right-of-way); Construction of Wastewater Treatment Plant |
| **Location:** | TMK: 3-6-001:018, 3-6-004:003 (por.), and 008 (por.)<br>Maalaea, Wailuku<br>Maui Island |
| **Landowner:** | MVI, LLC |
| **Applicant:** | MVI, LLC<br>4372 West Waiola Street<br>Kihei, Hawaii 96753<br>Contact: Jesse Spencer<br>Phone: (808) 298-7708 |
| **Accepting Authority:** | Department of Housing and Human Concerns<br>County of Maui<br>2200 Main Street, Suite 546<br>Wailuku, Hawaii 96793<br>Contact: Jo-Ann Ridao, Deputy Director<br>Phone: (808) 270-7805 |
| **EIS Preparer:** | Munekiyo & Hiraga, Inc.<br>305 High Street, Suite 104<br>Wailuku, Hawaii 96793<br>Contact: Mark Alexander Roy, AICP, Project Manager<br>Phone: (808) 244-2015 |
| **Project Summary:** | The applicant (MVI, LLC) proposes the development of a residential subdivision on approximately 257 acres of land. The subdivision would contain approximately 1,100 affordably-priced single-family dwellings. Sixty (60) percent of these units will be made available to qualified individuals in Below Moderate to Above Moderate (81 percent to 140 percent) median income groups at sales prices set forth |

by the County of Maui, Department of Housing and Human Concerns' ***(DHHC)*** Affordable Sales Price Guidelines. The remaining forty (40) percent will be offered for sale in accordance with market demand at prices at or below the upper threshold of pricing for the Gap Income (141 to 160 percent) median income group as defined in the DHHC Affordable Sales Price Guidelines. The project will also include a neighborhood-oriented village town center, parks, open space, as well as lands for public/quasi-public use. Onsite infrastructure improvements include water conveyance, drainage, and wastewater systems, including the development of a new onsite wastewater treatment plant. A private drinking water system is also being developed in conjunction with the project on an adjacent parcel of land consisting of groundwater wells, two (2) storage tanks, and related infrastructure.

## Project Summary

### PROJECT DESCRIPTION:

MVI, LLC proposes the development of the Ohana Kai Village Affordable Housing Project and various related improvements on approximately 257 acres of land at TMK (2) 3-6-001:018. The site is designated for residential development as Project District 12 in the 1998 Kihei-Makena Community Plan. The proposed project has been designed to contain approximately 1,100 affordably-priced single-family residential units. The subdivision will also include a neighborhood-oriented village town center, community support facilities (i.e., parks, lands for public/quasi-public use, and open space), and supporting infrastructure~~, including an onsite Wastewater Treatment Plant (WTP)~~. Through completion of a number of engineering studies, the applicant has identified a range of infrastructure solutions to serve the proposed project. Sewage treatment capacity ***for the new subdivision*** will be provided through the proposed construction of a new, privately-developed, onsite ***Wastewater Treatment Plant (***WTP***)***. Furthermore, a private drinking water system (consisting of three (3) production wells~~and~~, two (2) storage tanks ***and related improvements***) is also in the process of being developed by the applicant on a portion of a neighboring property, identified as TMK (2) 3-6-004:003 (por.) and 008 (por.). ***By letter dated March 23, 2010, the Commission on Water Resource Management issued a combined Certificate of Well Construction and Pump Installation Completion for the three (3) production wells.*** ~~Upon completion, the water system~~***These wells*** will provide enough capacity to meet the full ~~potable~~***drinking*** ~~and non-potable~~ water needs of the project. A master drainage system will also be engineered as part of the project to retain ***at a minimum,*** all increases in post-development runoff associated with the project such that there will be no impact on downstream properties or to water quality within Maalaea Bay.

### SIGNIFICANT BENEFICIAL AND ADVERSE IMPACTS:

This Environmental Impact Statement (EIS) has been prepared in coordination with the Department of Housing and Human Concerns (DHHC) to fully document and evaluate the technical characteristics, environmental impacts and alternatives associated with the proposed project. The project site is situated in an attractive and central location along Honoapiilani Highway in Maalaea and is within easy reach of employment centers in West, South and Central Maui. As reflected by the existing project district designation (Project District 12) in the Kihei-Makena Community Plan, the project site is considered to be a suitable location for the development of much needed affordable housing for Maui's working families. The proposed action is not anticipated to result in significant adverse cumulative or secondary impacts.

Necessary engineering infrastructure systems and services to serve the project will be provided by

the applicant. In addition, the project is anticipated to have a beneficial impact on the local economy both during construction and in the long term. Real property taxes generated by the project residents will contribute to the County's revenue tax base to support increases in regional public service demands over time.

From an infrastructure use perspective, project implementation will result in impacts to existing hydrology (drainage) characteristics, largely due to the increase in impervious surface area, and other impacts related to park, school, and roadway usage.

**PROPOSED MITIGATION MEASURES:**

Impacts resulting from infrastructure use will be mitigated through the provision of additional onsite resources (master drainage system, Wastewater Treatment Plant ***(WTP)***, drinking water system, and ~~donation~~***provision*** of lands for public/quasi-public facilities). Additionally, in the long-term, real property taxes generated by project residents will help to offset costs of increased regional public service demands.

***Further, a program of Best Management Practices (BMP) will be implemented to ensure that construction-related impacts are maintained within acceptable thresholds during project implementation.***

**ALTERNATIVES CONSIDERED:**

The applicant has evaluated the no action alternative, alternative uses of the site, and infrastructure development alternatives. However, these options will not address the critical need for the timely provision of affordable housing in the Kihei-Makena region. Further, alternative site layouts were considered, though the proposed master plan was selected based on the need for affordable housing in Maui County and compatibility with the spatial land use recommendations of the Kihei-Makena Community Plan.

**UNRESOLVED ISSUES:**

***The following issues were unresolved at the time of writing the Final EIS:***

- ***Implementation of Infrastructural Solutions***

  ***As noted above, infrastructure solutions for the project have been identified by MVI, LLC and will be developed concurrently with construction of the project. These engineering solutions have been evaluated as part of the analysis provided in this document and***

*include a private drinking water system, a Wastewater Treatment Plant (including installation of injection wells for effluent disposal), roadway improvements along Honoapiilani Highway, and a comprehensive drainage system. All infrastructural systems for the project will be designed and constructed in consultation with the relevant governmental agencies and in accordance with applicable legislative requirements. All required regulatory approvals for these system designs will be obtained prior to project implementation.*

- *Drinking Water Quality Testing*

*The private drinking water system consists of three (3) wells which have been approved by the State Commission on Water Resource Management (CWRM) to draw drinking water from the Waikapu Aquifer beneath the site. The proposed water system will be regulated as a new public water system and will be required to comply with applicable State Department of Health (DOH) regulations regarding the development and operations of such systems and the delivery of drinking water fit for human consumption. The proposed water system will utilize state of the art monitoring equipment to ensure that the quality of the water being extracted through the three (3) groundwater wells is maintained within the parameters prescribed by DOH for drinking water uses. Preliminary testing of the water quality from the three (3) wells that will provide drinking water for the project has been completed. The samples taken during these preliminary tests were analyzed in accordance with the drinking water standards prescribed by the DOH. The results indicate that the source has the capability of providing the water quality necessary to produce drinking water to service the requirements of the Ohana Kai Village subdivision. Further comprehensive testing of the groundwater from the project's three (3) wells and ongoing monitoring will, therefore, be required as part of the DOH approval process for the water system to ensure that water quality meets prescribed standards for drinking water supplies. Over the long term, should water quality exceed defined parameters, the appropriate level of pre-treatment will be applied at that time to ensure that water quality standards are maintained as required by law.*

- *Formulation of Affordable Housing Agreement and Marketing Program for Units*

Implementation of the project will address the shortage of affordable housing currently being experienced on Maui and will be processed in accordance with Section 201H-38 of the Hawaii Revised Statutes (HRS). The applicant will be working alongside the County of Maui, ~~Department of Housing and Human Concerns (~~DHHC~~)~~ as the project proceeds to formulate a unilateral agreement and marketing program for the project's affordable units. The applicant will formulate and execute the affordable housing agreement with the DHHC

prior to project implementation.

- ***Review and Issuance of 201H Exemptions***

  Through the 201H process, the applicant will be seeking exemptions from certain regulatory and statutory requirements relating to land use, construction, subdivision, public services and infrastructure and administrative procedures. Approval of these exemptions will address impact fee requirements for the project and will enable the units to be constructed and made available to qualified buyers in accordance with the ***DHHC Affordable Sales Guidelines and*** project schedule.

- ***Completion of 2030 General Plan Update***

  While an exemption from Chapter 2.80B of the Maui County Code, relating to the General Plan and Community Plans, will be included in the Section 201H-38 exemption list for the project (due to the inclusion of a commercial component in the development plans), the applicant is currently actively participating in the County of Maui's 2030 General Plan Update process, a comprehensive planning process that has been ongoing for a number of years now. As part of its involvement in the 2030 General Plan Update process, MVI, LLC has submitted a formal request to the Department of Planning asking that the ~~subject property~~***project site*** (designated as Project District 12 in the 1998 Kihei-Makena Community Plan) continue to be reflected as a future urban growth area for the Maalaea community. Development plans for the property have also been discussed with both the General Plan Advisory Committee and the Maui Planning Commission during landowner presentations held as part of the General Plan process in September 2007 and July 2009. MVI, LLC will continue to work alongside the Department of Planning and the County Council as work on the draft Maui Island Plan continues.

- ***Satisfaction of Educational Contribution Requirements***

  ***MVI, LLC is proposing to facilitate the construction of a charter school within the 16-acre public/quasi-public land use component of the proposed subdivision. The development of this educational facility will offset the impact of the proposed Ohana Kai Village Affordable Housing Project Affordable Housing on State owned and operated educational facilities in both Central and South Maui. The applicant will continue to work alongside in coordination with the State Department of Education to address educational contribution requirements for the project.***

- ***Lease of Mauka Conservation Lands***

  ***MVI, LLC will also be continuing to work alongside the Department of Land and Natural Resources (DLNR) (owner of Conservation lands mauka of Project District 12) and other neighboring landowners with the goal of formulating an Effluent Reuse Plan for the project that seeks to maximize reuse of R-1 water from the project's WTP. This includes ongoing discussions with the DLNR to request issuance of a lease for the use of a linear strip of Conservation District land along the mauka boundary of the project site. This land would be utilized as part of the reclaimed water reuse program for the project. This would offer the opportunity for increased R-1 irrigation use within and around the subdivision, thus reducing the need to utilize onsite injection wells to dispose of effluent from the WTP. The leased land would serve a dual function as it would also be regularly maintained as a green fire prevention buffer between the untended State-owned conservation lands to the west of the property line and the urban land uses programmed for development within the subdivision.***

- ***After-the-Fact Department of Army Permitting Requirements***

  ***The applicant is also proceeding, in accordance with guidance from the U.S. Army Corps of Engineers (USACE), with the processing of an after-the-fact DA permit application for a waterline and road crossing that was installed across Pohakea Gulch, a gulch located to the north of Project District 12. This work was completed by MVI, LLC in late 2009 prior to the revocation in May 2010 of a previous non-jurisdictional determination for this drainageway by USACE. By letter, dated May 27, 2010, USACE asserted jurisdiction over Pohakea Gulch as a water of the United States. MVI, LLC will continue to work with USACE staff to address the necessary after-the-fact DA permit requirements for the 2009 improvements to remain in place.***

  ***In regards to onsite drainageways located within the limits of TMK (2)3-6-001:018 (the 257-acre subdivision site), MVI, LLC will also be submitting a separate jurisdictional determination request to USACE to request confirmation of applicable DA permitting requirements for project-related improvements affecting these features.***

## PERMIT REQUIREMENTS AND DEVELOPMENT SCHEDULE

The proposed ~~project~~***Ohana Kai Village Affordable Housing Project*** will require several land use entitlement approvals to proceed. A summary of the current land use parameters is presented below:

| Land Use Parameter | Existing Designation |
|---|---|
| State Land Use District | Agricultural |
| Kihei-Makena Community Plan | Project District 12 |
| County Zoning | Agricultural |

The proposed project has been developed to meet the criteria for a Section 201H-38, Hawaii Revised Statutes (HRS) project in coordination with the County of Maui's DHHC. ***A Section 201H-38, HRS application will be submitted to the Maui County Council upon completion of the EIS process for the project.***

~~Concurrent with the County's 201H-38, HRS processing, a~~*A* petition for a ~~State Land Use Commission (SLUC)~~ District Boundary Amendment (DBA) from the "Agricultural" to the "Urban" District will ***also*** be submitted ~~for processing~~***to the State Land Use Commission (SLUC) as part of the land use entitlement process for the project.*** The SLUC petition will encompass the entire 257-acre project site and will follow the provisions of Section 15-15-97 of the Land Use Commission Rules, pertaining to Section 201H-38, HRS processing ***(Government Sponsored Projects)***.

Construction of the project will commence upon receipt of all applicable regulatory permits and approvals. Upon initiation, the project will be developed over a multi-phase time horizon anticipated to be eight (8) years in duration.

## LIST OF DOCUMENT AUTHORS

| Document Name | Author |
|---|---|
| **Agricultural Impact Assessment Report:** | ~~Dr. Bruce Plasch,~~ Decision Analysts Hawaii, Inc. ***(Dr. Bruce Plasch)*** |
| **Archaeological Inventory Survey Reports, Archaeological Monitoring Plans and Cultural Impact Assessment Report:** | Scientific Consultant Services, Inc. ***(Michael Dega, John Wilson and Cathleen Dega, Donna Shefcheck, Elizabeth Pestana, Leann McGerty)*** |
| **Biological Resources Surveys:** | Robert W. Hobdy |
| **Environmental Impact Statement:** | Munekiyo & Hiraga, Inc. ***(Michael T. Munekiyo and Mark Alexander Roy)*** |
| **Market Study Report *(Including Supplemental Counseling Letter)* and Fiscal/Economic Impact Assessment Report:** | ACM Consultants, Inc. ***(Glenn Kunihisa and Shane Fukuda)*** |
| **Phase I and Phase II Environmental Site Assessment Reports *(Including Supplemental Dioxin Testing Report)*:** | Element Environmental LLC ***(Roger Aoki and Ryan Yamaguchi)*** |
| **Subdivision Preliminary Engineering Report and Subdivision Preliminary Drainage Report:** | Otomo Engineering, Inc. ***(Stacy Otomo and Mark Matsuda)*** |
| **Traffic Impact Analysis Report:** | AECOM, Inc. ***(Warren Yamamoto)*** |
| **Water Quality and Marine Biological Resources Survey:** | AECOS, Inc. (Snookie Mellos) |
| **Wastewater Treatment Plant Preliminary Engineering Assessment Report:** | Engineering Dynamics Corp. ***(Douglas Gomes)*** |

## List of Acronyms

ADF – Average Daily Flow
AIS – Archaeological Inventory Survey
ALISH – Agricultural Lands of Importance to the State of Hawaii
AMSL – Above Mean Sea Level
BMP - Best Management Practices
CML - Central Maui Landfill
***CWRM - Commission on Water Resource Management***
DBA – District Boundary Amendment
DEM – County Department of Environmental Management
DLNR – State Department of Land and Natural Resources
DOE – State Department of Education
DOH – State Department of Health
DP – County Department of Planning
DPR – County Department of Parks and Recreation
DPW – County Department of Public Works
EA – Environmental Assessment
***EAL - Environmental Action Level***
EIS – Environmental Impact Statement
EISPN – Environmental Impact Statement Preparation Notice
EPA – Environmental Protection Agency
ESA – Environmental Site Assessment
EsB – Ewa Silty Clay
EtB – Ewa Cobbly Silty Clay
FEMA – Federal Emergency Management Agency
HAR – Hawaii Administrative Rules
HC&S – Hawaiian Commercial & Sugar Company
HCZMP – Hawaii Coastal Zone Management Program
HDPE – High Density Polyethylene
***HEER - Hazard Evaluation and Emergency Response***
HRS – Hawaii Revised Statutes
***HUD - U.S. Department of Housing and Urban Development***
***KPWR - Kealia Pond Wildlife Refuge***
LOS – Level of Service
LSB – Land Study Bureau
MCC- Maui County Code
MECO – Maui Electric Company
MPC - Maui Planning Commission

MPD – Maui Police Department
MPH – Miles Per Hour
NPDES – National Pollutant Discharge Elimination System
OEQC – State Office of Environmental Quality
***PCB - Polychlorinated Biphenyls***
PD – Project District
PDR – Preliminary Drainage Report
PER – Preliminary Engineering Report
***PRG - Preliminary Remediation Goal***
PtB – Pulehu Cobbly Clay Loam
rSM – Stony Alluvial Land
SCS – Scientific Consulting Services
***SDOT - State Department of Transportation***
SFHAD – Special Flood Hazard Area Development
SHPD – State Historic Preservation Division
SLUC – State Land Use Commission
SMA – Special Management Area
***SVOC - Semi-Volatile Organic Compounds***
TIAR – Traffic Impact Analysis Report
TMK – Tax May Key
UIC – Underground Injection Control
***VOC - Volatile Organic Compounds***
WRF – Wastewater Reclamation Facility
WTP – Wastewater Treatment Plant

# I. PROJECT OVERVIEW

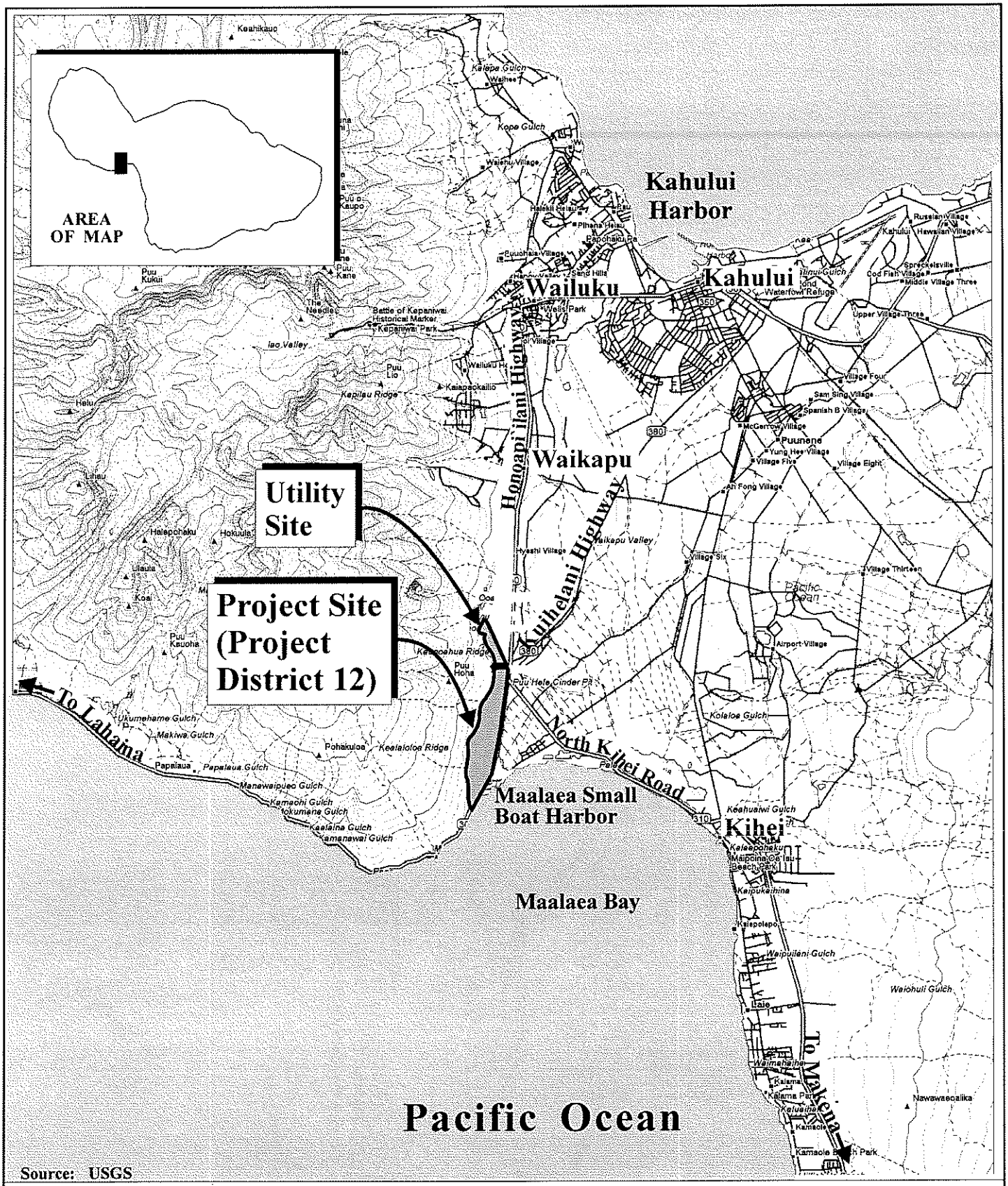
# I. PROJECT OVERVIEW

## A. PROJECT LOCATION, OWNERSHIP, AND CURRENT LAND USE

The proposed ~~project~~***Ohana Kai Village Affordable Housing Project*** involves the use of three (3) parcels of land (hereafter referred to individually as the "project site" (Parcel 18) and the "utility site" (Parcels 3 and 8) or collectively as the "project area") located in Maalaea, Maui, Hawaii. The project area is bordered on the east side by the State of Hawaii's Honoapiilani Highway, beyond which lies the Maalaea Triangle commercial complex ***and various residential uses located along Hauoli Street.*** To the south of the project area is the Maalaea Small Boat Harbor, while agricultural lands are located to the north. State Conservation District lands border the project area to the west. See **Figure 1**. The project site is identified by Tax Map Key (TMK) (2) 3-6-001:018 and the utility site by TMK (2) 3-6-004:003 (por.) and 008(por). The project site is designated as Project District 12 in the Kihei-Makena Community Plan and is the location for the proposed Ohana Kai Village Affordable Housing Project. See **Figure 2** and **Figure 3**.

The project site is approximately 257 acres in area and is owned by MVI, LLC ***(hereafter referred to as the "Applicant")***. The property was acquired by MVI, LLC on October 21, 2008 from former owner Maalaea Properties, LLC. Prior to the sale of the property, the previous owner (Maalaea Properties, LLC) had been involved in the processing of land use entitlement applications for development of a proposed residential subdivision on the property, referred to at the time as the ~~"~~Maalaea Mauka~~"~~ project. The Maalaea Mauka proposal is no longer being pursued ~~by Maalaea Properties, LLC~~. ***By request of Maalaea Properties, LLC, the District Boundary Amendment Petition (Docket No. A06-765) for the Maalaea Mauka project was formally withdrawn from processing by the State Land Use Commission on February 18, 2010.*** Since purchasing the property, MVI, LLC ~~(hereafter referred to as the "Applicant")~~ has been working to develop a master plan and associated land use components for the current proposal at hand, which is the Ohana Kai Village Affordable Housing Project.

Portions of the project site are presently being utilized to support agricultural functions, such as cattle grazing. Areas not being utilized for agricultural activities currently lie vacant and underutilized.




Source: USGS

# Figure 1 Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

NOT TO SCALE

Regional Location Map

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

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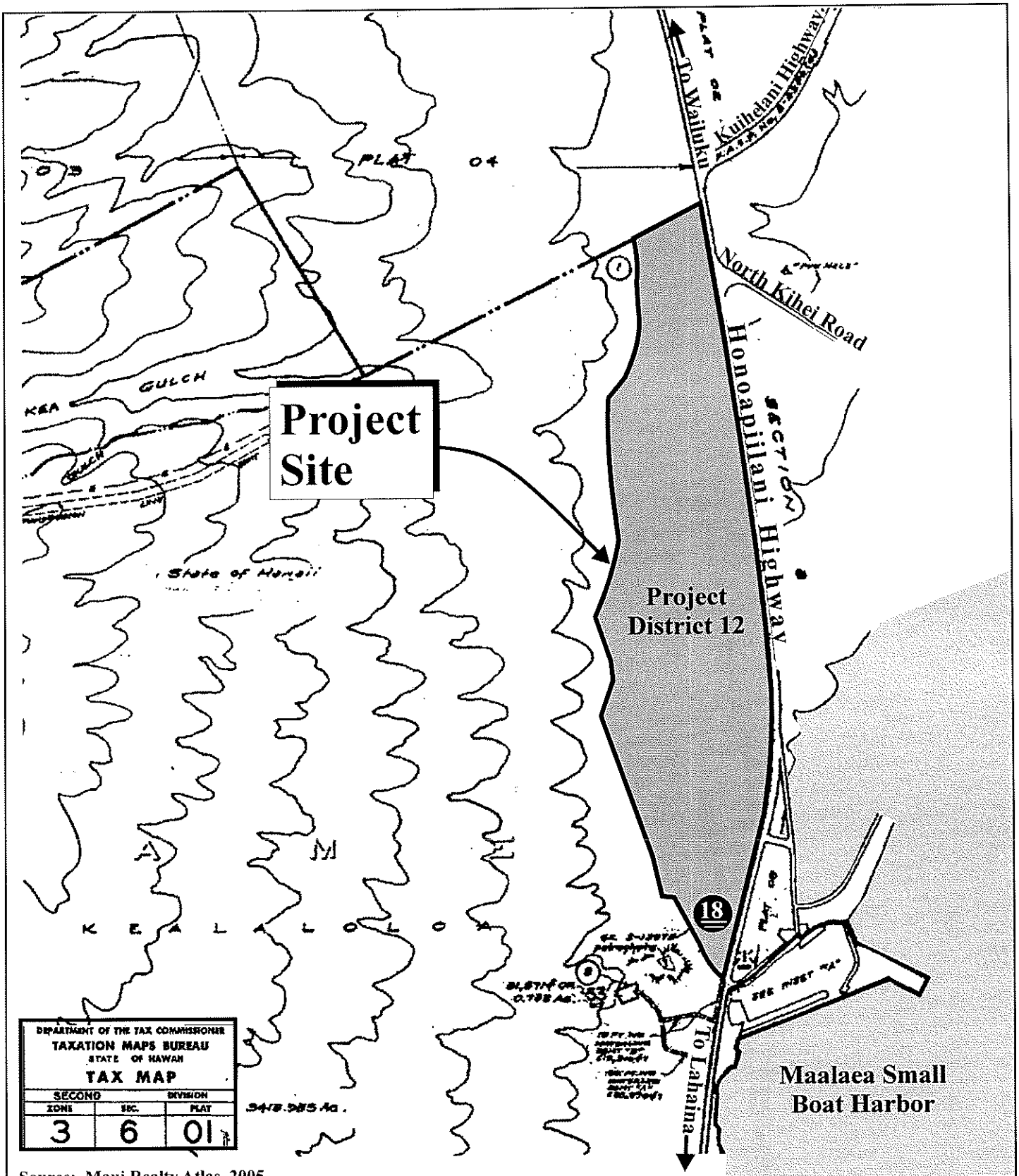



Source: Maui Realty Atlas, 2005

Figure 2

# Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

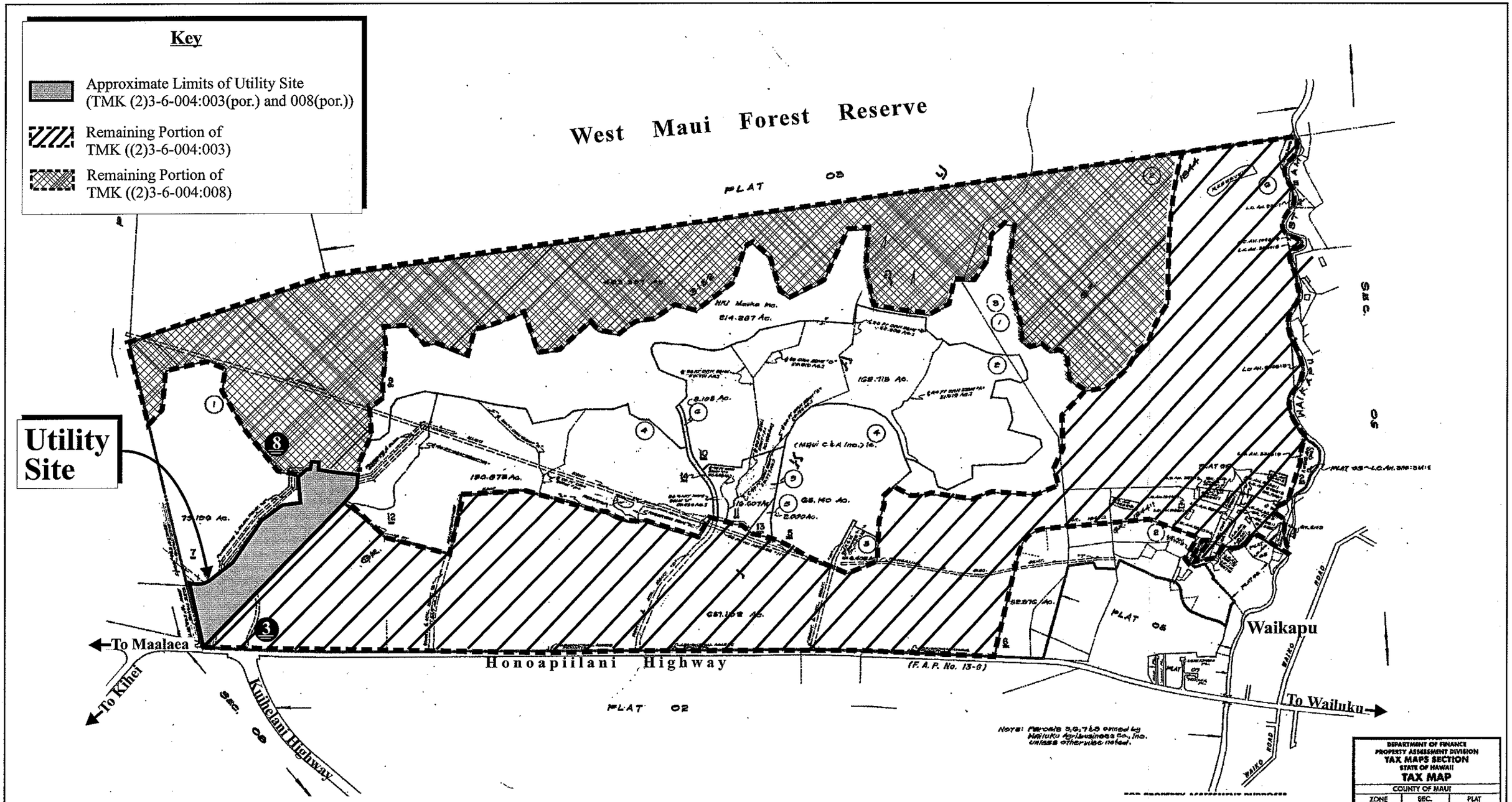
## Property Location Map (Project Site)

NOT TO SCALE

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/FinalEIS/projectsite




Source: Maui Realty Atlas 2005

Figure 3 Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

Property Location Map (Utility Site)

NOT TO SCALE

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

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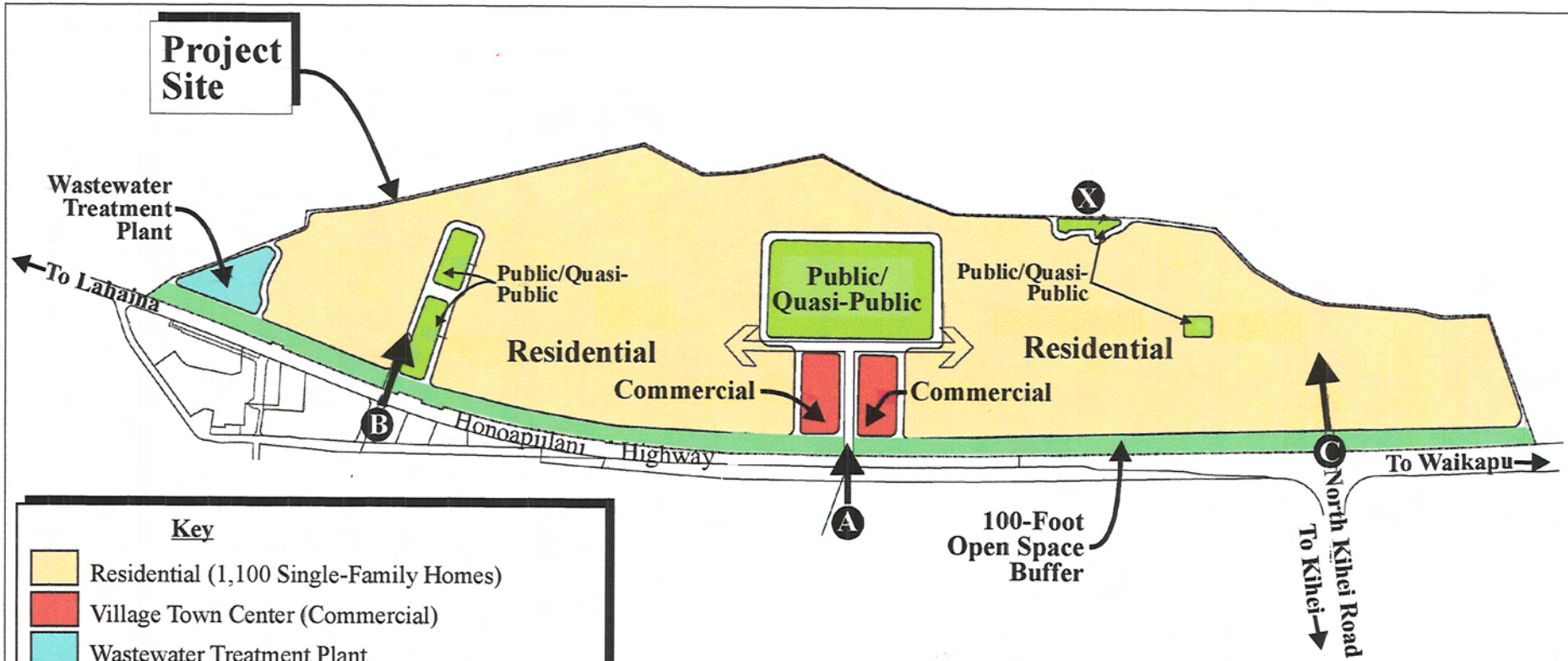
## B. PROPOSED ACTION

The applicant proposes the development of a 257-acre master-planned residential community on the project site (TMK (2) 3-6-001:018). See **Figure 4**. Referred to as "Ohana Kai Village", the proposed project involves the master-planned development of 1,100 affordably-priced single-family residential units, a neighborhood-oriented village town center, community support facilities (i.e. parks, lands for public/quasi-public use, and open space), and supporting infrastructure, including a Wastewater Treatment Plant (WTP) ***and a drinking water system. See Figure 5.*** According to preliminary plans, the 1,100 residential units will be developed on approximately ~~197~~***193*** of the 257 total acres in the project site, while the remainder of the parcel will be used for development of the ***village town center (commercial) component and the*** WTP, as well as lands for public/quasi-public use, parks, open space, buffer zones, and collector roadways. ***The main purpose of the commercial land use component in the development plan is to provide neighborhood-oriented commercial services to the residential community within the subdivision. The shops and services provided in the commercial center will, however, also be available for use by the existing Maalaea community. The availability of the commercial area is ancilliary to the main housing component of the project and will reduce the need for residents to travel for everyday items such as food and drink. Uses currently being evaluated for incorporation in this neighborhood-oriented commercial area include a mini-mart, a gas station, a grocery store as well as small-scale office/retail uses.*** **Table 1** below provides a breakdown of the proposed land uses and allocated areas ***within Project District 12***.

**Table 1.** Project Site Land Use Allocations

| Land Use Component | Acreage Allotment |
|---|---|
| ***Residential (1,100*** Single-Family Homes ~~(1,100 units)~~ | ~~197~~***193.22*** |
| Village Town Center (Commercial) | ~~7.0~~***6.94*** |
| Wastewater Treatment Plant | ~~7.0~~***3.91*** |
| ***Public/Quasi-Public Uses (including Parks)*** | ~~20.0~~***21.57*** |
| Drainage Retention/Open Space Areas | ~~20.0~~***21.36*** |
| ~~Public/Quasi-Public Uses~~ | ~~16.0~~ |
| Major Roads | 10.0 |
| **TOTAL** | **257 Acres** |




**Key**

- Residential (1,100 Single-Family Homes)
- Village Town Center (Commercial)
- Wastewater Treatment Plant
- Public/Quasi-Public (Including Parks)
- Open Space Buffer (Including Drainage Retention)
- A — Primary Access Point
- B — Secondary Access Point
- C — Secondary Access Point
- X — Approx. Location of Lahaina Pali Trailhead

Source: KLJ Planning & Design

**Project Summary**

| Land Use Allocation | Acres |
|---|---|
| Residential (1,100 Single-Family Homes) | 193.22 |
| Village Town Center (Commercial) | 6.94 |
| Wastewater Treatment Plant | 3.91 |
| Public/Quasi-Public (including Parks) | 21.57 |
| Open Space Buffer (including Drainage Retention) | 21.36 |
| Major Roads | 10.0 |
| **TOTAL** | **257.00** |

Figure 4

# Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

## Conceptual Subdivision Plan

NOT TO SCALE

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/DraftEIS/concsubdplan

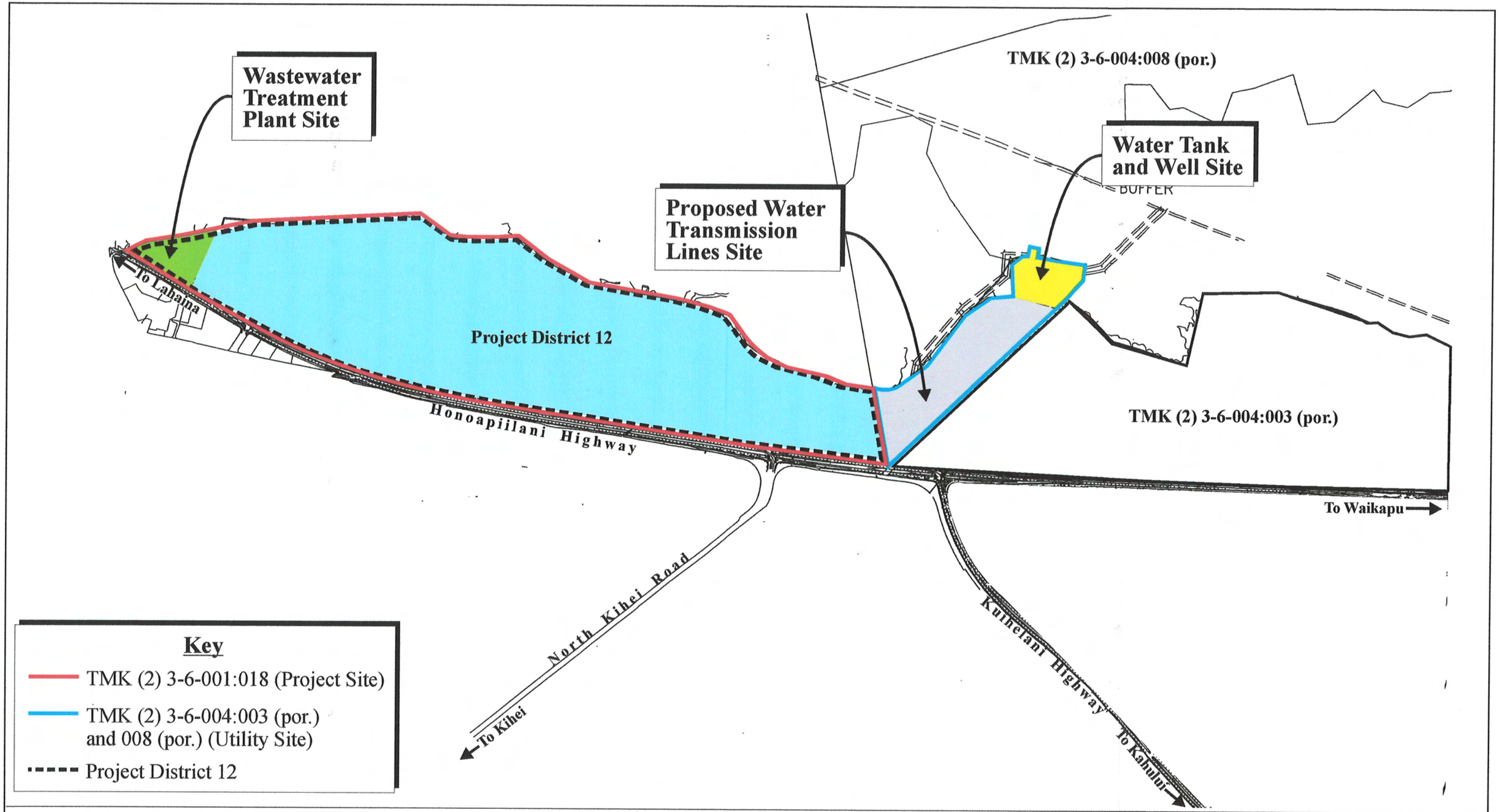



Figure 5 Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

Project Area Components

NOT TO SCALE

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/FinalEIS/prelsiteplan

~~Additionally~~***As noted above***, the applicant is in the process of developing a privately owned and maintained offsite drinking water system to service the proposed community on the utility site (TMK (2) 3-6-004:003 (por.) and 008 (por.)). ***Refer to Figure 5. Utility and access*** ~~E~~easements ~~are in the process of being~~ ***have been*** acquired from neighboring landowners for the utility site~~, which includes an existing agricultural reservoir and MECO electrical transmission lines~~. Improvements associated with the proposed Ohana Kai Village project at the utility site include two (2) water tanks, three (3) groundwater wells (within an approximately five (5) acre area) and ***installation of*** a water transmission line. ~~See Figure 5.~~ The remaining portions of ~~TMK (2) 3-6-004:003 and 008~~***Parcels 3 and 8*** will not be affected by the proposed action.

## C. PROJECT NEED

The proposed Ohana Kai Village ***Affordable Housing*** p***P***roject is seeking to increase the supply of affordable housing for local residents at a time when housing is both expensive and in short supply on Maui. Over recent years, both resident and non-resident (offshore) demand for housing on Maui has intensified due to increased population growth and historically low interest rates. This strong demand, coupled with limited supply, has led to ~~rising~~***high*** housing prices ***in comparison to median income levels***. ~~With~~***While*** the median sales price of a single-family house and lot on Maui ~~over $500,000.00;~~***has decreased over the last five (5) years from approximately $675,000.00 in 2005 to $500,000.00 in 2009, prices are expected to gradually increase again from 2010/2011 onwards as the recovery from the global economic downturn continues. Even at the lower end of this price range ($500,000.00),*** many residents ***in Maui County*** have been unable to purchase their own homes. ~~The~~***In regards to housing projections, the*** County of Maui, Socio-Economic Forecast (2006) estimates that total housing demand in Maui County will increase from 53,793 units in 2005 to 89,890 units in 2030, an increase of approximately 67 percent over 25 years. ~~The Hawaii Housing Policy Study Update 2003, estimates that an additional 4,072 resident housing units will be needed by 2010 to meet projected demand. According to the 2003 study, this number is anticipated to further increase to a 4,225-unit deficit in the supply of housing units on Maui by the Year 2020, based on production and population forecasts (SMS, 2003).~~ A Market Study has been prepared ~~for~~***to evaluate*** the proposed project ***in the context of other major residential developments in the region***, the findings of which indicate that there is a ~~short-term~~ supply of approximately 1,893 units currently available on Maui. This limited supply is forecasted to last approximately three (3) years when using a historic average annual absorption rate of 604 units/year. See **Appendix "A"**. ***Further, projections contained within the 2003 Hawaii Housing Policy Study indicate that there will be a 4,225-unit deficit in housing units on Maui by the Year 2020 (SMS, 2003).***

The proposed Ohana Kai Village project responds to the need to provide affordable housing to Maui residents in both the near and long term. The project will serve to meet the housing needs of the island at an attractive and central location in Maalaea. In light of current and projected housing market conditions and prices, the proposed Ohana Kai Village ***Affordable Housing*** p***P***roject is considered to provide a significant community benefit by offering Maui's working families new opportunities to purchase affordably-priced homes.

## D. AFFORDABLE HOUSING PROGRAM

To increase the supply of affordable housing within Maui County, the following program has been developed in conjunction with the land use plan for the proposed Ohana Kai Village Project. This program, formulated in coordination with the Department of Housing and Human Concerns (DHHC)~~, consists of the following elements:~~ ***meets the minimum requirement of a County-sponsored 201H application by providing at least 51% of homes for sale to individuals in the Below Moderate to Moderate (81 percent to 120 percent) medium income group. A summary of the affordable housing program is provided below:***

- Sixty (60) percent ***(660 units)*** of the proposed 1,100 single-family units will be made available for ***fee-simple*** purchase by qualified individuals in Below Moderate to Above Moderate (81 percent to 140 percent) median income groups at sales prices set forth by the DHHC's Affordable Sales Price Guidelines. The applicant will work alongside the County of Maui ~~during the course of the EIS process~~***prior to project implementation*** to develop a formal selection program for the sale of these 660 units. ~~The~~***While each construction phase for the project will provide a mixture of both affordable homes (sold in accordance with the DHHC selection program) and those units sold in accordance with market demand (as described below), the*** applicant ~~will ensure~~***is committed to ensuring*** that ~~80 percent~~***160 units (80 percent)*** of the first 200 units constructed for the project are ~~sold pursuant to the requirements of this selection program~~***made available for purchase by qualified affordable homebuyers in the Below Moderate to Above Moderate (81 percent to 140 percent) median income groups.***.

- The remaining forty (40) percent (440 units) of the 1,100 single-family units will be offered for sale in accordance with market demand. To maintain the affordability of these units, the applicant will set prices for these homes at or below the upper threshold of pricing for the Gap Income (141 to 160 percent) median income group, as defined in the DHHC Affordable Sales Price Guidelines.

The proposed affordable housing allocations are presented in **Table 2** below:

**Table 2**. Affordable Housing Price Ranges (For-Sale ***Single-Family*** Units)

| *Income Group* | *Income Range (% of Median Income)* | *Affordable Unit Allocation %* | *Unit Count* | *Estimated Fee Simple Price Range** | |
|---|---|---|---|---|---|
| Below Moderate Income | 81-100% | 20% | 220 | ~~$264,801.00~~ ***$266,901.00*** | ~~$330,900.00~~ ***$333,600.00*** |
| Moderate Income | 101-120% | ~~20~~***31***% | ~~220~~***341*** | ~~$330,901.00~~ ***$333,601.00*** | ~~$397,100.00~~ ***$400,300.00*** |
| Above Moderate Income | 121-140% | ~~20~~***99***% | ~~220~~***99*** | ~~$397,101.00~~ ***$400,300.01*** | ~~$463,300.00~~ ***$467,000.00*** |
| Gap Income Group | 141-160% | 40% | 440 | ~~$463,301.00~~ ***$467,001.00*** | ~~$529,500.00~~ ***$533,700.00*** |
| | | **TOTAL** | **1,100 Units** | | |

** Based on 20~~09~~**10** DHHC Affordable Sales Price Guidelines (Using 6.0% Prevailing Interest Rate for a 3-Bedroom Unit)*

With implementation of the foregoing program, the proposed Ohana Kai Village ***Affordable Housing*** ***p****P*roject will meet both current and future demand for affordable housing in the Maui residential market, a trend which is set to continue given projected population growth rates, continued in-migration trends and the increase in non-resident investment within Maui County.

## E. ENTITLEMENTS REQUIRED

The proposed project will require a number of land use entitlement approvals to proceed. The current State Land Use designation for the project site and the utility site is "Agricultural". Both sites are zoned by the County of Maui as "Agricultural".

In regards to community plan designation, the project site is designated "Project District 12" by the 1998 Kihei-Makena Community Plan. The utility site falls within both the Kihei-Makena and Wailuku-Kahului Community Plans and is designated "Agricultural". A summary of entitlements being sought for the project, is provided below:

### 1. County 201H Application

The proposed Ohana Kai Village ***Affordable Housing*** ***p****P*roject has been developed to meet the criteria for a Section 201H-38, Hawaii Revised Statutes (HRS) project in coordination with the County of Maui's DHHC. Section 201H-38, HRS promotes the delivery of affordable housing by allowing the exemption of endorsed projects from:

> *"...all statutes, ordinances, charter provisions, and rules of any governmental agency relating to planning, zoning, construction standards for subdivisions, development and improvement of land, and the construction of units thereon."*

As such, a Section 201H-38, HRS application will be filed with the Maui County Council to seek exemptions from the Community Plan Amendment, Change in Zoning, and Project District processes, as well as other County requirements to support the timely implementation of the project, without compromising public health, safety or welfare considerations. ***It is anticipated that the 201H application will be filed with the Maui County Council during the fourth quarter of 2010.***

### 2. State 201H District Boundary Amendment Petition

The current State Land Use designation for the project site is "Agricultural". ~~Concurrent with the County's 201H-38, HRS processing, a~~ ***A*** petition for a ~~State Land Use Commission (SLUC)~~ District Boundary Amendment (DBA) from the "Agricultural" to the "Urban" District will be submitted ~~for processing~~ ***to the State Land Use Commission (SLUC) as part of the land use entitlement process for the project.*** The SLUC petition will encompass the entire 257-acre project site ***(Project District 12)*** and will follow the provisions of Section 15-15-97 of the Land Use Commission Rules, pertaining to Section 201H-38, HRS processing ***(Government Sponsored Housing Projects). It is anticipated that the 201H DBA petition will be filed with the SLUC during the fourth quarter of 2010 or the first quarter of 2011.***

## F. CHAPTER 343, HAWAII REVISED STATUTES REQUIREMENT

In addition to the proposed ***Wastewater Treatment Plant*** (WTP), the proposed Ohana Kai Village ***Affordable Housing*** ***p****P*roject will involve the construction of project access-related intersection ***and other roadway*** improvements affecting Honoapiilani Highway, a State highway facility. The use of State lands and the construction of wastewater treatment

facilities are both triggers for the preparation of an Environmental Assessment (EA) pursuant to Chapter 343, Hawaii Revised Statutes (HRS). As the sponsoring agency for the project's Section 201H application, the County of Maui, DHHC will act as Accepting Authority for the Chapter 343 process. Due to the scope of the project, the DHHC has determined that an Environmental Impact Statement (EIS) be prepared to fully document and evaluate the technical characteristics, environmental impacts and alternatives associated with the project. ~~The~~***This Final*** EIS ***document***, prepared in accordance with Chapter 200 of Title 11, Department of Health Administrative Rules, Environmental Impact Statement Rules, ~~will advance findings and conclusions relative to the significance of the proposed action~~***therefore, describes identifiable environmental impacts associated with the Ohana Kai Village Affordable Housing Project and responds to comments received during review of the document by Federal, State, and County agencies, as well as elected officials, organizations, and other members of the community***. The EIS will act as the primary technical supporting document for the 201H application ***and DBA Petition***.

## G. ANTICIPATED DEVELOPMENT SCHEDULE

Construction of the project will commence upon receipt of all applicable regulatory permits and approvals.

The project will be developed over a multi-phase time horizon anticipated to be approximately eight (8) years in duration. It is anticipated that the first phase for construction of the project will commence within six (6) months from the date of the 201H approval from the State Land Use Commission. Completion of the project is anticipated to occur within eight (8) years of start of construction.

The total estimated cost of the proposed project is approximately $400 million, which includes both site work and vertical construction costs. ***A breakdown of the estimated construction cost for the Ohana Kai Village Affordable Housing Project is provided in Table 3 below:***

*Table 3. Breakdown of Estimated Construction Cost*

| *PROJECT COMPONENT* | *ESTIMATED CONSTRUCTION COST* |
|---|---|
| *Residential (Including Subdivision Improvements)* | *$260 million* |
| *Village Town Center (Commercial)* | *$120 million* |
| *Public/Quasi-Public Facilities (Charter School and Park)* | *$5 million* |
| *Wastewater Treatment Plant and Collection System* | *$10 million* |
| *Drinking Water System* | *$5 million* |
| *TOTAL* | *$400 million* |

# II. DESCRIPTION OF EXISTING CONDITIONS, POTENTIAL IMPACTS AND PROPOSED MITIGATION MEASURES

# II. DESCRIPTION OF EXISTING CONDITIONS, POTENTIAL IMPACTS AND PROPOSED MITIGATION MEASURES

## A. PHYSICAL ENVIRONMENT

### 1. Surrounding Land Uses

#### a. Existing Conditions

The project area is situated on the southwest coast of the island of Maui, about eight (8) miles from the commercial and business center of Kahului. It lies to the northwest of the Maalaea Small Boat Harbor, a harbor facility for commercial uses with a total berthing capacity of 96 vessels, as well as the commercial uses of Maalaea Triangle. ***Refer to Figure 1 (on Page 2).*** The Maalaea residential community, encompassing several condominium complexes, is located along the shoreline to the east of the harbor. The harbor is accessed directly from Honoapiilani Highway (harbor access road) and by the Old Wailuku Lahaina Road which connects with Maalaea Road. The nearby Maalaea Triangle accommodates a variety of uses catering predominantly to tourism, including restaurants, an ocean center, a miniature golf course, souvenir shops and parking. The project site lies on the west side of the Honoapiilani Highway, which is the principal access-way to areas on the west coast of the island, including Lahaina, Kaanapali and Kapalua. The project site is located approximately sixteen (16) miles southeast of Lahaina and nine (9) miles southwest of Maui's main airport in Kahului.

A large area of agricultural land, predominantly used for sugarcane cultivation, is located to the northeast of the project site. Other uses in the vicinity include the ~~Pohakulepo~~***Pohakea*** quarry and concrete recycling site to the north, with the King Kamehameha Golf Courses beyond. The ~~town~~***village*** of Waikapu is located approximately three (3) miles to the north, with the town of Wailuku, the County of Maui's governmental center, located a further one (1) mile to the north of Waikapu. ***The North Kihei Road and Honoapiilani Highway intersection is located to the southeast with the Maui Construction and Demolition landfill located adjacent to the***

***intersection.***

The project site was formerly used for sugarcane cultivation and more recently for small scale agricultural pursuits, including the cultivation of truck crops. Portions of the project site are currently being used for cattle grazing under a lease that can be terminated upon 30 days' notice should development occur in the future.

**b. Potential Impacts and Proposed Mitigation Measures**

The project site is intended to be developed as a master-planned, residential community with ancillary commercial, and public/quasi-public land uses. The proposed project is in keeping with the intended use of the property as reflected by the designation as Project District 12 in the Kihei-Makena Community Plan. Though not identified in the recommended land use allocations of the community plan, an exemption from community plan amendment requirements for the village town center (commercial) will be requested through the Hawaii Revised Statutes (HRS) 201H application process.

The proposed project will be complementary to the adjacent urban developments in Maalaea. Additionally, the project's central location makes it accessible to the major residential and commercial centers in Central Maui, South Maui, and West Maui.

**2. Climate**

**a. Existing Conditions**

Maui is characterized by a semi-tropical climate containing a multitude of individual microclimates. The mean annual temperature of the island is about 75 degrees Fahrenheit at all locations near sea level. The coolest months on Maui are December and January, with August and September representing the hottest months in the calendar year. A high proportion of the rainfall that Maui receives each year falls on the northeast facing shores leaving the south and southwest coastal areas relatively dry. Annual rainfall in the area averages 14 to 16 inches, with the bulk occurring between the months of November and April (Armstrong, 1983). Maalaea is located within one of these drier areas of the southwest coast, one that is also often affected by strong winds and high waves.

Northeast tradewinds prevail approximately 80 to 85 percent of the time. Tradewinds originating from the northeast average 10 to 15 miles per hour during afternoons, with slightly lighter winds during mornings and nights. Between October and April, the southerly winds of Kona storms may be experienced.

### b. Potential Impacts and Proposed Mitigation Measures

According to the United States Environmental Protection Agency (EPA), the development of cities and suburban areas has a tendency to increase temperatures slightly (up to 10 degrees Fahrenheit, in dense cities) as compared to surrounding natural land cover. This "heat island" effect, as it is often denoted, refers to urban air and surface temperatures that may be higher than nearby rural or undeveloped areas.

In order to minimize the potential of an elevated heat island profile, the applicant will implement a number of landscaping measures. For example, the applicant will provide shade trees and landscape vegetation throughout the subdivision to take advantage of the natural cooling effects of shading.

Further, the buildings will be architecturally designed and built with a low profile to minimize trapped heat and to maximize natural air flow. It is anticipated that these mitigation measures will serve to offset the potential heat island effect of the residences and pavement in the subdivision. As a result, the proposed action is not anticipated to significantly alter local micro-climates.

## 3. Topography and Soils

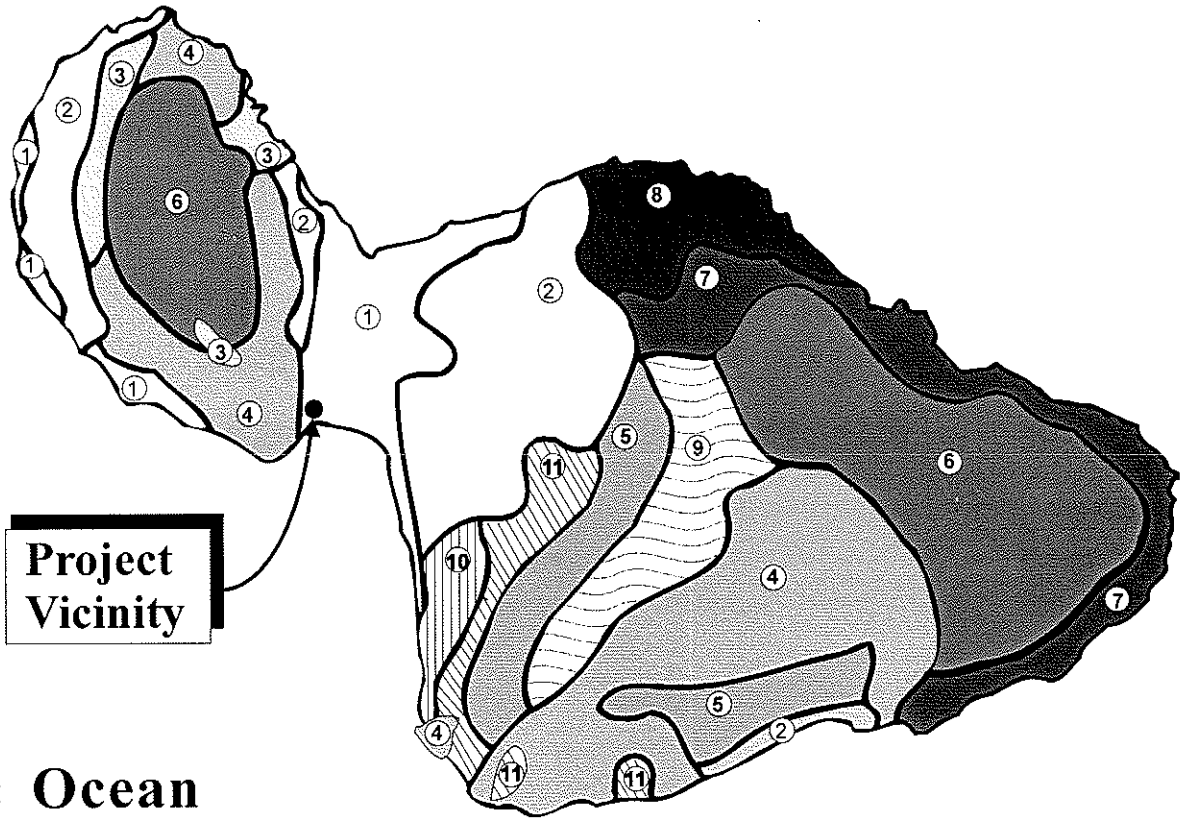
### a. Existing Conditions

Underlying the ~~property~~***project area*** are soils belonging to the Pulehu-Ewa-Jaucus association. See **Figure 6**. The Soil Survey of the islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii characterizes the soils of this association as deep and well drained and located on alluvial fans and in basins.

The project site is characterized by the following soil types: Ewa Silty Clay

# LEGEND

- ① Pulehu-Ewa-Jaucas association
- ② Waiakoa-Keahua-Molokai association
- ③ Honolua-Olelo association
- ④ Rock land-Rough mountainous land association
- ⑤ Puu Pa-Kula-Pane association
- ⑥ Hydrandepts-Tropaquods association
- ⑦ Hana-Makaalae-Kailua association
- ⑧ Pauwela-Haiku association
- ⑨ Laumaia-Kaipoipoi-Olinda association
- ⑩ Keawakapu-Makena association
- ⑪ Kamaole-Oanapuka association




Source: USDA Soil Conservation Service

Figure 6

Proposed Ohana Kai Village Affordable Housing Project and Related Improvements
Soil Association Map

NOT TO SCALE

Prepared for: Spencer Homes, Inc.

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/FinalEIS/SOILS

(EsB), Ewa Cobbly Silty Clay (EtB), Pulehu Cobbly Clay Loam (PtB) and Stony Alluvial Land (rSM). The utility site is characterized by EsB, PtB, and rSM. See **Figure 7**.

EsB occurs around alluvial fans and terraces and is generally characterized by a 3 to 7 percent slope, moderate permeability, a slight erosion capacity and slow run-off. This soil classification is predominantly used for sugarcane or pineapple crop cultivation in the Hawaiian Islands.

EtB is similar to EsB, but cobblestones in the surface layer interfere with surface tillage. However, intertilled crops, including sugarcane, are a viable option for this soil type.

PtB is characterized by a 3 to 7 percent slope, slight erosion hazard and slow runoff. Similar to the aforementioned soil types, it is frequently used for sugarcane cultivation, although small acreages are also used as pasture.

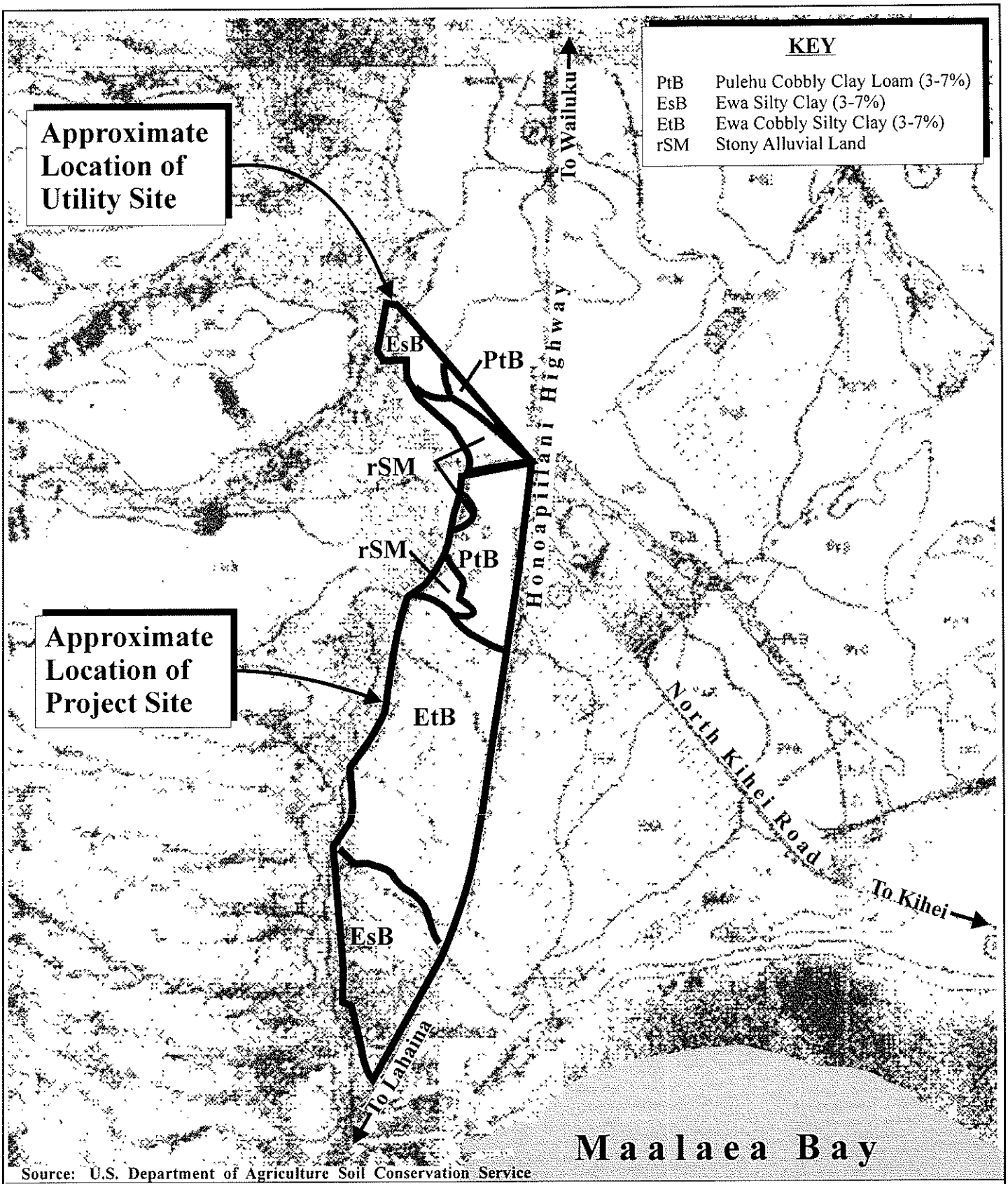
rSM consists of stones, boulders and soil deposited by streams along the bottoms of gulches and on alluvial fans. This soil classification can be found at elevations ranging from sea level up to around 1,000 feet and is generally characterized by a 3 to 15 percent slope. Improvement of the land in such areas is difficult due to the presence of stones and boulders.

Vegetation normally associated with these soil classifications includes kiawe, ilima, guava, kukui, hilograss and christmas berry.

**b. <u>Potential Impacts and Proposed Mitigation Measures</u>**

The proposed Ohana Kai Village ***Affordable Housing*** Project is compatible with the property's underlying soil characteristics. There are no geologic or soil hazard limitations associated with the land.

As the project is located on a east to west incline, implementation of mass-grading activities will be necessary. Copies of the conceptual mass grading plan and construction phasing plan for the project are presented in **Appendix "B"**. Mass grading activities for the project will be phased over several years and will seek to balance excavation and embankment earthwork quantities with the objective in mind of minimizing, to the extent practicable, the




Source: U.S. Department of Agriculture Soil Conservation Service

Figure 7

# Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

## Soil Classification Map

NOT TO SCALE

Prepared for: MVI, LLC

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amount of fill material being imported/exported from the site during the development process. Given the planned phased construction and the size of the property in question, it is, however, reasonable to assume for planning purposes that a 500,000 cubic yard surplus or deficit in excavated material may be created during completion of grading activities for the project. To ensure operation within this threshold, grading schemes will be adjusted through an iterative process as each phase is completed to rebalance excavated and earthwork volumes for the remaining phases.

Both temporary and permanent Best Management Practices (BMPs) will be utilized to minimize runoff and soil erosion associated with project implementation. These BMPs will include constructing detention basins to capture sedimentation and minimize the quantity of sediment leaving the site, protecting natural vegetation, using wind erosion control measures, intercepting runoff above disturbed slopes, and using seeding and fertilizing or other soil erosion control techniques. Any areas within the property that are disturbed, even though not part of the construction phase, will adhere to temporary and permanent BMPs.

## 4. Agriculture

### a. Existing Conditions

The project area is designated for agricultural use by both the State Land Use Commission and County of Maui zoning.

The project site was formerly used to support the growing of sugarcane (late 1800s to 1988), pineapple (1992 to 1995) and other diversified crops (1988 to 2004). Beginning in about 1998, about 24 farmers were licensed (on a month-to-month basis) to cultivate a little less than half the acreage of the project site. Most of the tenants farmed the land for lifestyle ~~(that is they were "hobby farmers")~~ with only a small portion deriving most of their income from farming. Their crops included asparagus, bananas, cucumbers, papaya, squash, string beans, and tomatoes. The licenses for these farmers were discontinued in 2004 when the land was sold to the former owner, Maalaea Properties, LLC.

Following the sale ***of the land to Maalaea Properties, LLC***, the land lay fallow for about two (2) years, whereupon it was leased on a temporary basis

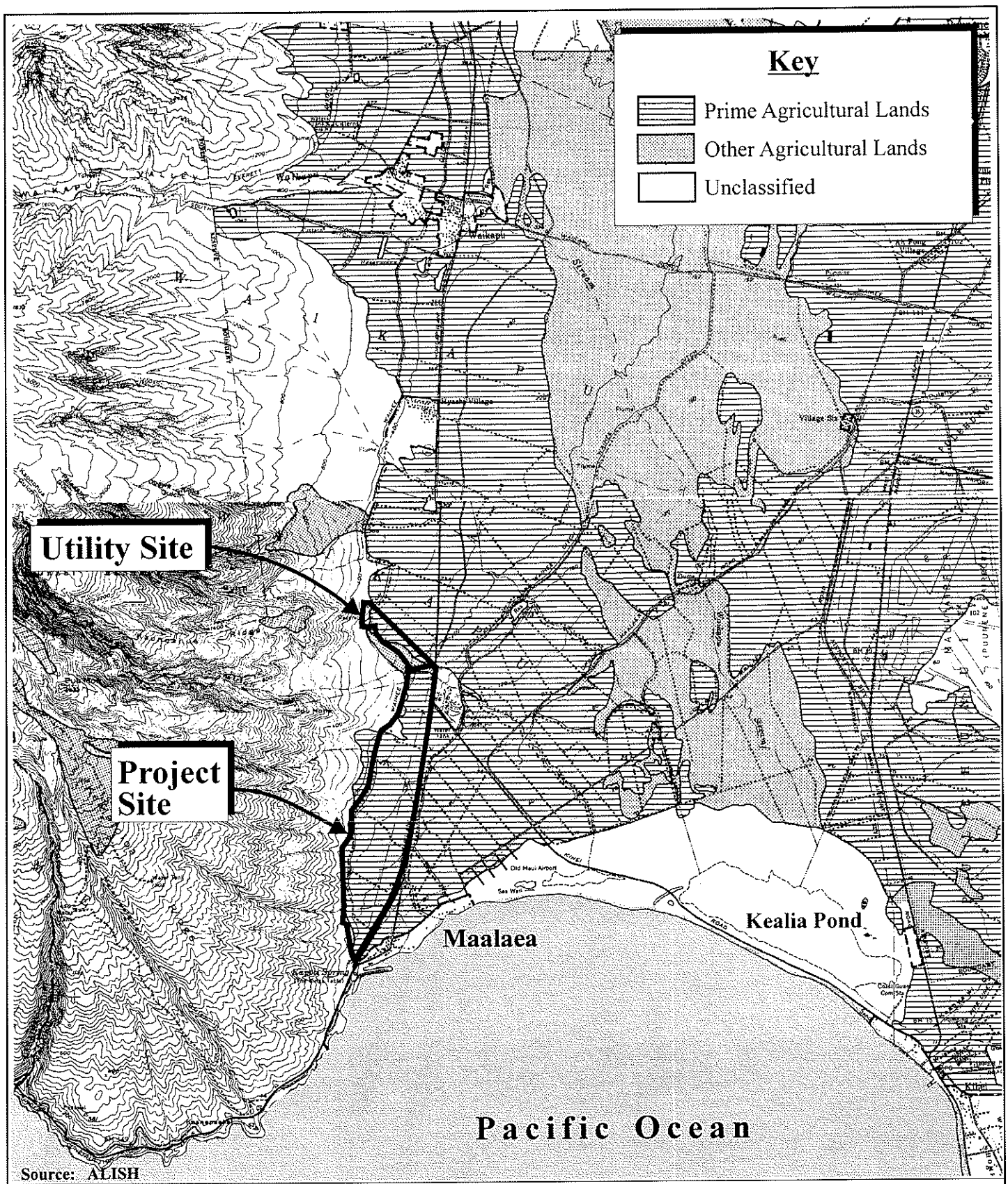
for small-scale grazing operations. Portions of the project site are currently being utilized by Maui Cattle Co., under a lease agreement (subject to cancellation upon 30 days notice), to graze cattle. The utility site is not being utilized for grazing or crop cultivation and currently lies vacant and underutilized.

Of the four (4) major agricultural land classification systems generally used in Hawaii, current soil conditions within the project area were assessed utilizing the two (2) more pervasively used systems: the Agricultural Lands of Importance to the State of Hawaii (ALISH) and the Land Study Bureau (LSB) productivity classification systems.

The ALISH system is based on a United States Department of Agriculture (USDA) standard which determines agricultural policy nationwide for a wide variety of crops. The State Department of Agriculture developed the ALISH classification system in 1977. The ALISH classification system is based primarily, though not exclusively, upon the soil characteristics of the lands. The three (3) classes of ALISH lands are: "Prime", "Unique", and "Other", with all remaining lands termed "Unclassified". When utilized with modern farming methods, "Prime" agricultural lands are designated as having soil quality, growing season, and moisture supply necessary to produce sustained crop yields economically. "Unique" agricultural lands are designated as possessing a combination of soil quality, growing season, and moisture supply to produce sustained high yields of a specific crop. "Other" agricultural lands include those that have not been rated as "Prime" or "Unique".

As reflected by the ALISH map for the project ~~region~~***area***, the majority of the project site and utility site are comprised of lands that have been defined as "Prime" agricultural lands although small portions of the properties fall into the "Other" and "Unclassified" categories. See **Figure 8**.

The LSB classification utilizes clear, quantifiable criteria based on underlying soil characteristics, specifically for predominant crops in Hawaii. The University of Hawaii, LSB developed the Overall Productivity Rating, in association with the Detailed Land Classification for the island of Maui, which classifies soils according to five (5) levels, with "A" representing the lass of highest productivity soils and "E" representing the lowest. These




Source: ALISH

Figure 8 Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

ALISH Classifications Map

NOT TO SCALE

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/FinalEIS/alish

letters are followed by numbers which further classify the soil types by conveying such information as texture, drainage, and stoniness.

The project site is located on lands designated as "B72i" by the LSB. See **Figure 9**. B72i designated lands are characterized as stony, well-drained lands moderately suited for machine tillability. They are most frequently used for sugarcane production and grazing.

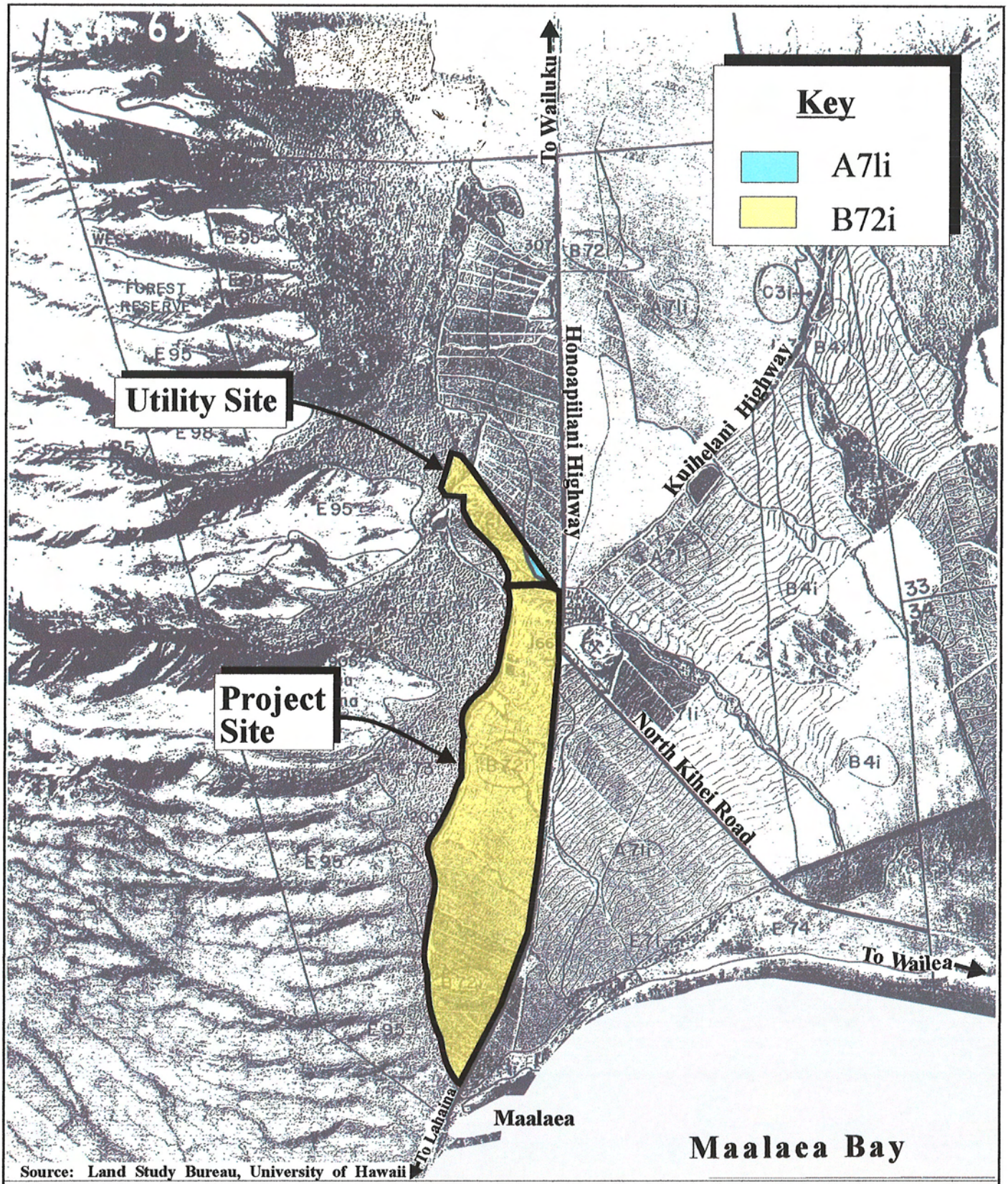
The utility site consists of mainly B72i with small areas of A7li designations. A7li designated lands are characterized as non-stony, well-drained lands that are well-suited for machine tillability. Similar to B72i, lands designated A7li are suitable for sugarcane production and grazing. (University of Hawaii, 1967).

**b. Potential Impacts and Proposed Mitigation Measures**

The ~~subject property~~***project site*** lies within the State Agricultural district and is designated for agricultural use by Maui County Zoning. It is, however, designated as a residential Project District (Project District 12) by the Kihei-Makena Community Plan.

The proposed project will involve the construction of a residential subdivision on the 257-acre project site. The agricultural impact of this project is not considered adverse when taken in the context of the recent trends occurring on Maui. In the last 30 years, the closures of Wailuku Sugar and Pioneer Mill on Maui have taken significant acreages out of active sugar cane cultivation. These actions have greatly increased the supply of non-sugar based agricultural lands. In fact, much of the lands of these former plantations are still fallow. The project site represents approximately 0.1 percent of the roughly 246,000 acres of State Agricultural district lands on the island of Maui. ***Based on data provided in the State of Hawaii, Department of Business, Economic Development and Tourism's (DBEDT) Hawaii Bioenergy Master Plan (2009), it is estimated that there are approximately 85,000 acres of prime agricultural land in Maui County. The 257 acres of land within the project site, therefore, represents approximately 0.3 percent of these lands.***

A study has been completed by Decision Analysts Hawaii, Inc. to assess the impact of development at this location on Maui's agricultural operations.




Source: Land Study Bureau, University of Hawaii

# Figure 9 Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

## Detailed Land Classification Map

NOT TO SCALE

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/FinalEIS/DetailLandClass

***The assessment considered the agricultural characteristics of the property and the impact on agriculture from the project due to the loss of prime agricultural lands.*** See **Appendix "C"**. The Agricultural Impact Assessment Report concludes that there will be a minimal impact from the proposed project on the growth of diversified agriculture in Maui County. From a productivity standpoint, the proposed project is not anticipated to have a significant adverse effect on the inventory of lands available for agricultural cultivation, nor is it expected to affect the inventory of land for diversified agricultural use. ***The Agricultural Impact Assessment Report identifies market conditions as the main factor influencing the viability of diversified agriculture on Maui and not the availability of agricultural lands.*** Refer to **Appendix "C"**.

***Besides significant market-based constraints, there are also a number of site-specific limitations affecting the feasibility and viability of agricultural operations on the project site, such as soil composition (i.e., high number of embedded rocks/boulders) and separation from other larger agricultural land parcels on the other side of Honoapiilani Highway. The agricultural utilization of the project site is limited further by the acquisition cost of the land, as established by its designation as Project District 12 in the Kihei-Makena Community Plan.*** When evaluated based on the shortage of affordable housing that exists on Maui, coupled with the scarcity of entitled, undeveloped residential lands in South Maui, the conversion of the project's agriculture lands into residential development presents a beneficial opportunity. The proposed expansion of the urban district at Maalaea is reasonable and will allow residential use up to a natural buffer at the foothills of the West Maui Mountains.

## 5. Natural Hazards

### a. Existing Conditions

~~The Flood Insurance Rate Map (FIRM) for this area of Maui indicates that the majority of the project site falls within Zone C, an area of minimal flooding, although small portions of the site occupy Zone B, or areas between the 100-year and 500-year flood. See **Figure 10**.~~ ***According to Panel Number 150003 0560E of the Flood Insurance Rate Map, September 25, 2009, prepared by the United States Federal Emergency Management Agency (FEMA), the majority of the project site is situated in Flood Zone***

***X (unshaded), an area that represents areas outside the 0.2 percent annual chance floodplain. Two (2) small portions of the parcel with two (2) existing drainageways are designated in Flood Zone X (shaded), which represents areas of 0.2 percent annual chance flood; areas of 1 percent annual chance flood with average depths less than one (1) foot or with drainage areas less than one (1) square mile; or areas protected by levees from one (1) percent annual chance flood.*** The entire utility site falls within Flood Zone ~~C,~~***X (unshaded).*** ~~see Figure 11~~***See Figure 10.***

In regards to other natural hazards, it is noted that wildfires have occurred in recent years in the State-owned and managed Conservation district lands that lie to the west of the ~~subject property~~***project site***.

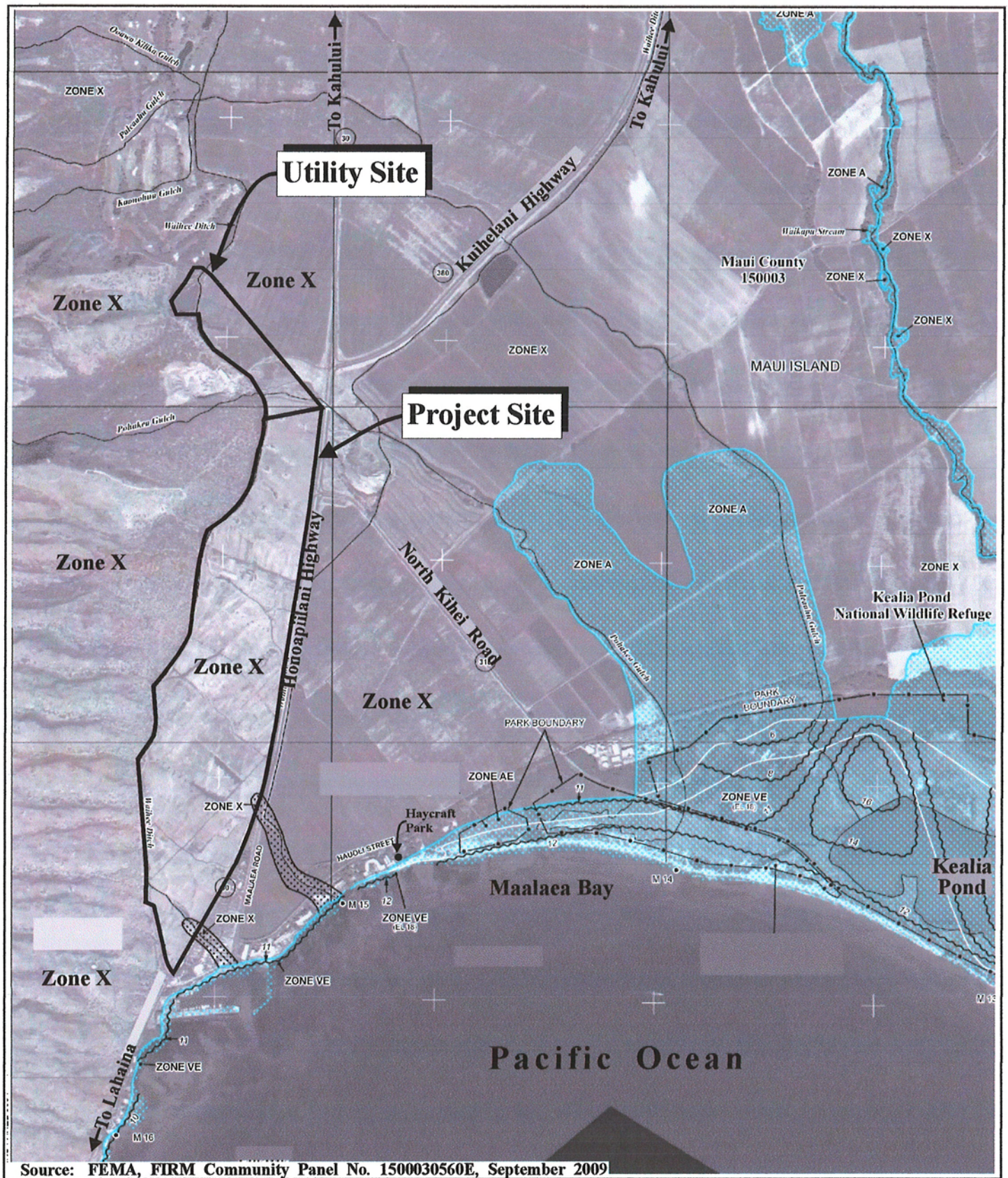
***There are existing civil defense facilities serving the Maalaea community. Specifically, there is an existing warning signal located at Haycraft Park at the end of Hauoli Street. Refer to Figure 10.***

**b. <u>Potential Impacts and Proposed Mitigation Measures</u>**

The proposed project is not expected to be impacted by flood and tsunami hazards. Special Flood Hazard Area Development (SFHAD) Permits ~~for improvements within the portion of the property designated as Flood Zone B~~ will be obtained for the project, as applicable.

In recognition of past wildfires in the State-owned and managed Conservation district lands that lie adjacent (west) of the property, the following mitigation measures are being considered for implementation as part of the proposed project. These measures would reduce the exposure of the subdivision to any future unmanaged wildfire events in the neighboring State Conservation lands:

- Reuse of reclaimed water from the project's proposed Wastewater Treatment Plant (WTP) for irrigation of common landscaped and open space areas within and around the subdivision, particularly along the mauka boundary of the ~~subject property~~***project site***. See Chapter II, Section D.3. (Wastewater System) and WTP Preliminary Engineering Report (**Appendix "~~C~~*N*"**) for more information on the WTP and the proposed use of reclaimed water within the subdivision.




Source: FEMA, FIRM Community Panel No. 1500030560E, September 2009

# Figure 10

## Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

### Flood Insurance Rate Map

0 500 1000 2000 Feet

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

- Coordination with the State of Hawaii, Department of Land and Natural Resources (DLNR) to identify opportunities and permit requirements for the routine maintenance of an additional fire mitigation corridor along the outer edge of the mauka (west) boundary of the ~~subject property~~***project site***. Reclaimed water from the WTP could also be utilized in conjunction with the removal of dead vegetation from this corridor to promote the effectiveness of this strip of land in inhibiting the spread of a possible wildfire event in the future.

Additional coordination, as necessary, will be undertaken with the Maui County Department of Fire and Public Safety, the Maui Wildland Fire Coordinating Group and other applicable agencies during the subdivision and engineering plans preparation phase to identify additional wildfire mitigation opportunities for the proposed Ohana Kai Village Affordable Housing Project.

***During the EIS preparation process, the State Department of Defense requested that a five (5) foot by five (5) foot area be set aside within Project District 12 for the installation of a solar-powered outdoor warning system. MVI, LLC will coordinate with the State Department of Defense during the subdivision and engineering design phase of the project to identify an appropriate location for this hazard warning system.***

## 6. Pesticides and Fertilizer Use

### a. Existing Conditions

Phase I Environmental Site Assessments (ESA) for the project site (TMK (2) 3-6-001:018) and the utility site (TMK (2) 3-6-004:003) were completed by Element Environmental LLC in November 2006 and December 2006, respectively, to assess existing environmental conditions within the project area. The ESA reports were prepared in accordance with the ASTM "Standard Practice for Environmental Site Assessments". The ASTM standard defines good commercial and customary practice in the United States of America for conducting an Environmental Site Assessment of a parcel of real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Copies of the Phase I ESA reports are presented

in **Appendix "D"**.

**(1) Project Site**

As noted previously, the project site is the 257-acre parcel of land (identified by TMK (2) 3-6-001:018) that will be utilized for the construction of the proposed Ohana Kai Village Project. The assessment of the project site identified one (1) environmental condition within the property; fourteen (14) unmarked 55-gallon high density polyethylene (HDPE) drums located along a dirt road which borders the southwestern end of the parcel. The Phase I ESA for the project site recommended the following mitigative actions for the identified environmental condition:

- The proper removal of these unidentified drums and the testing of the soil around the storage area for residual contamination.

- Completion of limited composite soil sampling to determine if residual levels of pesticides and herbicides are present in the soils. This recommendation is based on the former use of the project area for sugarcane and pineapple cultivation activities.

**(2) Utility Site**

As noted previously, the three (3) groundwater production wells, two (2) water storage tanks, and transmission line improvements are to be constructed within the utility site. The assessment of the entire parcel of TMK (2) 3-6-004:003 identified several environmental conditions within the larger property, including the presence of chlorine and fertilizer storage and mixing tanks, pole-mounted transformers and illicit solid waste dumping areas consisting of abandoned vehicles, disposed tires, refrigerators and other appliances. Both the storage/mixing tanks and the illicit solid waste dumping areas were identified to be located outside of the limits of the utility site ***towards Waikapu***. The pole-mounted transformers were, however, identified to fall within the utility site for the proposed project.

The Phase I ESA recommended the following in regards to the above-noted items:

- The disposal/recycling of chlorine and fertilizer storage and mixing tanks in accordance with all Federal, State and local regulations. In addition, the soil and vegetation beneath the tanks should be inspected for indications of a release. If a

significant release is suspected, appropriate sampling and clean-up should be conducted.

- The testing of the pole-mounted transformers for potential presence of polychlorinated biphenyls (PCBs). If a significant release is suspected, appropriate sampling and clean-up should be conducted.

- The clearing and disposal of illicitly dumped solid waste should be cleared in accordance with all Federal, State and local regulations. In addition, the soil and vegetation beneath the solid waste should be inspected for indications of a release. If a significant release is suspected, appropriate sampling and clean-up should be conducted.

- Limited composite soil sampling to determine the presence of residual levels of pesticides and/or herbicide should be conducted for portions of the property where the intended land use is expected to change from agricultural to residential.

**b. Potential Impacts and Proposed Mitigation Measures**

The following actions have since been undertaken to address the recommendations from the Phase I ESA reports:

**(1) Project Site**

The fourteen (14) HDPE drums noted above have been removed from the ~~property~~***257-acre project site*** and disposed of in accordance with Federal, State and County regulations. No evidence of stressed vegetation or straining was observed in the underlying areas following removal of the drums. With removal of the drums, there are no existing recognized environmental conditions within the project site.

Due to the project site's former use for commercial crop cultivation activities (sugarcane and pineapple) and the intended use as a residential subdivision in the future, a Phase II ESA Report was also completed for the 257-acre property by Element Environmental LLC in August, 2007. See **Appendix "D-1"**. As part of the Phase II ESA work, two (2) surface soil samples were collected from the area of the removed drums. ~~The~~***As summarized in Table 4 below, the*** only analyte in the samples exceeding set guidelines was Chromium, which was detected at a concentration of 240 mg/kg in one of the samples. This is slightly higher than the Department of Health's

(DOH) Environmental Action Level (EAL) and the Environmental Protection Agency's (EPA) Region 9 Preliminary Remediation Goal (PRG) of 210 mg/kg. At this level of concentration, Chromium is deemed to fall within the acceptable human health cancer risk range as defined by the EPA. Based on this information, the Phase II ESA concluded that no further remediation is necessary for the drum area.

***Table 4.*** *Summary of HDPE Drum Soil Sampling for Total Metals*

| | ***Sample Number*** | | | |
|---|---|---|---|---|
| | ***Drum 1*** | ***Drum 2*** | | |
| ***Analyte*** | ***Sample Result (mg/kg)*** | ***Sample Result (mg/kg)*** | ***HDOH Residential EAL (mg/kg)*** | ***EPA Region 9 Residential PRG (mg/kg)*** |
| *Arsenic* | *ND* | *ND* | *20* | *0.39* |
| *Barium* | *107* | *95.3* | *750* | *5,400* |
| *Cadmium* | *3.88* | *2.26* | *12* | *37* |
| *Chromium* | *240* | *171* | *210* | *210* |
| *Lead* | *60.8* | *124* | *200* | *400* |
| *Mercury* | *ND* | *0.0511* | *10* | *23* |
| *Selenium* | *ND* | *ND* | *10* | *390* |
| *Silver* | *ND* | *ND* | *20* | *390* |
| *ND - Sample not detected above laboratory reporting limit.* | | | | |

Multi-increment composite soils testing (based on samples collected from ~~eight (8)~~ neighborhood size ~~decision units~~***Decision Units***) was also completed for the entire 257-acre project site as part of the Phase II ESA ***to evaluate the residual levels of pesticides and herbicides resulting from historic agricultural use present in the surface soils. Eight (8) neighborhood-size decision units were utilized for the multi-increment soil testing in accordance with guidance contained within the State Department of Health, Hazard Evaluation and Emergency Response (HEER) Office technical report entitled 'Pesticides in Former Agricultural Lands and Related Areas - Updates on Investigation and Assessment (May 11, 2007).*** In addition to a range of other pesticide and fertilizer analytes, discrete sampling for the presence of the Volatile Organic Compounds (VOC) was also included in the testing program. VOC, Semi-Volatile

Organic Compounds (SVOC), chlorinated herbicides, organochlorine pesticides, carbamates, and polychlorinated biphenyls (PCBs) were not detected in any of the samples. Lead and Arsenic were the only two (2) analytes detected in the samples. ~~Concentrations~~***As summarized in Table 5 below, concentrations*** of Lead in the samples were much lower than the EAL and the EPA Region 9 PRG. Concentrations of Arsenic, while exceeding the EPA Region 9 PRG, were deemed (according to DOH standards) to fall within acceptable background levels for soils within Hawaii. As levels of lead and arsenic were identified to fall within acceptable levels, the Phase II ESA concluded that no remediation action was required for the project site.

In response to guidance received from the State of Hawaii, Department of Health (DOH), Hazard Evaluation and Emergency

***Table 5.*** *Summary of Multi-Increment Soils Testing for Arsenic and Lead*

| | *DU1* | *DU2* | *DU3* | *DU4* | *DU5* | *DU6* | *DU7* | *DU8* | *DU9* | *DU10* | *HDOH Residential EAL (mg/kg)* | *EPA Region 9 Residential PRG (mg/kg)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Analyte* | *Sample Result (mg/kg)* | *Sample Result (mg/kg)* | *Sample Result (mg/kg)* | *Sample Result (mg/kg)* | *Sample Result (mg/kg)* | *Sample Result (mg/kg)* | *Sample Result (mg/kg)* | *Sample Result (mg/kg)* | *Sample Result (mg/kg)* | *Sample Result (mg/kg)* | *Sample Result (mg/kg)* | *Sample Result (mg/kg)* |
| *Arsenic* | *3.04* | *2.94* | *3.98* | *3.64* | *3.33* | *3.58* | *3.1* | *3.41* | *2.82* | *2.89* | *20* | *0.39* |
| *Lead* | *ND* | *5.19* | *1.97* | *ND* | *ND* | *ND* | *ND* | *ND* | *ND* | *ND* | *200* | *400* |
| *ND - Sample not detected above laboratory reporting limit.* | | | | | | | | | | | | |

Response (HEER) Office, a Phase II ESA Screening Letter Report was prepared in April 2007 to supplement the Phase II ESA report. The purpose of the report was to conduct a dioxins/furans analysis for the 257-acre project site using multi-increment test samples. See **Appendix "D-2"**. Surface soil testing was ***also*** completed to evaluate if residual levels of pesticides and herbicides resulting from historic agricultural uses are present within the soils of the property. Samples taken during testing were found to contain low concentrations of dioxins/furans which were below the "low-risk" HEER residential action level. Based on this finding, the Phase II ESA report concluded that no further action or restrictions on land use are necessary for the project site. Refer to **Appendix "D-2"**.

With completion of the foregoing actions, it is anticipated that all recognized environmental conditions (identified in the Phase I and Phase II ESA Reports) within the project site have been addressed. ~~Refer to **Appendix "D-1"**.~~ The use of the project site for a residential subdivision, therefore, is not anticipated to present any impacts to public health and safety.

(2) **Utility Site**

As noted previously, the chlorine and fertilizer mixing tanks and the solid waste dumping areas were identified to fall outside of the limits of the utility site. These areas are currently utilized for agricultural cultivation purposes and with expectation of continued usage following completion of the proposed Ohana Kai Village Project. As part of ongoing operations in these areas, it is anticipated that the landowner of this parcel will coordinate with DOH to address future remediation requirements for these offsite recognized environmental conditions.

In regards to the utility site (i.e., area affected by the proposed water system for the project), the pole-mounted transformers were the only item identified by the Phase I ESA as having a potential for categorization as a recognized environmental condition due to the possible use of PCBs. During site inspections undertaken during the Phase I ESA, no staining was observed on the ground surface below the pole-mounted transformers indicating an absence of previous leakage incidents from these transformers. Refer to **Appendix "D"**. These transformers are owned and maintained by MECO. Any future PCB leaks from these transformers would, therefore, be remediated by MECO in accordance with applicable EPA and DOH guidelines.

The utility site will accommodate infrastructure functions necessary for the neighboring residential subdivision and will not be used for residential purposes. As such, composite soils testing will not be required by DOH for this particular area.

There are no existing recognized environmental conditions (falling within the control of the applicant) within the utility site for the proposed Ohana Kai Village Project. It is, therefore, anticipated that no remediation actions will be required for the project to proceed.

***By letter dated February 3, 2010, the HEER Office issued a determination that the results provided in the Draft EIS indicate that there are no exposure risks to human health or the environment and that no further action is necessary for the project at this time. See Appendix "D-3".***

Following development and occupancy of the proposed project, use of fertilizers within residential lots and within common areas will be in a manner consistent with best landscape practices to avoid over use of soil amendments and nutrients. With such practices, there are no anticipated adverse effects on groundwater resources attributed to homeowner-based fertilizer use within the project.

## 7. Flora and Fauna

### a. Existing Conditions

A Biological Resources Survey of flora and fauna within the project site was conducted in January 2005. Similarly, a supplemental biological resources survey of the utility site was completed in September 2006. See **Appendix "E"**.

#### (1) Project Site

The vegetation throughout the project site is open grassland consisting primarily of Guinea grass, buffelgrass and a variety of other grass and weed species.

A total of 95 species of flora were identified, of which six (6) were native species: wiliwili (*erythrina Sandwicensis Degener*), nehe (*Melanthera Lavarum*), aalii (*Dodonaea Viscosa Jacq*), ilima (*Sida Fallax Walp*), uhaloa (*Waltheria Indica L.*), and iliee (*Plumbago Zeylanica L.*). The domination of the area by non-native species of plant life can be attributed to the fact that the properties were under agricultural cultivation for over a century. No officially listed threatened or endangered plants are located on the project site, nor do any plants proposed as candidates for such status exist within the property. Further, no wetland areas were identified within the project site. ***A summary of the plant species identified within the project site during completion of the Biological Resources Survey is provided below in Table 6.***

*Table 6. Summary of Plant Species Identified Within Project Site*

| SCIENTIFIC NAME | COMMON NAME | STATUS | ABUNDANCE |
|---|---|---|---|
| ***MONOCOTS*** | | | |
| ***AGAVACEAE (Agave Family)*** | | | |
| *Asparagus officinalis L.* | *asparagus* | *non-native* | *common* |
| *Cordylene fruticosa (L.) A. Chev.* | *ki* | *polynesian* | *rare* |
| ***CYPERACEAE (Sedge Family)*** | | | |
| *Cyperus rotundus L.* | *nut grass* | *non-native* | *rare* |
| ***MUSACEAE (Banana Family)*** | | | |
| *Musa x paradisiaca L.* | *banana* | *non-native* | *uncommon* |
| ***POACEAE (Grass Family)*** | | | |
| *Bambusa vulgaris Schrad.ex Wendl.* | *feathery bamboo* | *non-native* | *rare* |
| *Bothriochloa pertusa (L.) A. Camus* | *pitted beardgrass* | *non-native* | *rare* |
| *Brachiaria subquadripara (Trin.) Hitch.* | ---------- | *non-native* | *rare* |
| *Cenchrus ciliaris L.* | *buffelgrass* | *non-native* | *abundant* |
| *Cenchrus echinatus L.* | *sandbur* | *non-native* | *rare* |
| *Chloris barbata (L.) Sw.* | *swollen fingergrass* | *non-native* | *common* |
| *Chloris virgata Sw.* | *feather fingergrass* | *non-native* | *rare* |
| *Cynodon dactylon (L.) Pers.* | *Bermuda grass* | *non-native* | *uncommon* |
| *Digitaria insularis (L.) Mex ex Ekman* | *sourgrass* | *non-native* | *common* |
| *Digitaria violascens Link* | *kukae pua'a* | *non-native* | *uncommon* |
| *Echinochloa colona (L.) Link* | *jungle rice* | *non-native* | *rare* |
| *Eleusine indica (L.) Gaertn.* | *wiregrass* | *non-native* | *rare* |
| *Eragrostis tenella (L.) P. Beauv.Ex Roem. & Schult.* | ---------- | *non-native* | *uncommon* |

| SCIENTIFIC NAME | COMMON NAME | STATUS | ABUNDANCE |
|---|---|---|---|
| *Panicum maximum Jacq.* | *Guinea grass* | *non-native* | *abundant* |
| *Pennisetum purpureum Schumach.* | *Napier grass* | *non-native* | *uncommon* |
| *Rhynchelytrum repens (Willd.) Hubb.* | *Natal redtop* | *non-native* | *uncommon* |
| *Saccharum officinarum L.* | *sugar cane* | *polynesian* | *rare* |
| *Setaria verticillata (L.) P.Beauv.* | *bristly foxtail* | *non-native* | *rare* |
| *Sorghum bicolor (L.) Moench* | *sorghum* | *non-native* | *rare* |
| *Tragus berteronianus Schult.* | *goatgrass* | *non-native* | *uncommon* |
| *Zea mays L.* | *corn* | *non-native* | *rare* |
| ***DICOTS*** | | | |
| ***ACANTHACEAE (Acanthus Family)*** | | | |
| *Asystasia gangetica (L.) T. Anderson* | *Chinese violet* | *non-native* | *rare* |
| ***AMARANTHACEAE (Amaranth Family)*** | | | |
| *Amaranthus spinosus L.* | *spiny amaranth* | *non-native* | *uncommon* |
| *Amaranthus viridis L.* | *spleen amaranth* | *non-native* | *rare* |
| ***ANACARDIACEAE (Mango Family)*** | | | |
| *Mangifera indica L.* | *mango* | *non-native* | *rare* |
| ***ASTERACEAE (Sunflower Family)*** | | | |
| *Bidens pilosa L.* | *Spanish needle* | *non-native* | *rare* |
| *Calyptocarpus vialis Less* | ---------- | *non-native* | *rare* |
| *Conyza bonariensis (L.) Cronq.* | *hairy horseweed* | *non-native* | *rare* |
| *Emilia fosbergii Nicolson* | *red pualele* | *non-native* | *rare* |
| *Melanthera lavarum (Gaud.)W.L.Wagner&H.Rob.* | *nehe* | *endemic* | *rare* |
| *Pluchea carolinensis (Jacq.) G. Don* | *sourbush* | *non-native* | *uncommon* |
| *Sonchus oleraceus L* | *pualele* | *non-native* | *rare* |
| *Synedrella nodiflora (L.) Gaertn.* | *nodeweed* | *non-native* | *rare* |

| SCIENTIFIC NAME | COMMON NAME | STATUS | ABUNDANCE |
|---|---|---|---|
| *Tridax procumbens L.* | *coat buttons* | *non-native* | *rare* |
| *Verbesina encelioides (Cav.) Benth. & Hook.* | *golden crown beard* | *non-native* | *rare* |
| *Xanthium strumarium L.* | *kikania* | *non-native* | *rare* |
| ***BRASSICACEAE (Mustard Family)*** | | | |
| *Brassica oleracea L.* | *cabbage* | *non-native* | *rare* |
| ***CAPPARACEAE (Caper Family)*** | | | |
| *Cleome gynandra L.* | *wild spider flower* | *non-native* | *rare* |
| ***CARICACEAE (Papaya Family)*** | | | |
| *Carica papaya L.* | *papaya* | *non-native* | *rare* |
| ***CHENOPODIACEAE (Goosefoot Family)*** | | | |
| *Chenopodium murale L.* | *aheahea* | *non-native* | *rare* |
| ***CONVOLVULACEAE (Morning Glory Family)*** | | | |
| *Ipomoea batatas (L.) Lam.* | *sweet potato* | *non-native* | *rare* |
| *Ipomoea obscura (L.) Ker-Gawl.* | ---------- | *non-native* | *rare* |
| *Ipomoea triloba L.* | *little bell* | *non-native* | *rare* |
| *Merremia aegyptia (L.) Urb.* | *hairy merremia* | *non-native* | *uncommon* |
| ***CUCURBITACEAE (Gourd Family)*** | | | |
| *Momordica charantia L.* | *balsam pear* | *non-native* | *rare* |
| ***EUPHORBIACEAE (Spurge Family)*** | | | |
| *Chamaecyce hirta (L.) Millsp.* | *hairy spurge* | *non-native* | *uncommon* |
| *Chamaecyce hypericifolia (L.) Millsp.* | *graceful spurge* | *non-native* | *uncommon* |
| *Manihot dulcis (J.F.Gmel.) Pax* | *manioc* | *non-native* | *uncommon* |
| *Ricinus communis L.* | *castor bean* | *non-native* | *rare* |
| *Euphorbia cyathophora J.A.Murray* | *Mexican fire plant* | *non-native* | *rare* |
| *Euphorbia heterophylla L.* | *kaliko* | *non-native* | *rare* |

| SCIENTIFIC NAME | COMMON NAME | STATUS | ABUNDANCE |
|---|---|---|---|
| **FABACEAE (Pea Family)** | | | |
| *Acacia farnesiana (L.) Willd.* | klu | non-native | rare |
| *Cajanus cajan (L.) Millsp.* | pigeon pea | non-native | rare |
| *Chamaechrista nictitans (L.) Moench* | partridge pea | non-native | common |
| *Crotalaria incana L.* | fuzzy rattlepod | non-native | rare |
| *Crotalaria pallida Aiton* | smooth rattlepod | non-native | uncommon |
| *Desmanthus pernambucanus (L.) Thellung* | slender mimosa | non-native | uncommon |
| *Desmodium tortuosum (Sw.) DC* | Florida beggarweed | non-native | rare |
| *Erythrina sandwicensis Degener* | wiliwili | endemic | uncommon |
| *Erythrina variegata L.* | fastigiate wiliwili | non-native | rare |
| *Indigofera hendecaphylla Jacq.* | creeping indigo | non-native | rare |
| *Indigofera suffruticosa Mill.* | 'iniko | non-native | rare |
| *Leucaena leucocephala (Lam.) deWit* | koa haole | non-native | uncommon |
| *Macroptilium atropurpureum (DC) Urb.* | ---------- | non-native | uncommon |
| *Macroptilium lathyroides (L.) Urb.* | wild bean | non-native | rare |
| *Phaseolus vulgaris L.* | string bean | non-native | rare |
| *Prosopis pallida (Humb.&Bonpl.Ex.Willd.) Kunth* | kiawe | non-native | uncommon |
| *Sesbania grandiflora (L.)Kunth Poir.* | katurai | non-native | rare |
| **LAMIACEAE (Mint Family)** | | | |
| *Leonotis nepetifolia (L.) R.Br.* | lion's ear | non-native | uncommon |
| **LAURACEAE (Laurel Family)** | | | |
| *Persea americana Mill.* | avocado | non-native | rare |
| **MALVACEAE (Mallow Family)** | | | |
| *Abutilon grandifolium (Willd.)Sweet* | hairy abutilon | non-native | uncommon |
| *Hisbiscus esculentus L.* | okra | non-native | rare |

| SCIENTIFIC NAME | COMMON NAME | STATUS | ABUNDANCE |
|---|---|---|---|
| *Malva parviflora L.* | *cheese weed* | *non-native* | *rare* |
| *Malvastrum coromandelianum (L.) Garcke* | *false mallow* | *non-native* | *uncommon* |
| *Sida fallax Walp* | *'ilima* | *indigenous* | *rare* |
| *Sida rhombifolia L.* | ---------- | *non-native* | *uncommon* |
| ***MORACEAE (Mulberry Family)*** | | | |
| *Allaeanthus glaber Warb.* | *alokon* | *non-native* | *rare* |
| *Ficus microcarpa L. fil.* | *Chinese banyan* | *non-native* | *rare* |
| ***MORINGACEAE (Moringa Family)*** | | | |
| *Moringa oleifera Lam.* | *horseradish tree* | *non-native* | *rare* |
| ***MYRTACEAE (Myrtle Family)*** | | | |
| *Syzygium cumini (L.) Skeels* | *Java plum* | *non-native* | *rare* |
| ***NYCTAGINACEAE (Four-o'clock Family)*** | | | |
| *Boerhavia coccinea Mill.* | ---------- | *non-native* | *rare* |
| ***OXALIDACEAE (Wood Sorrel Family)*** | | | |
| *Oxalis corniculata L.* | *yellow wood sorrel* | *non-native* | *rare* |
| ***PLUMBAGINACEAE (Leadwort Family)*** | | | |
| *Plumbago zeylanica L.* | *'ilie'e* | *indigenous* | *rare* |
| ***PORTULACACEAE (Purslane Family)*** | | | |
| *Portulaca oleracea L.* | *pigweed* | *non-native* | *rare* |
| ***SAPINDACEAE (Soapberry Family)*** | | | |
| *Dodonaea viscosa Jacq.* | *'a'ali'i* | *indigenous* | *rare* |
| ***SOLANACEAE (Nightshade Family)*** | | | |
| *Nicandra physalodes (L.) Gaertn.* | *apple of Peru* | *non-native* | *rare* |
| *Solanum melongena L.* | *eggplant* | *non-native* | *rare* |
| ***STERCULIACEAE (Cacao Family)*** | | | |

| *SCIENTIFIC NAME* | *COMMON NAME* | *STATUS* | *ABUNDANCE* |
|---|---|---|---|
| *Waltheria indica L* | *'uhaloa* | *indigenous* | *common* |
| ***VERBENACEAE (Verbena Family)*** | | | |
| *Stachytarpheta jamaicensis (L.) Vahl* | *Jamaica vervain* | *non-native* | *rare* |
| *Verbena littoralis Kunth* | *ha'u owi* | *non-native* | *rare* |
| ***ZYGOPHYLLACEAE (Creosote Bush Family)*** | | | |
| *Tribulus terrestris L.* | *puncture vine* | *non-native* | *rare* |

No species of fauna were directly observed ***within the 257-acre project site***, although tracks of feral cats were seen, and other common species such as mongoose, rats, and mice would be expected given the dense vegetation. Moderate levels of avifauna diversity were identified within the project site. Of note, was the identification of three (3) endangered Nene (*Branta Sandwicensis*) geese observed to be feeding within the project site. A further Nene was observed flying over the project site during an evening visit, most likely in transit between the attractive vegetation of the neighboring golf course and the West Maui mountains. Refer to **Appendix "E"**.

***A summary of the avifauna species observed within the project site during completion of the Biological Resources Survey is provided below in Table 7.***

*Table 7. Summary of Avifauna Species Observed Within Project Site*

| SCIENTIFIC NAME | COMMON NAME | STATUS | ABUNDANCE |
|---|---|---|---|
| *BIRDS* | | | |
| *Lonchura puntulata* | *Nutmeg mannikin* | *non-native* | *common* |
| *Geopelia striata* | *Barred dove* | *non-native* | *common* |
| *Acridotheres tristis* | *Common mynah* | *non-native* | *common* |
| *Francolinus pondicerianus* | *Gray francolin* | *non-native* | *uncommon* |
| *Streptopelia chinensis* | *Spotted dove* | *non-native* | *uncommon* |
| *Padda oryzivora* | *Java Sparrow* | *non-native* | *uncommon* |
| *Francolinus francolinus* | *Black francolin* | *non-native* | *uncommon* |
| *Bubulcus ibis* | *Cattle egret* | *non-native* | *rare* |
| *Passer domesticus* | *House sparrow* | *non-native* | *rare* |
| *Zosterops japonica* | *Japanese white-eye* | *non-native* | *rare* |
| *Carpodacus mexicana* | *House finch* | *non-native* | *rare* |
| *Pluvialis fulva* | *Golden plover* | *indigenous/migratory* | *rare* |
| *Alauda arvensis* | *Skylark* | *non-native* | *rare* |
| *Nesochen sanvicensis* | *Nene* | *endemic* | *rare* |

## (2) Utility Site

The vegetation throughout the utility site is dominated by a mixture of both agricultural and non-native field weeds. Prior to being utilized for agricultural cultivation, the utility site would have been characterized by dry native scrubland with scattered trees, such as wiliwili (*erythrina Sandwicensis Degener*) and ohe (*Reynoldsia Sandwicensis*). Intensive sugarcane and pineapple cultivation activities over the last century or so, have eliminated all signs of native vegetation. Species of weeds identified to be present within the utility site today include bitter melon (*Momordica Charantia*),

little bell (*Ipomoea Triloba*) and swollen fingergrass (*Chloris Barbata*). Species of kiawe (*Leucaena Leucocephala*), koa haole (*Prosopis Pallida*) and bufflegrass (*Cenchrus Ciliaris*) were also identified to exist within the area of the utility site to be utilized as the water tanks for the project. No officially listed threatened or endangered plant species were found on the property, nor were any plants proposed for such status found. Further, no wetland areas were identified within the utility site. ***A summary of the plant species identified within the utility site during completion of the Biological Resources Survey is provided below in Table 8.***

***Table 8.*** *Summary of Plant Species Identified Within Utility Site*

| *SCIENTIFIC NAME* | *COMMON NAME* | *STATUS* | *ABUNDANCE* |
|---|---|---|---|
| ***MONOCOTS*** | | | |
| ***AGAVACEAE (Agave Family)*** | | | |
| *Asparagus officinalis L.* | *asparagus* | *non-native* | *common* |
| *Cordylene fruticosa (L.) A. Chev.* | *ki* | *polynesian* | *rare* |
| ***CYPERACEAE (Sedge Family)*** | | | |
| *Cyperus rotundus L.* | *nut grass* | *non-native* | *rare* |
| *MUSACEAE (Banana Family)* | | | |
| *Musa x paradisiaca L.* | *banana* | *non-native* | *uncommon* |
| ***POACEAE (Grass Family)*** | | | |
| *Bambusa vulgaris Schrad.ex Wendl.* | *feathery bamboo* | *non-native* | *rare* |
| *Bothriochloa pertusa (L.) A. Camus* | *pitted beardgrass* | *non-native* | *rare* |
| *Brachiaria subquadripara (Trin.) Hitch.* | ---------- | *non-native* | *rare* |
| *Cenchrus ciliaris L.* | *buffelgrass* | *non-native* | *abundant* |
| *Cenchrus echinatus L.* | *sandbur* | *non-native* | *rare* |
| *Chloris barbata (L.) Sw.* | *swollen fingergrass* | *non-native* | *common* |
| *Chloris virgata Sw.* | *feather fingergrass* | *non-native* | *rare* |
| *Cynodon dactylon (L.) Pers.* | *Bermuda grass* | *non-native* | *uncommon* |

| SCIENTIFIC NAME | COMMON NAME | STATUS | ABUNDANCE |
|---|---|---|---|
| *Digitaria insularis (L.) Mex ex Ekman* | *sourgrass* | *non-native* | *common* |
| *Digitaria violascens Link* | *kukae pua'a* | *non-native* | *uncommon* |
| *Echinochloa colona (L.) Link* | *jungle rice* | *non-native* | *rare* |
| *Eleusine indica (L.) Gaertn.* | *wiregrass* | *non-native* | *rare* |
| *Eragrostis tenella (L.) P. Beauv.Ex Roem. & Schult.* | ---------- | *non-native* | *uncommon* |
| *Panicum maximum Jacq.* | *Guinea grass* | *non-native* | *abundant* |
| *Pennisetum purpureum Schumach.* | *Napier grass* | *non-native* | *uncommon* |
| *Rhynchelytrum repens (Willd.) Hubb.* | *Natal redtop* | *non-native* | *uncommon* |
| *Saccharum officinarum L.* | *sugar cane* | *polynesian* | *rare* |
| *Setaria verticillata (L.) P.Beauv.* | *bristly foxtail* | *non-native* | *rare* |
| *Sorghum bicolor (L.) Moench* | *sorghum* | *non-native* | *rare* |
| *Tragus berteronianus Schult.* | *goatgrass* | *non-native* | *uncommon* |
| *Zea mays L.* | *corn* | *non-native* | *rare* |
| ***DICOTS*** | | | |
| *ACANTHACEAE (Acanthus Family)* | | | |
| *Asystasia gangetica (L.) T. Anderson* | *Chinese violet* | *non-native* | *rare* |
| *AMARANTHACEAE (Amaranth Family)* | | | |
| *Amaranthus spinosus L.* | *spiny amaranth* | *non-native* | *uncommon* |
| *Amaranthus viridis L.* | *spleen amaranth* | *non-native* | *rare* |
| *ANACARDIACEAE (Mango Family)* | | | |
| *Mangifera indica L.* | *mango* | *non-native* | *rare* |
| ***ASTERACEAE (Sunflower Family)*** | | | |
| *Bidens pilosaL.* | *Spanish needle* | *non-native* | *rare* |
| *Calyptocarpus vialis Less* | ---------- | *non-native* | *rare* |
| *Conyza bonariensis (L.) Cronq.* | *hairy horseweed* | *non-native* | *rare* |

| SCIENTIFIC NAME | COMMON NAME | STATUS | ABUNDANCE |
|---|---|---|---|
| *Emilia fosbergii Nicolson* | *red pualele* | *non-native* | *rare* |
| *Melanthera lavarum (Gaud.)W.L.Wagner&H.Rob.* | *nehe* | *endemic* | *rare* |
| *Pluchea carolinensis (Jacq.) G. Don* | *sourbush* | *non-native* | *uncommon* |
| *Sonchus oleraceus L.* | *pualele* | *non-native* | *rare* |
| *Synedrella nodiflora (L.) Gaertn.* | *nodeweed* | *non-native* | *rare* |
| *Tridax procumbens L.* | *coat buttons* | *non-native* | *rare* |
| *Verbesina encelioides (Cav.) Benth. & Hook.* | *golden crown beard* | *non-native* | *rare* |
| *Xanthium strumarium L.* | *kikania* | *non-native* | *rare* |
| ***BRASSICACEAE (Mustard Family)*** | | | |
| *Brassica oleracea L.* | *cabbage* | *non-native* | *rare* |
| ***CAPPARACEAE (Caper Family)*** | | | |
| *Cleome gynandra L.* | *wild spider flower* | *non-native* | *rare* |
| ***CARICACEAE (Papaya Family)*** | | | |
| *Carica papaya L.* | *papaya* | *non-native* | *rare* |
| ***CHENOPODIACEAE (Goosefoot Family)*** | | | |
| *Chenopodium murale L.* | *aheahea* | *non-native* | *rare* |
| ***CONVOLVULACEAE (Morning Glory Family)*** | | | |
| *Ipomoea batatas (L.) Lam.* | *sweet potato* | *non-native* | *rare* |
| *Ipomoea obscura (L.) Ker-Gawl.* | ---------- | *non-native* | *rare* |
| *Ipomoea triloba L.* | *little bell* | *non-native* | *rare* |
| *Merremia aegyptia (L.) Urb.* | *hairy merremia* | *non-native* | *uncommon* |
| ***CUCURBITACEAE (Gourd Family)*** | | | |
| *Momordica charantia L.* | *balsam pear* | *non-native* | *rare* |
| ***EUPHORBIACEAE (Spurge Family)*** | | | |
| *Chamaecyce hirta (L.) Millsp.* | *hairy spurge* | *non-native* | *uncommon* |

| SCIENTIFIC NAME | COMMON NAME | STATUS | ABUNDANCE |
|---|---|---|---|
| *Chamaecyce hypericifolia (L.) Millsp.* | *graceful spurge* | *non-native* | *uncommon* |
| *Manihot dulcis (J.F.Gmel.) Pax* | *manioc* | *non-native* | *uncommon* |
| *Ricinus communis L.* | *castor bean* | *non-native* | *rare* |
| *Euphorbia cyathophora J.A.Murray* | *Mexican fire plant* | *non-native* | *rare* |
| *Euphorbia heterophylla L.* | *kaliko* | *non-native* | *rare* |
| ***FABACEAE (Pea Family)*** | | | |
| *Acacia farnesiana (L.) Willd.* | *klu* | *non-native* | *rare* |
| *Cajanus cajan (L.) Millsp.* | *pigeon pea* | *non-native* | *rare* |
| *Chamaechrista nictitans (L.) Moench* | *partridge pea* | *non-native* | *common* |
| *Crotalaria incana L.* | *fuzzy rattlepod* | *non-native* | *rare* |
| *Crotalaria pallida Aiton* | *smooth rattlepod* | *non-native* | *uncommon* |
| *Desmanthus pernambucanus (L.) Thellung* | *slender mimosa* | *non-native* | *uncommon* |
| *Desmodium tortuosum (Sw.) DC* | *Florida beggarweed* | *non-native* | *rare* |
| *Erythrina sandwicensis Degener* | *wiliwili* | *endemic* | *uncommon* |
| *Erythrina variegata L.* | *fastigiate wiliwili* | *non-native* | *rare* |
| *Indigofera hendecaphylla Jacq.* | *creeping indigo* | *non-native* | *rare* |
| *Indigofera suffruticosa Mill.* | *'iniko* | *non-native* | *rare* |
| *Leucaena leucocephala (Lam.) deWit* | *koa haole* | *non-native* | *uncommon* |
| *Macroptilium atropurpureum (DC) Urb.* | ---------- | *non-native* | *uncommon* |
| *Macroptilium lathyroides (L.) Urb.* | *wild bean* | *non-native* | *rare* |
| *Phaeseolus vulgaris L.* | *string bean* | *non-native* | *rare* |
| *Prosopis pallida (Humb.&Bonpl.Ex.Willd.) Kunth* | *kiawe* | *non-native* | *uncommon* |
| *Sesbania grandiflora (L.)Kunth Poir.* | *katurai* | *non-native* | *rare* |
| ***LAMIACEAE (Mint Family)*** | | | |
| *Leonotis nepetifolia (L.) R.Br.* | *lion's ear* | *non-native* | *uncommon* |

| SCIENTIFIC NAME | COMMON NAME | STATUS | ABUNDANCE |
|---|---|---|---|
| ***LAURACEAE (Laurel Family)*** | | | |
| *Persea americana Mill.* | *avocado* | *non-native* | *rare* |
| ***MALVACEAE (Mallow Family)*** | | | |
| *Abutilon grandifolium (Willd.)Sweet* | *hairy abutilon* | *non-native* | *uncommon* |
| *Hisbiscus esculentus L.* | *okra* | *non-native* | *rare* |
| *Malva parviflora L.* | *cheese weed* | *non-native* | *rare* |
| *Malvastrum coromandelianum (L.) Garcke* | *false mallow* | *non-native* | *uncommon* |
| *Sida fallax Walp.* | *'ilima* | *indigenous* | *rare* |
| *Sida rhombifolia L.* | ---------- | *non-native* | *uncommon* |
| ***MORACEAE (Mulberry Family)*** | | | |
| *Allaeanthus glaber Warb.* | *alokon* | *non-native* | *rare* |
| *Ficus microcarpa L. fil.* | *Chinese banyan* | *non-native* | *rare* |
| ***MORINGACEAE (Moringa Family)*** | | | |
| *Moringa oleifera Lam.* | *horseradish tree* | *non-native* | *rare* |
| ***MYRTACEAE (Myrtle Family)*** | | | |
| *Syzygium cumini (L.) Skeels* | *Java plum* | *non-native* | *rare* |
| ***NYCTAGINACEAE (Four-o'clock Family)*** | | | |
| *Boerhavia coccinea Mill.* | ---------- | *non-native* | *rare* |
| ***OXALIDACEAE (Wood Sorrel Family)*** | | | |
| *Oxalis corniculata L.* | *yellow wood sorrel* | *non-native* | *rare* |
| ***PLUMBAGINACEAE (Leadwort Family)*** | | | |
| *Plumbago zeylanica L.* | *'ilie'e* | *indigenous* | *rare* |
| ***PORTULACACEAE (Purslane Family)*** | | | |
| *Portulaca oleracea L.* | *pigweed* | *non-native* | *rare* |
| ***SAPINDACEAE (Soapberry Family)*** | | | |

| *SCIENTIFIC NAME* | *COMMON NAME* | *STATUS* | *ABUNDANCE* |
|---|---|---|---|
| *Dodonaea viscosa Jacq.* | *'a'ali'i* | *indigenous* | *rare* |
| ***SOLANACEAE (Nightshade Family)*** | | | |
| *Nicandra physalodes (L.) Gaertn.* | *apple of Peru* | *non-native* | *rare* |
| *Solanum melongena L.* | *eggplant* | *non-native* | *rare* |
| ***STERCULIACEAE (Cacao Family)*** | | | |
| *Waltheria indica L.* | *`uhaloa* | *indigenous* | *common* |
| ***VERBENACEAE (Verbena Family)*** | | | |
| *Stachytarpheta jamaicensis (L.) Vahl* | *Jamaica vervain* | *non-native* | *rare* |
| *Verbena littoralis Kunth* | *ha'u owi* | *non-native* | *rare* |
| ***ZYGOPHYLLACEAE (Creosote Bush Family)*** | | | |
| *Tribulus terrestris L.* | *puncture vine* | *non-native* | *rare* |

In regards to fauna species, only one (1) mammal species, a feral cat (*Felis Catus*), was observed during visits to the property conducted both during the day and night. Other common species, such as mongoose, rats and mice would, however, be expected given the dense vegetation within the property.

Moderate levels of avifauna diversity were observed within the utility site. In total, eleven (11) species of birds were identified; nine (9) non-native species, one (1) indigenous waterbird and one (1) endemic goose. While the lands within the property were identified to be unsuitable for the endemic Nene (*Branta Sandwicensis*), a flock of this endangered species of birds was observed in transit between the attractive vegetation of the neighboring golf course and the higher elevations of the West Maui Mountain range. No other threatened or endangered fauna species were observed either within or in the immediate vicinity of the utility site. Refer to **Appendix "E"**. ***A summary of the fauna and avifauna species observed within the utility site during completion of the Biological Resources Survey is provided below in Table 9.***

***Table 9.*** *Summary of Fauna and Avifauna Species Observed Within Utility Site*

| *SCIENTIFIC NAME* | *COMMON NAME* | *STATUS* | *ABUNDANCE* |
|---|---|---|---|
| ***MAMMALS*** | | | |
| *Felis catus* | *Feral cat* | *non-native* | *rare* |
| ***BIRDS*** | | | |
| *Geopelia striata* | *Zebra dove* | *non-native* | *abundant* |
| *Francolinus pondicerianus* | *Gray francolin* | *non-native* | *common* |
| *Lonchura punctulata* | *Nutmeg mannikin* | *non-native* | *uncommon* |
| *Francolinus francolinus* | *Black francolin* | *non-native* | *rare* |
| *Passer domesticus* | *House sparrow* | *non-native* | *rare* |
| *Bubulcus ibis* | *Cattle egret* | *non-native* | *rare* |
| *Acridotheres tristis* | *Common myna* | *non-native* | *rare* |
| *Nycticorax nycticorax hoactli* | *'Auku'u, Black-crowned night-heron* | *indigenous* | *rare* |
| *Streptopelia chinensis* | *Spotted dove* | *non-native* | *rare* |
| *Paroaria coronata* | *Red-crested cardinal* | *non-native* | *rare* |
| *Branta sandwicensis* | *Nene* | *Endemic* | *rare* |

## b. Potential Impacts and Proposed Mitigation Measures

Given the fact that flora and fauna is generally limited to non-native abundant species, the proposed project is not anticipated to have a significant negative impact on biological resources in the area. Although one (1) endangered species, the Nene goose, was noted within the project area, its activities were limited to incidental feeding rather than nesting, and the site was noted to be no different than thousands of acres of fields in the surrounding region in its ability to serve as a feeding ground. Moreover, irrigated parks and other open spaces associated with the proposed development would continue to provide a suitable area for the incidental feeding activities of Nene geese. Recommendations resulting from the biological surveys include the following:

- That a small stand of wiliwili trees growing in one of the gullies within the project site be preserved, due to its strong association with Hawaiian dryland forests.

- That all significant outdoor lighting in the proposed project be shielded and directed downward to minimize impacts of lights in local populations of seabirds in the area.

***The following additional recommendation resulted from comments received during review of the Draft EIS:***

- ***A construction and homeowner awareness program for seabirds will be instituted with the coordination of DLNR, Division of Forestry and Wildlife. The awareness program would cover the regulations regarding seabirds, identification of seabirds, staff and homeowners responsibilities and procedures for avoiding and minimizing light attraction, and responding safely to downed seabirds.***

These ~~two (2)~~ above-noted recommendations will be integrated during the design phase of the proposed project to ensure potential impacts on flora and fauna within the project area are minimized.

To mitigate potential impacts to seabirds during construction, a program of Best Management Practices (BMPs) will be implemented during construction. For instance, lights will be shielded so that bulbs are not visible at or above bulb height, information will be disseminated regarding seabird fallout, and provisions for handling a downed seabird will be implemented during construction activities. The program of BMPs will be implemented during the construction phase of development to prevent erosion, sedimentation, and other potential adverse impacts to aquatic fish and wildlife resources in the vicinity of the project site.

## 8. Streams and Wetlands

### a. Existing Conditions

Ephemeral or intermittent streams are located within the project area, which can be identified by gullies or gulches during dry conditions. Two (2)

unnamed gulches run through the project site. ~~Refer to **Figure 10.**~~ One (1) named gulch (Pohakea Gulch) traverses the utility site ***to the north of Project District 12.*** ~~Refer to **Figure 11**~~***Refer to Figure 10 (on Page 27).*** The gulches flow only during periods of heavy rainfall, when they drain upland slopes. ~~The Department of Army has confirmed that Pohakea Gulch is an erosional feature that carries flow only during high rainfall events and, as such, is not considered a water of the United States.~~

As outlined previously, no special aquatic sites (anchialine, ponds, wetlands, etc.) are located within or in the immediate vicinity of the project area. ***The Kealia Pond Wildlife Refuge (KPWR) is the nearest regional wetland resource and is located approximately 1.5 miles to the east of the project area.***

***In specific regards to Pohakea Gulch, this particular drainage feature is located outside (to the north) of the project site (Project District 12) and falls within the confines of the utility site - the location of the groundwater wells, storage tanks and associated transmission infrastructure. Refer to Figure 10 (on Page 27). Drainage flows from the 257-acre project site under existing conditions do not currently enter Pohakea Gulch.***

***From observations of existing site conditions and review of aerial imagery and available maps, the alignment of Pohakea Gulch (between the quarry and the highway) appears to have been altered in the past by former sugarcane and pineapple agricultural operations in the area. Rather than following the original alignment across the utility site (Parcel 008) from the valley to (and under) the Honoapiilani Highway, Pohakea Gulch now connects to a man-made drainage feature that flows down though Parcel 008 from an existing agricultural reservoir (located to the north of the quarry) into the agricultural fields on the mauka side of Honoapiilani Highway. This gulch is dry under normal conditions and does not function as a perennial, free flowing stream. Primary sources of run-off inputs through the gulch include overflows from the aforementioned agricultural reservoir and also drainage flows received from the slopes of the West Maui Mountains during high rainfall conditions. Coordination with the Department of Army has been undertaken as part of the EIS process to confirm the status of Pohakea Gulch. By letter dated October 13, 2009, the U.S. Army Corps of Engineers (USACE) issued a Preliminary Non-Jurisdictional Determination indicating Pohakea Gulch as an erosional***

*feature that carries flow only during high rainfall events and, as such, is not considered a water of the United States. The 2009 Preliminary Jurisdictional Determination stated that Pohakea Gulch is not regulated because 'it is constructed wholly in uplands, only contains flow during high rainfall events and has no direct or indirect surface water connection to the Pacific Ocean, as seen in aerial photographs'. Additional correspondence from USACE was, however, received on May 27, 2010, rescinding the Preliminary Non-Jurisdictional Determination for Pohakea Gulch. See Appendix "F". The following information was provided in the May 27, 2010 USACE letter:*

> *On February 2, 2010, our office received new information that indicated Pohakea Gulch may, in fact, have a direct surface water connection to navigable waters as well as have a significant nexus to those waters. We reviewed available literature, including the Atlas of Hawaiian Watersheds and their Aquatic Resources, dated April 2008, by the State of Hawaii and we performed a site visit on March 4, 2010, to confirm the presence or absence of a significant nexus. We have determined that Pohakea Gulch and the unnamed tributary to Pohakea Gulch, as shown on the enclosed drawings, are waters of the U.S., and are, therefore, regulated under Section 404 of the Clean Water Act. Our assertion of jurisdiction is based on the recognition that these waterbodies have more than a speculative or insubstantial effect on the chemical, physical, and biological integrity of a traditional navigable water.*

*Following coordination with USACE (Honolulu), a response letter was issued on June 22, 2010 confirming that MVI, LLC will be proceeding in accordance with guidance received from Department of Army (DA) staff with the submittal of after-the-fact DA permit applications for a waterline and road crossing that was installed across Pohakea Gulch (within the utility site) in late 2009. There are no additional improvements proposed for the Ohana Kai Village Affordable Housing Project affecting Pohakea Gulch. See Appendix "F-1".*

*In regards to onsite drainageways located within the limits of the project site (Project District 12), MVI, LLC will submit a jurisdictional*

***determination request to USACE to request confirmation of applicable DA permitting requirements for project-related improvements affecting these features.***

**b. <u>Potential Impacts and Proposed Mitigation Measures</u>**

During construction of the proposed subdivision, a program of Best Management Practices (BMPs) will be implemented by the project contractors for erosion and sediment control to maintain the natural and functional integrity of gulches in the area, examples of which are below:

- Construction of detention basins to capture sedimentation to minimize the quantity of sediment leaving the site.
- Implementing a phased construction schedule.
- Protecting of natural vegetation.
- Stockpiling topsoil, and covering or stabilizing of the soil stockpiles.
- Using wind erosion control.
- Intercepting runoff above disturbed slopes.
- Constructing of benches, terraces, or ditches at regular intervals to intercept runoff on long or man-made slopes.
- Providing linings or other method to prevent erosion of storm channels.
- Using seeding and fertilizing or other soil erosion control techniques.
- Providing vehicle wheel wash-down facilities.
- Using stabilized construction entrances.
- Using vegetated filter strips.

Greater detail of the design information for the proposed drainage and erosion control plan will be submitted as the project progresses through the engineering and subdivision design phases of development.

Existing drainageways traversing the 257-acre project site will remain in their

existing condition, except at road crossings where appropriate sized drainage culverts will be installed to allow runoff to continue downstream. ***As mentioned previously, Pohakea Gulch is located outside (to the north) of Project District 12 and will not be utilized to accept drainage flows generated by the proposed project.***

***A comprehensive drainage system using a series of linear retention basins will be constructed within project site to ensure that all project-related increases in storm run-off are retained onsite such that existing drainage conditions below the site remain the same as current conditions. Surface runoff from the developed portions of the project will be directed into these linear retention basins and away from existing gulches within or around the site. The retention basins will be unlined to allow for natural percolation of stormwater into the underlying soils.*** MVI, LLC is currently in the process of undertaking coordination with applicable agencies to identify regulatory requirements for drainageway improvements related to the implementation of the Ohana Kai Village ***Affordable Housing*** p***P***roject.

~~With implementation of the above-noted mitigation measures, the proposed project is not anticipated to negatively impact the existing hydrological features present within the project site.~~***As such, with implementation of the proposed drainage system and the foregoing construction mitigation measures, the proposed project is not anticipated to negatively impact existing hydrological features present in or around the project area (including the Kealia Pond Wildlife Refuge) or any properties located downstream of the project site.*** Further, no impacts on wetland areas are anticipated given the absence of wetlands within or in the ***immediate*** vicinity of the project site.

## 9. Nearshore Marine Environment

### a. Existing Conditions

Maalaea Bay is home to a variety of marine biota, including rice and lace coral, opihi, aama (thin-shelled rock crab), and butterfly fish. The Bay was once an area of special interest for nature study, research and photography due to its high diversity of sponges, mollusks, and other marine life, but much of the shell life in the outer bay sand bottom has declined in recent decades. ***Maalaea Bay has been designated as a low priority impaired water body by***

***the 2004 List of Impaired Water Bodies as published by the State of Hawaii, Department of Health.***

It is further noted that Maalaea Bay is part of the Hawaiian Islands Humpback Whale National Marine Sanctuary, which was established in 1992 to protect endangered humpback whales and their habitat.

A Water Quality and Marine Biology Survey was completed by AECOS, Inc. in September 2006 to assess baseline conditions in the nearshore and offshore waters in the vicinity of the project area. See **Exhibit "FG"**. The report found that near shore waters were generally murky with re-suspended sediment. These waters, containing high levels of nutrients, were found to be supporting almost no live coral with most hard surfaces being covered in seaweed. Offshore waters (greater than 6 feet in depth), however, were found to be generally clear with lower levels of nutrients. Seaweed cover in these areas was found to be less with live coral coverage ranging from 5 percent to over 50 percent of available hard bottom.

Water quality of northwest Maalaea Bay was found to be degraded and samples taken did not meet the Water Quality standards as established by the State of Hawaii, Department of Health for most nutrients, chlorophyll and turbidity. Chlorophyll is an indicator of phytoplankton growth, whereas turbidity is generally taken as an indicator of suspended sediment. ~~Groundwater inputs (rather than surface water inputs) were identified to be the main source affecting the quality of these waters.~~ ***As noted in the Water Quality and Marine Biology Survey report, these nearshore waters appear to be largely affected by groundwater inputs and not surface water runoff.*** It is noted, however, that during infrequent storm events, surface water run-off becomes more of a significant factor and is the primary contributor of particulates to nearshore waters.

Nearshore marine communities within the northwest section of Maalaea Bay were noted to be quite variable, ranging from sand and mud bottom within Maalaea Small Boat Harbor to reefs supporting in excess of 50 percent coral cover. Species within the nearshore marine communities were noted for their ability to adapt to elevated levels of silt and sediment which are experienced during times of high rainfall.

**b. Potential Impacts and Proposed Mitigation Measures**

As discussed previously, appropriate Best Management Practices (BMPs) will be implemented during the construction of each phase of the proposed residential subdivision. Detention basins will be installed in the early stages of each construction phase to further minimize the potential for construction-related drainage impacts.

As part of project implementation, MVI, LLC is proposing a number of permanent engineering measures to prevent unintended secondary impacts on marine mammals (and other biological resources) within Maalaea Bay, such as the Humpback Whale and Hawaiian Green Sea Turtle. In an effort to be part of the movement to improve existing wastewater treatment practices (i.e. use of cesspools, septic and Individual Wastewater Treatment systems) within the Maalaea community, a Wastewater Treatment Plant (WTP) is being proposed as part of the project to ensure that all wastewater from the subdivision is collected and effectively treated prior to disposal. The facility will be designed to minimize odor and will utilize the latest technology to produce the highest level of treated effluent, referred to as R-1 ~~and R-2~~ water. Acceptable uses of R-1 ~~and R-2~~ water are prescribed by State DOH standards and include irrigation of landscaping and crops. As such, the applicant intends to recycle the R-1 ~~and R-2~~ water from the WTP for irrigation purposes within and around the subdivision. ***The effluent reuse program is intended to minimize the use of onsite injection wells at the WTP for disposal of R-1 reclaimed water.***

The applicant has also engineered a comprehensive drainage system for the proposed project that will retain all increases in post-development runoff associated with the project, such that there will be no net increase in drainage flows throughout the Maalaea Community. Project-related drainage system improvements will be designed in accordance with applicable regulatory standards and the recommendations contained within the Water Quality and Marine Biological ~~Assessment~~***Survey Report*** to mitigate potential adverse impacts on downstream properties and coastal resources in the area.

With implementation of BMPs during construction and development of the WTP and the proposed comprehensive drainage system, the proposed project is not anticipated to have significant adverse impacts on nearby coastal ecosystems in the Maalaea area. Refer to **Appendix "~~F~~*G*"**.

## 10. Archaeological, Historical, and Cultural Resources

### a. Existing Conditions

#### (1) Archaeological Resources

An Archeological Inventory Survey (AIS) was completed for the project site in April 2005 by Scientific Consulting Services (SCS), Inc. Similarly, a supplemental AIS was also completed for the utility site (TMK (2) 3-6-004:003 (por.)) in March 2007. See **Appendix "~~G~~*H*"**. The AIS reports for the project site and the utility site were approved by the Department of Land and Natural Resources (DLNR) State Historic Preservation Division (SHPD) on January 29, 2005 and January 31, 2008, respectively. Copies of the SHPD approval letters are presented in **Appendix "~~G~~*H*-1"**.

- **Project Site**

  The 2005 AIS for the 257-acre subdivision area used a 100 percent pedestrian survey as well as backhoe trenching at twenty (20) separate locations within the project site. For the pedestrian survey, researchers divided the site into hundreds of transects and systematically combed each for surface and exposed subsurface features. The survey was conducted in consultation with the Maui SHPD Archaeologist. No historic or prehistoric cultural material was identified during the subsurface testing component of the survey. During surface inspections, however, three (3) historic sites related to the former use of the property for sugarcane cultivation were identified. It is noted that no burial features or human remains were identified during subsurface testing or pedestrian surveys at either site.

  As mentioned previously, three (3) historically significant sites, all related to former sugarcane operations, were identified within the project site. The first (State Site No. 50-50-09-5657) consists of 13 clearing mounds spread out within the northern 20 percent of the site. Although the exterior of the mounds was likely deposited via modern machinery, the interior is likely more historic, dating back to initial clearing

of the land for sugarcane cultivation. The second site (State Site No. 50-50-09-5658) comprises dozens of irrigation modifications to two (2) drainage gulches that run through the project site. These modifications are also associated with the beginning of sugarcane cultivation on the subject property in the early 20th century. The third and final site (State Site No. 50-50-09-5659) consists of a dirt road, approximately 4.0 meters wide, that follows the mauka perimeter of the subject property. The road is probably an original route that allowed cane hauling and cultivation activities within the internal portions of the property.

- **Utility Site**

Similar to the initial 2005 survey, the 2007 supplemental AIS for the utility site (TMK (2) 3-6-004:003 (por.)) utilized historic background research and settlement pattern analysis, a systematic pedestrian survey, mapping and recording of identified features and subsurface testing through the mechanical excavation of 26 stratigraphic trenches.

No historic or prehistoric cultural material was identified during the subsurface component of the survey. Site inspections, however, identified a total of seven (7) sites related to the property's former use to support commercial agriculture. It is noted that no burial features or human remains were identified during subsurface testing or pedestrian surveys at the utility site.

The seven (7) sites identified during pedestrian surveys consisted of three (3) Historic Ditches (Sites 50-50-09-6251, 50-50-09-6254 and 50-50-09-6257), three (3) Clearing Mounds (Sites 50-50-09-6252, 50-50-09-6253, 50-50-09-6256) and one (1) Modified Stream Drainage (Site 50-50-09-6255). Refer to **Appendix "GH"**.

## (2) Cultural and Historical Resources

The project area is located in the Ukumehame and Waikapu Ahupuaa on the island of Maui. As is true with most ahupuaa in this region, the lands can generally be divided into three zones: (1) coastal; (2) barren or transitional; and (3) inland.

The coastal area was and is rich in marine resources, based on Hawaiian traditions and the presence of fishponds in the area. A quarter mile band running along and starting from the shoreline by and large formed the coastal region. Research suggests temporary habitations in the coastal areas for marine exploitation.

Transitional lands characterized the region located mauka of the coastal areas, up to approximately five (5) to seven (7) miles inland of the coastline. These transitional lands were, on the whole, quite barren and contained bush/scrub vegetation and low annual rainfall accumulation. The dry lands suggest the inability to sustain agriculture year-round.

In the inland areas located mauka of the transitional lands, there was significantly more rainfall accumulation. Because of this, there was lush, sustainable vegetation. Research on pre-contact occupation suggests that most of the permanent habitations were in this inland area with a smaller permanent population located along the coastline.

Maalaea was once a traditional landing site for Hawaiian outrigger canoes, and is a popular reference in the history books as providing a landing point for armies coming to fight Kahekili and their chiefs on their way to Wailuku. It became a commercial landing in the 19th and early 20th century and also holds a place in Hawaiian history as representing the place where the first Westerner to Maui, sea captain George Vancouver (1757-98), landed his ship. A totem pole now stands across from the Maui Lu Hotel to commemorate this historic event. The middle of the 20th century witnessed the coastline along Maalaea being used for amphibious landing exercises during World War II. The modern small boat harbor, located south of the project site, however, was not constructed until 1952.

Although historically a landing place for Hawaii's war fleets, the name Maalaea has more peaceful origins and seems to have originated from the fact that "alaea", commonly known as red dirt iron oxide, was found along the coast. There are two (2) different kinds of alaea: kane and wahine. The first of which, kane, is found in the ocean, while the second, wahine is found on land. Maalaea Bay is a source for both of these types of alaea.

Although once the site of an old Hawaiian village, there is no visible surface presence of cultural resources in the ~~vicinity of the project site~~***immediate Maalaea area*** today apart from the "Piko" stone and the large sharpening stone known as the "King's Table" or "Adze" that sits in front of Buzz's Wharf restaurant. These monuments proudly commemorate the historic roots of Maalaea Small Boat Harbor. ***It is, however, noted that remnants of a former village site (including petroglyphs) are located in vicinity of the Lahaina Pali Trail as it traverses the State-owned Conservation District lands to the west of the project site and the Maalaea Small Boat Harbor.***

Immediately adjacent to the aforementioned small boat harbor is a historic Japanese shrine. This shrine, called the Maalaea Ebisu Jinsha, is believed to have been constructed in the early twentieth century.

***A review of cultural interviews conducted during preparation of an Archaeological Survey and Cultural Impact Assessment for the Maalaea Small Boat Harbor Improvements (February 2005) has been completed, summaries of which are provided below:***

- ***Robert K. Luuwai, Jr.***

  ***Robert K. Luuwai, Jr. has been fishing in the Maalaea harbor area for over 30 years. Mr. Luuwai explained that although the water quality around the harbor is poor, people still occasionally fish, dive for octopus and lobster, and throw net. Mr. Luuwai also recalled that many Japanese families used to live in the area. He explained that a Japanese Shinto shrine is located near the waters edge of the harbor and has been in use since 1914. Mr. Luuwai also noted that the waters outside of Maalaea harbor are often used by people who wish to spread their***

*ashes at sea.*

- *Kahu Charles Kauluwehi Maxwell, Sr.*

  *Kahu Charles Kauluwehi Maxwell, Sr.'s ancestors lived in a village in the Maalaea area, located at the present-day site of the Maui Ocean Center. He explained that there were two (2) heiau there, though one (1) has since been destroyed. There are also two (2) pohaku (rocks) in front of Buzz's Wharf, one (1) of which is a piko (navel) stone. He explained that the other is a remnant of lithic production activities that were carried out in the area. Regarding cultural activities, Mr. Maxwell spoke of a special cave along the coast, called an ana o paakai, where people would go to gather salt, and a special limu, called huluhulu waena, that was collected south of the harbor. Mr. Maxwell also spoke of his family's aumakua that would come through Kalepolelepo Bay. He recalled that when his great-grandmother passed away, her remains were placed in a special canoe that was sent out to voyage through the Kealaikahiki Channel, south of Maalaea Harbor.*

- *Ann Kaleilokelani Tsuha*

  *Kalei Tsuha noted that Puuhele was once a prominent hill in the area but is now used as the site of a construction dump. She explained that in ancient Hawaiian mythology, the demigod Puuhele and his wife, Puuokali, two (2) other prominent hills near Maalaea harbor, were once moo (gecko). They had a child who was banished to Kahoolawe. Ms. Tsuha also explained that the area mauka of the harbor, called Hanaula, was the home of Kane and Kanaloa. Furthermore, she cited the area around Maalaea as a site for the famous battle of Ahulaukapiiohokakanilua, and also a place where Kamehameha dodged and deflected spears to save his mentor, among other feats. Regarding the harbor itself, Ms. Tsuha noted that its construction changed the way the surf broke in Maalaea, to the benefit of the local surfers.*

  *It is noted that the interviewees also mentioned the numerous surf spots that exist along Maalaea Harbor, and also Kapoli Spring, an active freshwater spring that was encountered during construction of the current comfort station at the Maalaea Small Boat Harbor. The remnants of the spring still seep out near the Maalaea harbor boat ramp. Maalaea was once known as a place where travelers*

***would rest. It was the only source of freshwater in the Maalaea area.***

**b. Potential Impacts and Proposed Mitigation Measures**

**(1) Archaeological Impacts and Mitigation**

- **Project Site**

As noted above, three (3) sites of historic significance to sugarcane activities were documented during the archeological inventory survey for the project site.

The following significance evaluations are broad criteria established for the State and National Register of Historic Places. These criteria are as follows:

***Criterion A***: Site is associated with events that have made a significant contribution to the broad patterns of our history.

***Criterion B***: Site is associated with the lives of persons significant to our past.

***Criterion C***: Site embodies the distinctive characteristics of a type, period, or method of construction; or represents the work of a master; or possesses high artistic value; or represents a significant and distinguishable entity whose components may lack individual construction.

***Criterion D***: Site has yielded or has potential to yield information important in prehistory or history.

***Criterion E***: Site has an important traditional cultural value to the native Hawaiian people or to another ethnic group of the state due to associations with traditional cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events, or oral accounts (State of Hawaii criterion only).

All three (3) sites identified during the archaeological inventory survey are considered significant under Criterion D. It was determined from the findings of the significance assessment that only one (1) of the three (3) sites, the clearing mounds (State Site No. 50-50-09-5657), warrants implementation of archaeological mitigation measures. As recommended by the AIS, an archaeologist will be on site during leveling of a minimum of four (4) representative samples of the thirteen (13) clearing mounds that comprise State Site No. 50-50-09-5657, in order to assess whether or not historic and/or prehistoric features or artifacts are present within or under the mounds.

An Archaeological Monitoring Plan (AMP) has been prepared for the project site in accordance with the recommendations of the SHPD-approved AIS. See **Appendix "~~G~~*H*-2"**. The AMP for the project site was approved by SHPD on May 22, 2008. A copy of the SHPD approval letter is presented in **Appendix "~~G~~*H*-3"**. The AMP will be implemented during applicable ground-altering activities for the project.

In accordance with Section 6E-43.6, Hawaii Revised Statutes and Chapter 13-300, Hawaii Administrative Rules, should any significant cultural deposits or human skeletal remains be uncovered during construction work, work will stop in the immediate vicinity of the find and the SHPD will be contacted immediately to establish the most appropriate level of mitigation. All applicable inadvertent discovery procedures will be followed.

***Project implementation is not anticipated to present impacts on offsite archaeological resources located within the State-owned Conservation lands to the west of the project site. There are no construction improvements proposed for these mauka conservation lands in conjunction with the implementation of Project District 12, nor are there any new trail networks traversing the State-owned area planned for the subdivision.***

- **Utility Site**

The seven (7) sites, identified during the pedestrian survey on the utility site (TMK (2) 3-6-004:003 (por.)), were also deemed significant under Criterion D of the site significance criteria for the Hawaii State Register of Historic Places due to the relationship with the area's former use for sugarcane cultivation.

As recommended by the 2007 supplemental AIS, a program of limited archaeological monitoring will be implemented as a precautionary measure during grading and grubbing activities for those areas of the utility site currently heavily vegetated.

An AMP for the utility site has been prepared in accordance with the recommendation of the SHPD-approved AIS. Refer to **Appendix "~~G~~*H*-2"**. The AMP for the utility site was approved by SHPD on April 25, 2008. A copy of the SHPD approval letter is presented in **Appendix "~~G~~*H*-3".** The AMP will be implemented by MVI, LLC during applicable ground-altering activities for the proposed water system improvements.

As noted previously, should any significant resources be identified during construction of the improvements proposed for the utility site, work will cease within the immediate vicinity of the find and the SHPD will be contacted to establish the most appropriate level of mitigation.

**(2) Cultural Impacts and Mitigation**

Act 50 of the Hawaii State Legislature (2000) requires that Environmental Assessment (EA) and Environmental Impact Statement (EIS) documents include an assessment of cultural practices, and further mandates that the planning process takes said practices into account. Consequently, a Cultural Impact Assessment (CIA) report was also prepared by Scientific Consulting Services, Inc. for the project in June 2005. See **Appendix "~~H~~*I*"**. The CIA report

was based on consultation sought from various agencies and civic groups such as the Maui and Honolulu Offices of Hawaiian Affairs, the Maui Planning Department's Cultural Resource Planner, and the Central Maui Civic Club. Archival research was also conducted and historical source materials were consulted.

Based on these consultations and research, the report found no evidence that the project area had been used for traditional cultural practices in recent times, and concluded that Hawaiian rights related to gathering, access and other customary activities would not be affected by development on the project site. However, it was noted that analyzing the visual impact of development on traditional practices is difficult, given that some customs such as fishing that are located far off-site may utilize the project area as a visual landmark to locate culturally significant resources (a family fishing koa, for example). As appropriate, coordination with a cultural advisor will be undertaken during the plans preparation phase of work for the proposed project.

## 11. Air and Noise Quality

### a. Existing Conditions

***In regards to the air quality on Maui, the pollution information website, Scorecard, determines that the median Air Quality Index for Maui County was 35 in 2003 which indicates that the air quality in Maui County was "good". Additionally, the website cites that Maui County experiences 97 percent of days with "good air quality" as defined by EPA's Pollutant Standards Index.*** The Maalaea Bay area in general does not experience adverse air quality conditions. There is one notable point source of air contaminants in the local area, which is the power generation site owned and operated by Maui Electric Company. This industrial site is located more than 1,200 yards to the east of the project area. This source, however, is not considered a major source of pollution due to the regular occurrence of prevailing trade winds along the south coast. Other airborne pollutants that ~~do~~ exist can largely be attributed to ship exhaust from harbor traffic, vehicle exhaust from Honoapiilani Highway, ~~quarrying~~ operations of the nearby ~~Pohakulepo~~*Pohakea* quarry site and ***construction/demolition landfill, as well as*** the occasional burning of sugarcane by Hawaii Commercial & Sugar

Company. All of the above sources are relatively intermittent, however, and the prevailing tradewinds generally disperse suspended particulates to maintain a relatively high level of air quality in and around the project area.

Existing background noise in the project area is principally attributed to vehicle traffic on the surrounding roadways. The noise from inter-island flight paths of arriving and departing aircraft at Kahului Airport, located approximately nine (9) miles to the northeast of the project area, represents another occasional source of noise to the surrounding area. ***Input received on February 8, 2010 from the State Department of Transportation confirms that, while the project area lies outside of the 55-decibel day-night average sound level noise contour for Kahului Airport (OGG), it is located below the primary instrument approach paths for aircraft traveling to the airport.*** It should also be noted that intermittent noise from wind adds to the overall ambient noise level from all of the aforementioned human sources.

**b. Potential Impacts and Proposed Mitigation Measures**

Air quality impacts attributable to the proposed project will include dust generated by short-term construction-related activities. Site work such as clearing, grubbing and grading, and roadwork and construction will generate airborne particulates. In addition to regular watering and sprinkling, the following measures will be implemented by the applicant's contractor during construction activities to minimize the proliferation of fugitive dust, in accordance with Hawaii Administrative Rules, Chapter 11-60.1, Air Pollution Control.

Use of wind screens and/or limiting the area that is disturbed at any given time will help to contain fugitive dust emissions. Wind erosion of inactive areas of the site that have been disturbed will be controlled by mulching, as appropriate. Trucks hauling soil material will be covered to mitigate wind-blown dust impacts. A routine road cleaning and tire washing program will help reduce fugitive dust emissions from trucks/vehicles tracking dirt onto nearby paved roadways. Installation of landscaping early in the construction schedule will also help to control dust.

During the construction phase, emissions from engine exhaust will occur from onsite construction equipment and other construction related vehicles. Increased vehicular emissions due to traffic disruptions by construction

equipment or vehicles entering/exiting the site will be mitigated by moving equipment during off-peak hours. Construction related emissions will be limited to the development period of the project.

***As requested by the State Land Use Commission, a review of a previously published air quality study, prepared by B.D. Neal & Associates, for the Pulelehua Final Environmental Impact Statement in 2005 has been completed. The proposed Pulelehua community is similar in scope, acreage, and number of housing units to the proposed project. The report indicated that motor vehicles would result in a long-term increase in emissions, however, it was expected that the emission concentrations will remain well within Federal and State standards. The study further concludes that significant long-term air quality impacts due to indirect emissions from the community's electrical power and solid waste needs are unlikely. The air quality study that was completed for Pulelehua provides a good indication of the air quality impacts of the proposed Ohana Kai Village Affordable Housing Project because of the two (2) project's similarities in scope. As such, it is reasonable to conclude based on the Pulelehua Study that the overall long-term impact of the proposed project on air quality is not anticipated to be significant given the predominantly residential character of the proposed master-planned community.***

As noted previously, existing quarrying, ***construction/demolition landfill,*** and crop cultivation activities are located on agricultural lands ~~located~~ to the north and east (beyond the Honoapiilani Highway) of the proposed project site. As is the case with many other residential areas around Maui, dust impacts produced as a result of these activities are temporary or intermittent in nature and are usually quickly dispersed by the strong winds that frequent Maui's central valley. The Maalaea area is recognized as being a particularly windy region, a fact reflected by the siting of the Kaheawa wind farm above McGregor Point to the southwest of the project area.

***Current plans to expand the Pohakea quarry site are not expected to present significant impacts as the size of the area to be utilized for "active" quarrying operations is anticipated to remain the same. Furthermore, the expansion of the quarry area is not a reflection of increased rate of production as quarrying operations will continue on a demand-based production schedule, as currently conducted. In addition to the spatial relationship between the project site and the future geographic direction of***

*quarrying operations (away from Ohana Kai Village), it is also noted that the quarry operator is obligated to comply with applicable environmental rules and regulations. In particular, it is noted that the decision and order for a State Special Use Permit for the expansion of the quarry (Docket No. SP06-400) provides for the following:*

> *Condition No. 12: That upon cessation of the Pohakea Quarry operations, the Applicant, including the owners of the land shall prepare a closure plan to revegetate the site or other measures to reduce erosion. The closure plan shall be reviewed and approved by the County Planning Department.*
>
> *Condition No. 13: That the Applicant shall incorporate applicable Best Management Practices ("BMP") to mitigate noise, dust, runoff and infiltration related to the Pohakea Quarry.*
>
> *Condition No. 19: That the Applicant shall maintain its existing State Department of Health air quality permits throughout the operation of the Pohakea Quarry and shall obtain any additional air quality permits that may be required for the quarry expansion.*

*In this context, MVI, LLC seeks to work with the quarry operator over the course of the quarry's permit duration to ensure a cooperative basis for addressing areas of mutual interest and concerns.*

*In regards to the construction/demolition landfill located at the intersection of North Kihei Road and Honoapiilani Highway, the Integrated Solid Waste Management Overview (prepared for the County of Maui, Department of Environmental Management, Solid Waste Division in February 2009) recommends that the County design, build, and operate a construction and demolition facility. The recommendation includes locating the new construction and demolition facility in a central location near other solid waste facilities, thus relocating the construction and demolition facility away from Maalaea.*

*In the context of implementing Project District 12 of the Kihei-Makena Community Plan as a residential growth area for Maui County, MVI, LLC*

***supports the planned closure of the Maui Construction and Demolition Landfill and the relocation of this facility to a more centralized location. Furthermore, MVI, LLC understands that the existing facility is approaching capacity and is expected to require closure prior to substantial completion of the proposed Ohana Kai Village Project. The existing operations are, therefore, categorized as short-term in nature and are not expected to result in the generation of long-term air and noise impacts on residents living throughout the Ohana Kai Village community.***

Based on the foregoing considerations, the nearby quarrying, ***construction/demolition, landfill,*** and agricultural operations are not anticipated to present significant ***long-term*** adverse impacts on the proposed ***Ohana Kai Village*** subdivision. ~~Current plans to expand the quarry site are not expected to present significant impacts as the size of the area to be utilized for "active" quarrying operations is anticipated to remain the same.~~

In regards to noise considerations, ambient noise conditions will be temporarily impacted by construction activities. Heavy construction equipment, such as bulldozers, front-end loaders, and material-transport vehicles, will likely be the dominant source of noise during the construction period. Potential for short-term noise impacts from construction activities will be minimized through the use of sound attenuating devices and equipment mufflers. Should noise during the construction phase of the project exceed the maximum allowable levels, a noise permit may be required.

After the completion of construction, noise generated by stationary mechanical equipment (e.g. compressors and HVAC equipment) at the site will meet applicable noise standards. The planning and design of the project will take into account means to attenuate noise from such facilities through proper placement and design. Landscaped buffer areas will be integrated within the project to mitigate potential noise impacts from the ancillary village town center and public/quasi-public land uses, as well as from the neighboring Honoapiilani Highway.

***In regards to the long-term noise impacts from the proposed project, the 2005 Pulelehua Final EIS published a noise study prepared by D.L. Adams Associates, Ltd. Again, the proposed Pulelehua community is similar in scope, acreage, and number of housing units to the proposed project. The***

***Pulelehua noise study indicated that traffic noise would be the predominant human activity in a community that would affect ambient noise patterns. It concluded that the increase in traffic-related noise, which was less than 2 dB, was not considered significant and would not be perceptible to most people. The noise study that was completed for Pulelehua provides a good indication of the noise impacts of the proposed project because of the two (2) project's similarities in scope. As such, it is reasonable to conclude based on the Pulelehua noise study that the overall long-term impact of the proposed project on noise is not anticipated to be significant.***

In regards to noise impacts from Honoapiilani Highway and existing industrial and agricultural uses to the north of the project site, a review of relevant noise studies revealed that, for residential exterior environmental noise, a day-night average sound level should not exceed 65 dBA, according to the U.S. Department of Housing and Urban Development (HUD) and the U.S. Environmental Protection Agency (EPA). Intermittent noise produced by nearby quarrying and crop cultivation activities and vehicle usage along Honoapiilani Highway, is not anticipated to raise ambient noise levels above this threshold. A minimum 100-foot wide open space buffer will be provided along the eastern perimeter of the site to reduce noise impacts from vehicles traveling along the Honoapiilani Highway. It is anticipated, therefore, that noise attributed to existing neighboring land uses will not adversely impact the proposed project.

***Given the project's location below the primary approach paths for aircraft traveling to Kahului Airport (OGG), MVI, LLC will work with the State Department of Transportation, Airports Division, regarding the granting of a avigation and noise easement for the project site, as applicable. Further, MVI, LLC will notify prospective owners of the homes within the proposed subdivision regarding the potential for noise impacts to be generated by aircraft passing through the area.***

The overall long-term impact of the proposed project on ambient air and noise levels is not anticipated to be significant given the predominantly residential character of the proposed master-planned community.

## 12. Scenic and Open Space Resources

### a. Existing Conditions

~~The project area~~*Maalaea* is located along ~~the slopes of~~ the southwest coastline of Maui, an area, like many other areas on the island, that offers beautiful scenic views. Scenic resources in the vicinity of the ~~property~~*project site* include the Pacific Ocean, the West Maui Mountains to the west and Haleakala to the east. Open space resources around the property are characterized by the vast expanse of agricultural land in the Central Valley that lies to the north of Maalaea and Kihei. ***It is noted that the project area has not been designated by the County of Maui as a scenic or natural resource requiring special protection.***

### b. Potential Impacts and Proposed Mitigation Measures

***The proposed Ohana Kai Village Affordable Housing Project will utilize currently fallow agricultural lands to provide affordable housing for local residents. The conversion of such lands in this area of Maalaea, will change the landscape to one of a single-family residential subdivision with commercial and public/quasi-public elements. As in all matters of countywide interest, where differing points of view arise, the use of vacant and underutilized lands for housing development must be considered in terms of long-term community benefit, in this case the provision of housing for local people. The fact that a majority of new development results in the replacement of vacant lands within an urbanized setting does not necessarily hold adverse consequences for scenic and open space resources. MVI, LLC believes this to be the case for its Ohana Kai Village Affordable Housing Project and is committed to developing the project in a manner which will respect the architectural and landscape architectural values of the island.***

The elevations of the project site extend from approximately 40 feet above median sea level (amsl) on the southern extent to approximately 210 feet amsl on the northern, mauka boundary of the property. The proposed residential community will be developed as an architecturally integrated master planned area with low-rise residential structures. Mass grading of the site will be undertaken in phases in accordance with applicable legislation. Landscaping will be installed as part of the development improvements to ensure visual buffering and softening of the built landscape. Significant

adverse impacts to scenic or open space resources are not anticipated to result from the project. Design standards will establish landscaping details within open space, roadways, public and quasi-public facilities, and buffer zones. The project will also incorporate parks and open space to provide local view corridors through the subdivision. ~~No significant view corridors will be impacted by the proposed project.~~

***A view analysis has been prepared to show the elevational relationships between the project site, the Honoapiilani Highway and surrounding scenic and open space resources in the area, including the West Maui Mountains. See Appendix "J". Implementation of the proposed Ohana Kai Village Affordable Housing Project is not anticipated to present impacts on significant view corridors in the Maalaea area. This evaluation is based on the incorporation of a 100-foot open space corridor within the project along Honoapiilani Highway, the low rise nature of the proposed single-family homes and ancillary land uses within the subdivision and the parcel's existing designation as Project District 12 in the Kihei-Makena Community Plan.***

## B. SOCIO-ECONOMIC ENVIRONMENT

### 1. Regional Setting

#### a. Existing Conditions

From a regional standpoint, the project site is located within the Kihei-Makena Community Plan region, which stretches from Maalaea in the north down to La Perouse Bay in the south. The region contains a diverse range of physical and socio-economic environments. With its dry and mild climate and proximity to recreation-oriented shoreline resources, the visitor-based economy has grown steadily over the years. The town of Kihei serves as the commercial and residential center of the region with the master-planned communities of Wailea and Makena serving as the focal point for the majority of visitor activities. A number of internationally recognized luxury hotels and golf courses are located along the coastline at Wailea and Makena. The community of Maalaea is located on the coast on the western side of Kihei near McGregor Point.

Existing and proposed land uses surrounding the project site are indicative of

growth trends anticipated for the Maalaea area. The Maalaea Triangle, a commercial center with shops, restaurants, an aquarium and commercial recreational uses, lies to the immediate east of the project area. Project District 11, a 650-acre future growth area (as designated in the Kihei-Makena Community Plan), lies to the northeast of the project site. Lands underlying the Project District 11 area are currently being utilized for sugarcane cultivation activities. There are a number of condominiums in Maalaea along the coastline further to the east of the project site, which are both owner occupied and operated as transient vacation rentals. The land bordering the shoreline to the south of the property is currently characterized by single-family residences.

**b. Potential Impacts and Proposed Mitigation Measures**

The full-time residential nature of the proposed project is anticipated to balance surrounding land uses, as Maalaea, until recently, has been primarily associated with commercial and recreational activities surrounding the harbor as well as a higher than average short-term and part-time residential use. In total, Maalaea currently possesses approximately 560 residential apartment/condominium units, a large portion of which are rented on a short-term basis to visitors, while the number of existing single-family homes is significantly lower. The project site constitutes Project District 12 of the Kihei-Makena Community Plan, and as such has been earmarked for development as a residential area.

The intent of MVI, LLC is to provide a new source of affordable housing for Maui's local families in the context of a master planned community. Towards this end, aesthetic elements have been considered and incorporated in the planning process, to include a minimum 100-foot open space buffer along Honoapiilani Highway. Landscape planting and maintenance requirements (through CC&Rs) within the subdivision will also advance MVI, LLC's desire to encourage aesthetic pride by homeowners. While the provision of new housing supply for Maui residents at this locale will replace fallow agricultural lands, the proposed project will maintain a low rise architectural theme, open space, and park areas for visual relief, and landscaping which complements the surrounding natural and man-made environs.

The proposed project will add diversity to the local housing market and

increase the percentage of single-family units and permanent residents in the Maalaea area. Additionally, the development will complement the existing commercial centers of Maalaea Triangle and Maalaea Small Boat Harbor located adjacent to the project site.

The proposed project is, therefore, considered to be compatible with the other urban land uses in the surrounding Maalaea area.

## 2. Population and Demography

### a. Existing Conditions

The Kihei-Makena Community Plan region has experienced a significant population growth over the last three (3) decades. In the year 2000, the population of Maui was 117,644, with 22,870 people (19.4 percent) of the island's population residing in the Kihei-Makena Community Plan region (SMS, June 2002). The growth in the population of the Kihei-Makena Community Plan region since 1970 has been considerable, with population increasing from 1,636 in 1970, to approximately 7,263 in 1980, and to 15,365 in 1990. Over the past 40 years, the Kihei-Makena Community Plan region has experienced a fourteen-fold (14) increase in resident population, which is expected to rise further over the coming years. The resident population of Maui is projected to increase to 151,300 by the year 2010, with a projected 28,114 people (18.6 percent) residing in the Kihei-Makena area (SMS, June 2006).

### b. Potential Impacts and Proposed Mitigation Measures

The proposed project is intended to meet a portion of resident demand for affordable housing, which will result in a slight increase in the population of the region. Based on the ~~2006~~***2009*** County average of three (3) persons per household (Maui County Data Book, ~~2006~~***2009***), approximately 3,300 persons are calculated to occupy the 1,100 proposed units at full project build out. Given the relatively low level of permanent residential occupancy in Maalaea compared to other urban areas in Maui, the project would be anticipated to shift population and the demographic characteristics of this subregion of Maui. According to the 2000 U.S. Census, there were a total of 599 housing units in Maalaea, thirteen (13) of which were single-family owner-occupied units. The majority of housing in Maalaea are multi-family

units with 20 or more units per structure (U.S. Census Bureau, 2000). Information regarding owner occupancy and demographics was also obtained from the 2000 U.S. Census. According to this data, 44.8 percent of units within the Maalaea community are owner-occupied, whereas 55.2 percent are operated as either short-term or long-term rentals. The proposed project would alter the housing mix of the subregion with the addition of 1,100 single-family units. These additional residential units will increase the percentage of permanent residents living in the Maalaea region.

## 3. Economy and Labor Force

### a. Existing Conditions

The economy of Maui is heavily dependent upon the visitor industry, and the Kihei-Makena area provides a fine illustration of this characteristic. The presence of a high number of vacation condominiums along South Kihei Road, including Kihei Akahi, Kihei Kai Nani, Maui Banyan and Maui Kamaole to name but a few, reflects the fact that Maui's south coast has grown to be one of the most popular tourist destinations in the State. The Wailea Resort and Makena Resort, further reaffirm the island's economic dependence on tourism, with the presence of a number of major luxury hotels, such as the Fairmont Kea Lani, Grand Wailea, and Four Seasons Resort, all of which are located amongst internationally renowned golf courses.

The neighboring Maalaea Small Boat Harbor is an important source of Maui's economic sustenance as it represents one of the focal points for tourism on the island. Many of the commercial boat operators conduct Molokini snorkeling trips, whale-watching tours, deep sea fishing expeditions or sunset cruises on a regular basis. The popularity of the harbor as a tourist gateway can be attributed to its proximity to the airport in Kahului, the hotels in Kihei and Wailea, and Molokini crater, one of the top three (3) sightseeing destinations in Maui County.

As of ~~August 2009~~***June 2010***, the unemployment rates for the State of Hawaii, Maui County and the island of Maui were ~~7.2~~***6.9*** percent, ~~9.3~~***8.5*** percent and ~~9.1~~***8.4*** percent, respectively. This is considerably higher than the ~~July~~***May*** 2008 figures, which had unemployment rates at ~~4.3~~***3.8*** percent, ~~4.5~~***4.4*** percent, and 4.2 percent, respectively (State of Hawaii, Department of

Labor and Industrial Relations). ***These statistics are representative of unemployment rates before the current economic downturn began in late 2008.***

**b. Potential Impacts and Proposed Mitigation Measures**

On a short-term basis, the project will support construction and construction-related employment. Accordingly, the project will have a beneficial impact on the local economy during the period of construction, which is estimated at eight (8) years.

From a long-term perspective, project residents will require services related to family maintenance, goods, and services which are expected to further support local business owners. Real property taxes generated by the project residents will contribute to the County's revenue tax base to support any increase in regional public service demands over time.

A Fiscal and Economic Impact ***Assessment*** Report was completed for the proposed Ohana Kai Village Project in July 2009 by ACM Consultants, Inc. See **Appendix "~~H~~K"**. ***A counseling letter was prepared by ACM Consultants, Inc. on April 26, 2010 to supplement the analysis provided in the July 2009 Fiscal and Economic Impact Assessment Report. See Appendix "K-1".***

The report ***and subsequent supplemental counseling letter*** provides an assessment of the economic and fiscal benefits and impacts expected to be generated by the proposed residential subdivision project across both construction/development (assumed to be 8 years in duration) and operational time horizons.

Assessment of economic impacts takes into account various parameters, including sales revenues, expenditures, profits, employment and payroll. Assessment of fiscal impacts, on the other hand, addresses the impact of the proposed project on County and State revenue and expenditure streams.

Below is a summary of the main economic and fiscal impact considerations associated with the proposed Ohana Kai Village project:

- **Employment**

The project is anticipated to result in the generation of an average of approximately 335 construction-related employment positions during the 8-year construction period. The majority of construction positions related to the project are expected to be filled by the workforce currently residing in Maui County. Indirect employment generated by the proposed project is anticipated to average roughly 337 jobs on Maui and 166 on Oahu. Total employment associated with the project is, therefore, expected to be about 838 jobs during the development phase, of which 672 will be based on Maui island. Refer to **Appendix "~~I~~*K*"**.

- **County Revenue/Expenditure**

(1) **Development Phase**

County revenues during the project development are usually derived from fees that will offset County expenditures on infrastructure and facilities. The project will, however, provide a number of privately funded facility improvements as part of project implementation, including interior roadways, parks, water source development, interior water distribution, drainage systems, sewer connections, collector sewers and trunks and a Wastewater Treatment Plant (WTP). ~~As such, County expenditures during project development are expected to be negligible.~~***Further, the applicant will be requesting certain exemptions during the County Section 201H application process. Such exemptions, if approved, would allow waiver of certain assessments such as building/grading/electrical/plumbing fees, traffic and parks and playground assessment requirements. A summary of the Section 201H exemptions being requested for the project is presented in Appendix "P". Based on the County of Maui's schedule of Fees, Rates, Assessments and Taxes, the exemptions being requested for the Ohana Kai Village Project are estimated to total approximately $1.3 million in value. These exemptions are estimated, therefore, to amount to a yearly loss of $159,000.00 in revenue to the County of Maui during the 8-year development phase of the project. Refer to Appendix "K-1". While this represents negative revenue for the County, granting of the requested exemptions will facilitate the timely provision of affordably-***

***priced housing opportunities for working families on Maui.***

**(2) Operational Phase**

At full development, the County will receive revenues in the form of real property tax payments from project residents. Other revenue sources would likely include taxes such as fuel taxes, motor vehicle weight tax, water fees, solid waste disposal fees, etc. ~~On the other hand, County expenditures required to support the project in the operational phase are expected to be minimal given that all required infrastructure for the project will be privately developed, operated, and maintained.~~

~~Net revenues to the County generated by the project during the operational phase have been estimated to average approximately $407,000.00 per year. This is considered higher than average for a typical residential community characterized by both a large component of affordable housing and a high owner-occupancy rate allowing qualification for the County's homeowner exemption rate.~~ ***Real property tax revenue from the proposed Ohana Kai Village Affordable Housing subdivision is estimated at $407,000.00 per year. In addition to real property tax, other revenue streams include taxes and user fees such as fuel taxes, motor vehicle taxes, and community center fees, among others. Based on per-capita figures and the forecasted resident population at the proposed project, these additional sources of revenue are estimated at approximately $3.5 million, annually. After adding this figure to the annual real property tax estimate, total County revenues attributed to the project are estimated to be $3.9 million, per year.***

***Annual County expenditures for the project, on the other hand, would be incurred by the need to provide services to residents including governmental operations, emergency services, road maintenance, recreation, etc. Total expenditures by the County of Maui to support the Ohana Kai Village Affordable Housing Project (including debt service attributed to general improvement projects) is estimated to be $6.7 million per year.***

***The County of Maui is, therefore, estimated to face an annual expenditure, at full build-out, of approximately $2.8 million per year, which is not considered unusual for a affordable housing community given that the current***

***"Homeowner" tax class and Homeowner Exemption lessen the tax burden for owner-occupied residential properties. It is noted that the County tax system is designed to "subsidize" owner-occupant residential communities by collecting a larger portion of tax revenue from other classes (i.e. hotel/resort, time share, commercial, industrial, etc.).*** Refer to **Appendix "~~I~~K"*and Appendix "K-1"***.

- **State Revenue/Expenditure**

  **(1) Development Phase**

  The proposed project is expected to generate revenues to the State derived from a combination of tax streams, such as conveyance taxes, excise taxes and corporate and personal income taxes.

  Assessment of fiscal impacts associated with the development phase of the proposed project, therefore, suggests that the State will receive net revenues of approximately $47.9 million from project development activities. This net revenue equates to an annual average of about $5.9 million over the 8-year development phase. Refer to **Appendix "~~I~~K"**.

  **(2) Operational Phase**

  At full development, the project will generate revenues to the State through excise taxes, corporate and personal income taxes and other revenue streams, such as fuel tax, other sales taxes, etc. On the other hand, State expenditures required to support the project will include those related to education, general government, health, highway maintenance, parks and recreation, etc.

  ~~Annual net expenditures by the State of Hawaii to support the operation of the project are expected to average about $5.8 million per year.~~ ***Revenue to the State of Hawaii, based on per-capita figures and the number of residents at Ohana Kai Village Affordable Housing at full build-out, is estimated at approximately $12.1 million per year. On the other hand, total expenditures by the State of Hawaii, attributed to Ohana Kai Village Affordable Housing Project, are estimated at $18.6 million per year. Total net annual expenditures by the State of Hawaii during the operational phase is, therefore, expected to be approximately $6.5 million per year.*** Net expenditures in

this range are considered normal for a typical residential community with an affordable housing component and a high proportion of children of school age. Expenditures by the State for this project are expected to be offset by tax revenues derived from property development, visitors, higher-income families and commercial activities. Refer to **Appendix "~~I~~*K*"** ***and Appendix "K-1"***.

## 4. Housing

### a. Existing Conditions

A Market Study Report was prepared for the proposed Ohana Kai Village Project by ACM Consultants, Inc. in July 2009. Refer to ~~**Exhibit**~~***Appendix*** **"A"**.

The proposed Ohana Kai Village project is seeking to increase the supply of affordable housing for Maui's working families, at a time when housing is both expensive and in short supply on Maui. Over recent years, both resident and non-resident (offshore) demand for housing on Maui has intensified due to increased population growth and historically low interest rates. This strong demand, coupled with limited supply, has led to high housing prices. ~~With~~***While*** the median sales price of a single-family house and lot on Maui ~~over $500,000.00,~~***has decreased over the last five (5) years from approximately $675,000.00 in 2005 to $500,000.00 in 2009, prices are expected to gradually increase again from 2010/2011 onwards as the recovery from the global economic downturn continues. Even at the lower end of this price range ($500,000.00),*** many residents ***in Maui County*** have been unable to purchase their own homes. ~~The~~***In regards to housing projections,*** County of Maui, Socio-Economic Forecast (2006) estimates that total housing demand in Maui County will increase from 53,793 units in 2005 to 89,890 units in 2030, an increase of approximately 67 percent over 25 years. ~~The Hawaii Housing Policy Study Update 2003, estimates that an additional 4,072 resident housing units will be needed by 2010 to meet projected demand. According to the 2003 study, this number is anticipated to further increase to a 4,225-unit deficit in the supply of housing units on Maui by the Year 2020, based on production and population forecasts (SMS, 2003).~~

The project site is located in Maalaea, which occupies a relatively central

position between Wailuku, Kahului, South Maui, and West Maui. A range of housing types and conditions exists within these areas, from owner-occupied homes to ~~luxury~~ condominiums for part-time residents. While owner-occupied housing constitutes approximately 57.6 percent of all occupied housing units on Maui, the percentage varies from region to region. As noted earlier, Maalaea itself lacks a significant stock of permanent housing units and is characterized primarily by transitional rentals, which indicates a significantly lower rate of owner occupation than the County average.

According to the findings of the Market Study Report for the proposed project, the current short-term supply in Maui is approximately 1,893 units, of which 538 units are located in the South Maui region. This limited supply of housing units is forecasted to last approximately three (3) years when using an average annual absorption rate of 604 units/year. Refer to **Appendix "A"**. ***Further, projections contained within the 2003 Hawaii Housing Policy Study indicate that there will be a 4,225-unit deficit in housing units on Maui by the Year 2020 (SMS, 2003).*** A significant increase in housing supply will, therefore, be needed to accommodate the region's anticipated population growth in the future.

**b. <u>Potential Impacts and Proposed Mitigation Measures</u>**

The proposed project would add a total of approximately 1,100 residential units to the existing housing supply on Maui and will respond to the need to provide affordable housing opportunities to residents in both the near and long term. The housing products being proposed will provide healthy competition and allow for a more balanced housing market. In light of current and projected housing market conditions and prices, the proposed Ohana Kai Village project is considered to provide a significant community benefit by offering Maui residents new opportunities to secure affordable housing products. Moreover, the project site's attractive and central location relative to Maui's major residential and commercial centers suggests that its positive impact could be felt in several of Maui's localized housing markets. No significant negative impacts on housing conditions are anticipated with implementation of the proposed action.

To increase the supply of affordable housing within Maui County, the following program has been developed in conjunction with the land use plan

for the proposed Ohana Kai Village Project. This program consists of the following elements:

- Sixty (60) percent (660 units) of the proposed 1,100 single-family units will be made available for ***fee-simple*** purchase by qualified individuals in Below Moderate to Above Moderate (81 percent to 140 percent) median income groups at sales prices set forth by the Department of Housing and Human Concerns' (DHHC) Affordable Sales Price Guidelines. The applicant will work alongside the County of Maui ~~during the course of the EIS process~~***prior to project implementation*** to develop a formal selection program for the sale of these 660 units. ~~The~~***While each construction phase for the project will provide a mixture of both affordable homes (sold in accordance with the DHHC selection program) and those units sold in accordance with market demand (as described below), the*** applicant ~~will ensure~~***is committed to ensuring*** that ~~80 percent~~***160 units (80 percent)*** of the first 200 units constructed for the project are ~~sold pursuant to the requirements of this selection program~~***made available for purchase by qualified affordable homebuyers in the Below Moderate to Above Moderate (81 percent to 140 percent median income) group***.

- The remaining forty (40) percent (440 units) of the 1,100 single-family units will be offered for sale in accordance with market demand. To maintain the affordability of these units, the applicant will set prices for these homes at or below the upper threshold of pricing for the Gap Income (141 to 160 percent) median income group, as defined in the DHHC Affordable Sales Price Guidelines.

The proposed affordable housing allocations are presented in ~~Table 4~~***Table 10*** below.

~~Table 4~~*Table 10.* Affordable Housing Program

| Income Group | Income Range (% of Median Income) | Affordable Unit Allocation % | Affordable Unit Allocation Unit Count | Estimated Fee Simple Price Range* | |
|---|---|---|---|---|---|
| Below Moderate Income | 81-100% | 20% | 220 | ~~$264,801.00~~ ***$266,901.00*** | ~~$330,900.00~~ ***$333,600.00*** |
| Moderate Income | 101-120% | ~~20~~*31*% | ~~220~~*341* | ~~$330,901.00~~ ***$333,601.00*** | ~~$397,100.00~~ ***$400,300.00*** |
| Above Moderate Income | 121-140% | ~~20~~*9*% | ~~220~~*99* | ~~$397,101.00~~ ***$400,300.01*** | ~~$463,300.00~~ ***$467,000.00*** |
| Gap Income Group | 141-160% | 40% | 440 | ~~$463,301.00~~ ***$467,001.00*** | ~~$529,500.00~~ ***$533,700.00*** |
| | | **TOTAL** | **1,100 Units** | | |

** Based on 2009 DHHC Affordable Sales Price Guidelines (Using 6.0% Prevailing Interest Rate for a 3-Bedroom Unit)*

With implementation of the foregoing program, the proposed Ohana Kai Village project will help to meet both current and future demand for affordable housing in the Maui residential market.

## C. PUBLIC SERVICES

### 1. Police and Fire Protection

#### a. Existing Conditions

The project area is within the Maui Police Department's (MPD) service area, the headquarters for which are located in Wailuku. The MPD consists of several patrol, investigative and administrative divisions. The project area falls within the Kihei Patrol District, the MPD service that covers the Kihei-Makena Community Plan region. The Kihei substation is located at the Kihei Town Center near Foodland about five (5) miles from Maalaea.

The Maui County Department of Fire and Public Safety provides fire prevention, suppression, protection and emergency services to the islands of Maui, Lanai, and Molokai from 14 fire stations and a fire prevention office. The department's Kihei station, which services the Maalaea and Kihei areas,

is situated on South Kihei Road in central Kihei. The Makena-Wailea area is covered by a separate Wailea Fire Station located on Kilohana Drive. Other Central Maui stations are located in Wailuku Town and in Kahului, on Dairy Road.

### b. Potential Impacts and Proposed Mitigation Measures

The proposed project will create a need for additional services for fire and police protection. However, the project is located adjacent to existing residential and commercial areas which are currently afforded similar services. As the project is developed over the build-out period, real property tax revenues generated from the project would be allocated for these public services in the form of additional personnel and support services.

## 2. Medical Facilities

### a. Existing Conditions

The only major medical facility on the island is Maui Memorial Medical Center, which is located in Wailuku about eight (8) miles in distance away from the project area. The ~~231~~*201*-bed facility provides general, acute, and emergency care services ***(Maui Memorial Medical Center, 2010)***.

Clinics and offices throughout both the Kihei/Wailea and Wailuku/Kahului areas, however, offer medical services on a lesser scale. Such clinics include Kihei Clinic and Wailea Medical Services, Kihei Pediatric Clinic, Kihei Physicians and the Kihei-Wailea Medical Center, Maui Medical Group and Kaiser Permanente.

### b. Potential Impacts and Proposed Mitigation Measures

As previously noted, State revenues generated in the form of excise, income and related taxes, would be used to fund State government services, including health care provided by the Maui Memorial Medical Center. As private sector demand for services increases over time, it is anticipated that such demand will be met through private sector initiatives. An example of such an initiative includes Kaiser Permanente's recent completion of its Maui Lani Clinic.

## 3. Educational Facilities

### a. Existing Conditions

The project site is located between the communities of Wailuku/Kahului and Kihei/Wailea. These regions are served by the Department of Education's (DOE) public school system, as well as several privately operated schools accommodating elementary, intermediate, and high school students. The State DOE operates three (3) schools in the Kihei area. Kihei Elementary School and Kamalii Elementary School covers grades K to 5, each with enrollments of approximately 800 students. Lokelani Intermediate School includes grades 6 to 8, with similar approximate enrollment. The Kihei Charter High School is also located in the region with an approximate enrollment of 150 students (Department of Education). The majority of public school students in grades 9 through 12 attend Maui High School located in Kahului. The DOT is currently in the planning and design phase to develop a high school in Kihei.

DOE facilities in the Kahului area include Lihikai, Kahului, and Pomaikai Schools (Grades K-5), Maui Waena Intermediate School (Grades 6-8) and Maui High School (Grades 9-12). Existing facilities in the Wailuku area include Waihee Elementary School (Grades K-5), Wailuku Elementary School (Grades K-5), Iao Intermediate School (Grades 6-8) and Baldwin High School (Grades 9-12). ~~Maui Community College, a branch of the University of Hawaii system,~~***University of Hawaii - Maui College*** is the primary higher education institution serving the County.

### b. Potential Impacts and Proposed Mitigation Measures

The project involves the construction of 1,100 single-family units in a residential subdivision with ancillary, commercial, and public/quasi-public land uses. According to input received from DOE, the proposed subdivision would be located within the Baldwin High complex area. The schools in the complex area most likely to serve the proposed project include Wailuku Elementary School, Iao Intermediate School, and Baldwin High School. ~~Table 5~~***Table 11*** below summarizes the facility capacity and 2008 enrollment figures ***(as provided by DOE during the EIS Preparation Notice review process)*** for these schools.

~~Table 5~~*Table 11.* Schools Serving Waikapu/Maalaea: Facility Capacity and Actual Enrollment

| School Facility | Capacity | 2008 Enrollment (% of Capacity) |
|---|---|---|
| Wailuku Elementary School (K-5) | 1,110 | 79% |
| Iao Intermediate School (6-8) | 883 | 112% |
| Baldwin High School (9-12) | 1,542 | 91% |

As shown in ~~Table 5~~*Table 11*, enrollment at Wailuku Elementary School and Baldwin High School was under capacity during the 2008 school year. Enrollment, however, for Iao Intermediate School exceeded capacity during the same school year.

***It is also noted that the recently opened (in 2007) Pomaikai Elementary School in Maui Lani may also serve students from the proposed Ohana Kai Village Affordable Housing Project.***

~~Early consultation~~***Consultation*** with DOE has indicated that the proposed project will be subject to ~~fair share~~***educational*** contribution requirements. ~~MVI, LLC is currently proposing to include lands for a school facility in the 16-acre public/quasi-public site that is part of the Ohana Kai Village subdivision.~~***To offset the educational impact of the project of State school facilities, MVI, LLC is also proposing to facilitate the construction of a charter school within the 16-acre public/quasi-public component of the subdivision. The charter school is envisioned as a 440 student educational facility.*** Refer to **Figure 4** ***(on Page 6)***. ***No construction funds will be requested from the DOE for the upfront development of the charter school. Once completed by MVI, LLC, it is anticipated that the school facility will be sold or leased to a charter school organization. Funding for the operation of the charter school would be provided by the DOE.*** The construction of a facility at this location would provide educational services to residents within the subdivision and to the outlying communities of North Kihei and Waikapu. ~~The applicant will coordinate with the DOE to discuss the land area set aside for educational purposes.~~***The applicant will continue coordination with the DOE regarding the satisfaction of educational contribution requirements for the project.***

## 4. Recreational Facilities

### a. Existing Conditions

Diverse recreational opportunities are available in both the Kihei-Makena and Wailuku-Kahului Community Plan regions. Shoreline activities, such as fishing, surfing, jogging, camping, picnicking, snorkeling, swimming, and windsurfing, are by far the predominant form of recreation in the area. In addition, residents and visitors are drawn to Maalaea by the small boat harbor, which provides diverse ocean-related recreational opportunities. The County's Haycraft Park is located to the south of the project area at the terminus of Hauoli Street, and provides access to a sandy beach with paved parking, a portable restroom, and shower facilities. Other public park facilities within a relatively short driving distance of the project site include Memorial (Ma Poina), Waipuilani, Kalepolepo, Kalama and Kamaole I/II/III Beach Parks, located to the southeast about between three (3) and seven (7) miles away along the Kihei coastline. Additionally, recreational resources available in Kihei and Wailea, include the Kihei Community Center as well as resort-affiliated, world-class golf courses and tennis centers.

The Lahaina Pali Trail provides land-based recreational activities mauka of the project site. The trail offers hikers scenic views of the island of Kahoolawe and Lanai.

### b. Potential Impacts and Proposed Mitigation Measures

According to the Kihei-Makena Community Plan, Project District 12 should include approximately 27 acres for parks, open space, and buffer zones. These guidelines were taken into consideration as the preliminary layout for the Ohana Kai Village Project was prepared.

The proposed project will provide ~~16~~*21.57* acres for Public/Quasi-Public uses, including parks, and ~~20~~*21.36* acres of open space. The recreational facilities proposed within Ohana Kai Village will complement the existing public recreational opportunities within the Kihei-Makena region. ***Additional opportunities for residents to participate in non-active forms of recreational activities (i.e., walking, and jogging) will be provided through a network of pedestrian and bicycle paths throughout the proposed subdivision. For example, the 100-foot open space buffer area along the Honoapiilani Highway boundary of Project District 12 will be designed to incorporate***

***landscaping and a pathway to promote the use of non-vehicular forms of transportation within the subdivision. See Figure 11.***

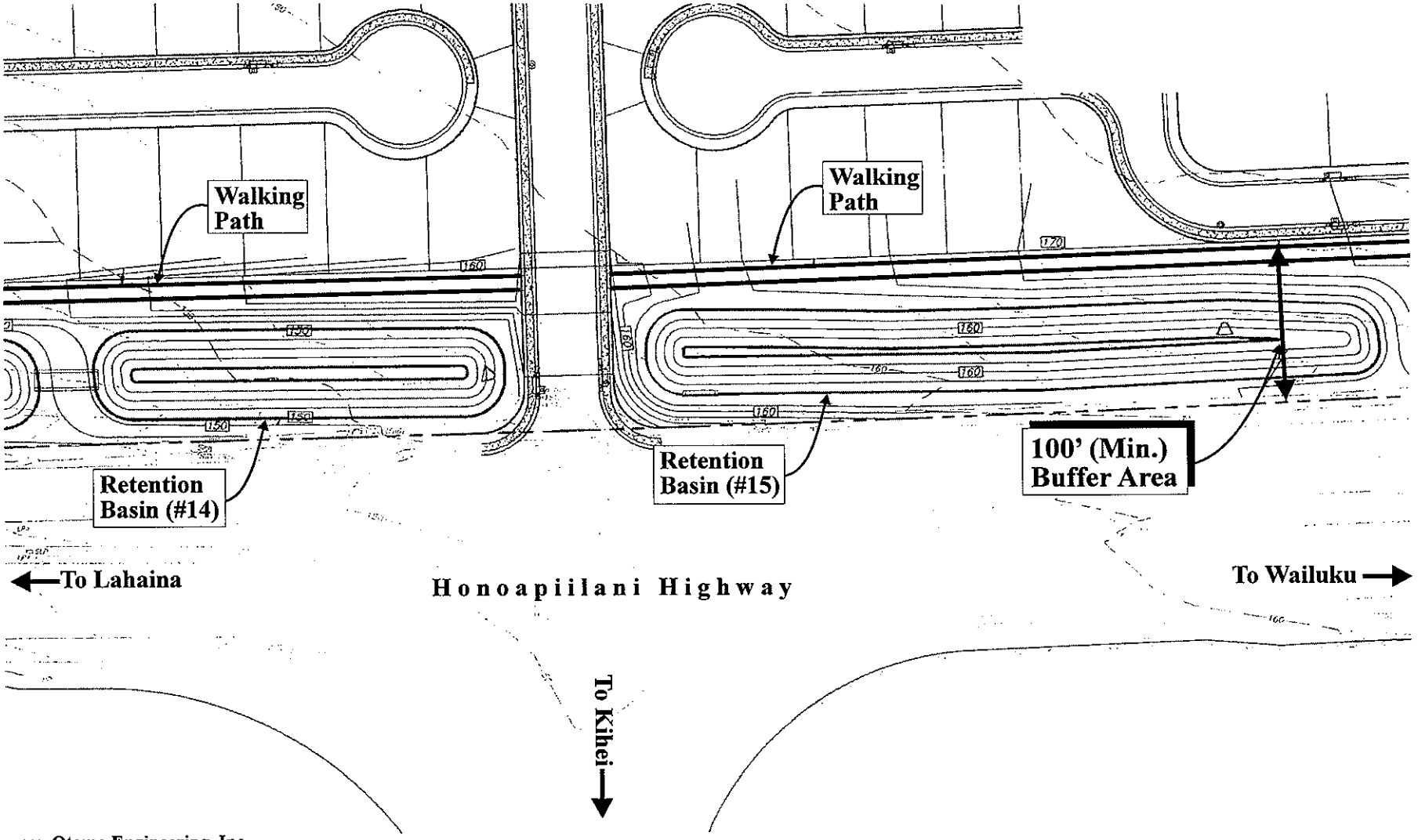
With regards to the Lahaina Pali Trail, the applicant is committed toward ensuring the preservation and enhancement of access opportunities to this important cultural and recreational resource. As such, coordination will be undertaken with the Department of Land and Natural Resources (DLNR) to ensure that design considerations (such as parking facilities), appropriate with regards to current and projected use patterns, are incorporated into the proposed project.

## 5. Solid Waste Disposal

### a. Existing Conditions

The County of Maui currently owns and operates two (2) landfills and one (1) waste transfer station on the island of Maui. Single-family residential solid waste collection service is provided by the County of Maui on a once-a-week basis to communities around the island. Residential solid waste collected by County crews is disposed of at the County's Central Maui Landfill (CML) facility, located 4.0 miles southeast of the Kahului Airport. The CML consists of six (6) design phases and accepts all types of municipal waste with the exclusion of regulated hazardous wastes, commercial construction, and demolition debris. Phase 1 and Phase 2 of the CML are full and have been closed by the County. The capacity of the remaining phases (not including Phase 3 which is used for continuous composting operations) is estimated at approximately 11,253,000 cubic yards. Based on data from the 2007 Public Facilities Update Report prepared by R.M. Towill Corporation for the County of Maui, the CML is currently operating at a steady fill rate of 425 tons per day.

Privately owned facilities, such as the Maui Demolition and Construction Landfill and the ~~Pohakulepo~~***Pohakea*** Concrete Recycling Facility, accept solid waste and concrete from demolition and construction activities. These facilities are located at Maalaea, near Honoapiilani Highway's junctions with North Kihei Road and the Kuihelani Highway. A privately operated green waste recycling facility is located at the Central Maui Landfill.




Source: Otomo Engineering, Inc.

Figure 11

# Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

## Enlarged Plan of 100-Foot Open Space Buffer

NOT TO SCALE

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/DraftEIS/openspacebuffer

## b. Potential Impacts and Proposed Mitigation Measures

Solid waste generated within the proposed subdivision will be served by private waste collection services. To obtain an estimate for planning purposes, an average residential waste generation rate of 2.3 tons/household/year (taken from the County of Maui's Integrated Solid Waste Management Plan) was applied to the number of residential units within the proposed subdivision (County of Maui, 2009). For the proposed project, it is estimated that approximately 7 tons of residential solid waste will be generated each day.

The 2007 Public Facilities Update Report uses population growth estimates to forecast cumulative waste volumes for the CML up to the year 2030. Based on this data, the CML has been determined to have adequate capacity to accommodate projected increases in solid waste generation rates for the CML service area through the year 2025.

***MVI, LLC will also develop a Construction Waste Management Plan prior to the implementation of the Proposed Ohana Kai Village Affordable Housing Project. The goal of the plan will be to divert construction waste streams, where practical, away from landfill. Opportunities to be evaluated as part of this plan will include, but not be limited to, the following:***

- ***Assessment of waste streams and estimated quantities to be generated during project construction activities.***
- ***Coordination with contractors to identify and implement onsite waste minimization techniques and material handling procedures aimed at reducing the volume of construction waste generated during the development activities related to the project.***
- ***Designation of specific waste storage areas on construction site for separation of specific materials.***
- ***Identification of reuse and recycling opportunities and redirection of suitable materials (including land clearing debris) to appropriate sites, including donation to charitable organizations such as the Habitat for Humanity Maui ReStore.***

The proposed project is, therefore, not anticipated to affect the service capabilities of the County's ~~residential~~ waste ***disposal*** operations.

# D. INFRASTRUCTURE

## 1. Roadways

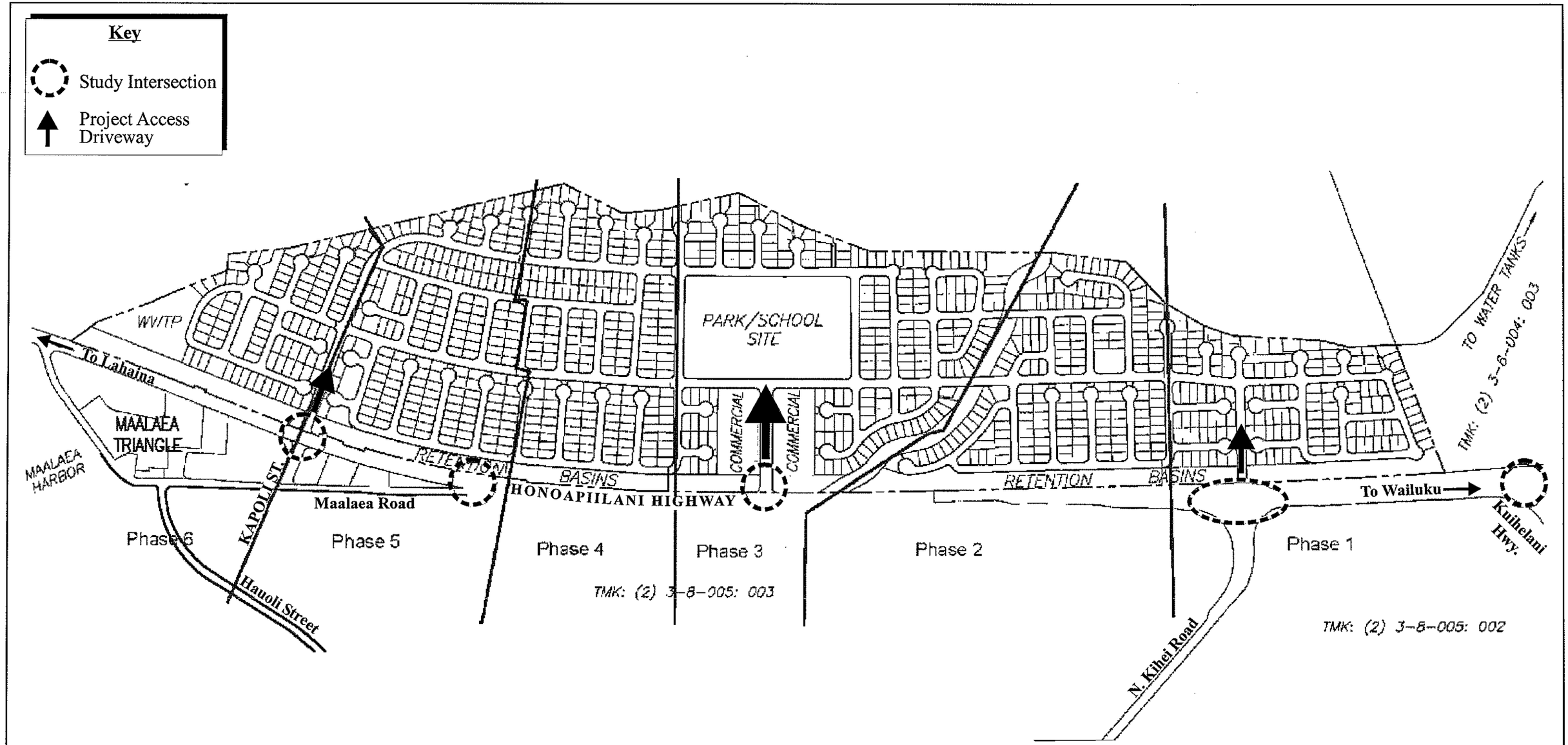
### a. Existing Conditions

The project site is served by the adjacent Honoapiilani Highway, the single route of access for vehicles traveling between West Maui and Central Maui. Honoapiilani Highway is a two-lane highway for the majority of its length; however, it widens into a four-lane highway in the immediate vicinity of the project site. The highway also widens from two (2) to four (4) lanes north of Kuihelani Highway.

There are two (2) intersections located to the east of the project site, which lead onto Kuihelani Highway and North Kihei Road. See **Figure 12**. The Kuihelani Highway provides a direct route to Kahului, including the Kahului Airport. North Kihei Road transitions into South Kihei Road and Piilani Highway which provides access to the residential, commercial and resort areas located further along the south coast of Maui, such as Kihei, Wailea and Makena. Other local roads in the vicinity of the project area include Maalaea Road and Kapoli Street.

Honoapiilani Highway, Kuihelani Highway, and North Kihei Road are all under the jurisdiction of the State of Hawaii, Department of Transportation ***(SDOT)***. Honoapiilani Highway is designated as Route 30 and has a posted speed limit of 45 miles per hour (mph) in the vicinity of the project site. Kapoli Street provides access to the Maalaea Triangle. The four-lane roadway approaches Honoapiilani Highway at a signalized intersection.

Maalaea Road is a two-lane County-owned roadway that serves the Maalaea Small Boat Harbor, Maalaea Triangle and adjoining land uses. Maalaea Road meets Honoapiilani Highway at two (2) points, north and south of the Maalaea Triangle, both unsignalized intersections. Refer to **Figure 12**.




Source: AECOM Pacific, Inc.

Figure 12 Proposed Ohana Kai Village Affordable Housing Project and Related Improvements
Traffic Study Intersections

NOT TO SCALE

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/FinalEIS/trafficstudyintersec

b. **Potential Impacts and Proposed Mitigation Measures**

An internal road network will serve the proposed subdivision while three (3) access roads will connect onto Honoapiilani Highway. Two (2) access roads will connect with Honoapiilani Highway at the existing signalized intersections of North Kihei Road and Kapoli Street. A third new signalized intersection will be installed along the highway midway between the above noted access roads. Refer to **Figure 12**.

A Traffic Impact Analysis Report (TIAR) was prepared for the purposes of assessing traffic impacts attributed to the proposed project and to identify appropriate measures to mitigate these impacts. See **Appendix "~~JJ~~*L*"**. In the period before the expected opening of a project, ambient traffic on area roadways is expected to increase due to regional growth and new projects in the area. In preparing estimates of future traffic volume conditions, ambient traffic increases are added to the anticipated project generated traffic. The TIAR examined existing and future traffic conditions with and without the project utilizing accepted methodological protocols for trip generation, traffic assignment and level of service (LOS) analysis. LOS is a qualitative measure used to describe the conditions of traffic flow, with values ranging from free flow conditions at LOS A to congested conditions at LOS F.

A summary of the anticipated Levels of Service (LOS) at major intersections in the vicinity of the project site (refer to **Figure 12**) without any mitigation is presented in ~~**Table 5**~~*Table 12* below:

~~Table 5~~*Table 12*. Level of Service (LOS) Analysis for Existing Signalized Intersections Along Honoapiilani Highway

| Intersection Approach Movement | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | 2009 | 2019 | | 2009 | 2019 | |
| | Existing | Without Project | With Project (No Mitigation) | Existing | Without Project | With Project (No Mitigation) |
| | LOS | LOS | LOS | LOS | LOS | LOS |
| **KUIHELANI HIGHWAY INTERSECTION** | C | C | C | C | C | C |
| Kuihelani Highway Ext EB | D | D | D | D | D | D |
| Kuihelani Highway WB | C | C | C | C | C | C |
| Honoapiilani Highway Hwy NB | B | B | C | B | B | C |
| Left Turn Lane | D | D | D | D | D | D |
| Through Lanes | C | C | D | C | C | D |
| Honoapiilani Highway SB | C | C | C | B | C | C |
| Left Turn Lane | D | D | D | D | D | D |
| Through Lanes | B | C | C | B | B | C |
| **NORTH KIHEI ROAD INTERSECTION** | C | C | D | C | C | D |
| N. Kihei Rd Ext EB | --- | --- | E | --- | --- | E |
| N. Kihei Rd WB | C | C | E | C | C | D |
| Honoapiilani Hwy NB | C | C | D | C | D | F |
| Left Turn Lane | --- | --- | E | --- | --- | F |
| Through Lanes | C | B | E | D | D | F |
| Honoapiilani Highway SB | C | C | D | B | C | D |
| Left Turn Lane | D | D | F | D | E | F |
| Through Lanes | A | A | C | A | A | C |
| **KAPOLI STREET INTERSECTION** | B | B | D | B | B | D |
| Kapoli Street Ext EB | --- | --- | D | --- | --- | D |
| Kapoli St. WB | D | D | D | C | D | D |
| Honoapiilani Highway NB | B | B | B | B | B | C |
| Left Turn Lane | --- | --- | E | --- | --- | D |
| Through Lanes | B | B | B | B | C | C |
| Honoapiilani Highway SB | A | A | E | A | A | E |
| Left Turn Lane | A | A | E | A | A | D |
| Through Lane | A | A | E | A | A | E |

~~Table 5~~*Table 12* **(Cont.).** Level of Service (LOS) Analysis on Honoapiilani Highway

| Intersection Approach Movement | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | 2009 | 2019 | | 2009 | 2019 | |
| | Existing | Without Project | With Project | Existing | Without Project | With Project |
| | LOS | LOS | LOS | LOS | LOS | LOS |
| **HIGHWAY AT MAALAEA ROAD**[1] | | | | | | |
| Maalaea Road WB RT | B | B | B | C | D | E |
| Honoapiilani Highway SB LT | A | A | B | B | C | C |
| [1] Unsignalized Intersections | | | | | | |

The TIAR concludes that the proposed project is not anticipated to have adverse traffic impacts on Honoapiilani Highway in the vicinity of the project site when adequate project-related mitigation measures are implemented. Predicted increases in ambient traffic combined with the additional traffic that would be generated by the proposed project could be accommodated by the following roadway and intersection improvements:

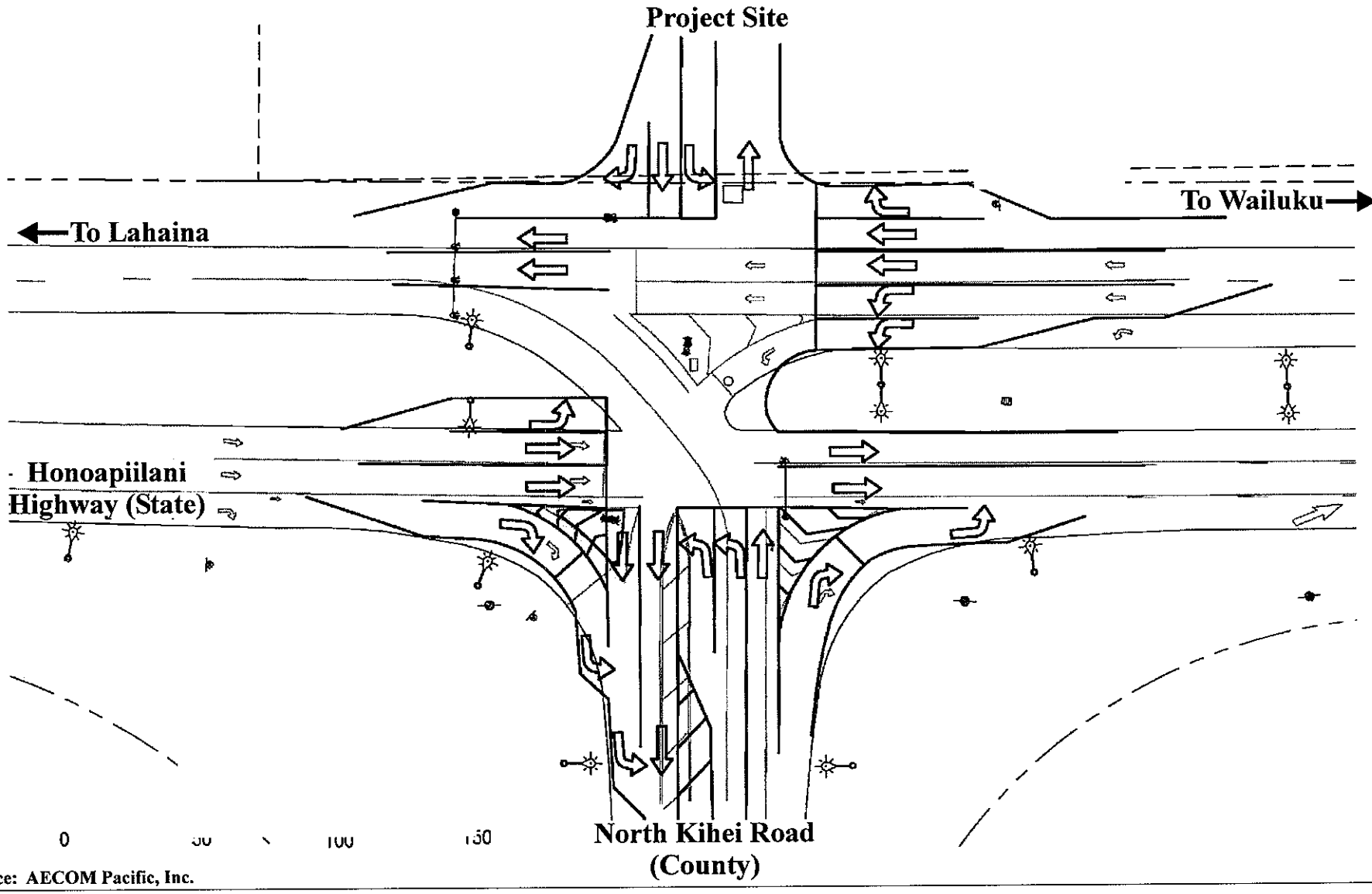
**Kuihelani Highway Intersection**

- The current configuration of the intersection is expected to be sufficient in accommodating the additional project-generated traffic. To increase efficiencies at this intersection, consider interconnection and synchronization with adjacent traffic signals in the area.

**North Kihei Road Intersection**

- Widen and restripe existing mauka (west) bound approach of North Kihei Road to provide two (2) separate left-turn lanes and a through lane. See **Figure 13.**

- Add a second left-turn lane on the south bound approach of Honoapiilani Highway. Refer to **Figure 13.**




Source: AECOM Pacific, Inc.

Figure 13

# Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

## Proposed Intersection Improvements (Honoapiilani Highway/North Kihei Road)

NOT TO SCALE

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/FinalEIS/PropNKiheiRdimprove

- Implement an eight (8) phase traffic signal timing plan.

**Kapoli Street Intersection**

- Add a second southbound through lane on Honoapiilani Highway to mitigate projected increases in ambient and with-project traffic growth. See **Figure 14** and **Figure 15**.

- Add separate left-turn lanes at all approaches of this intersection. Refer to **Figure 14**.

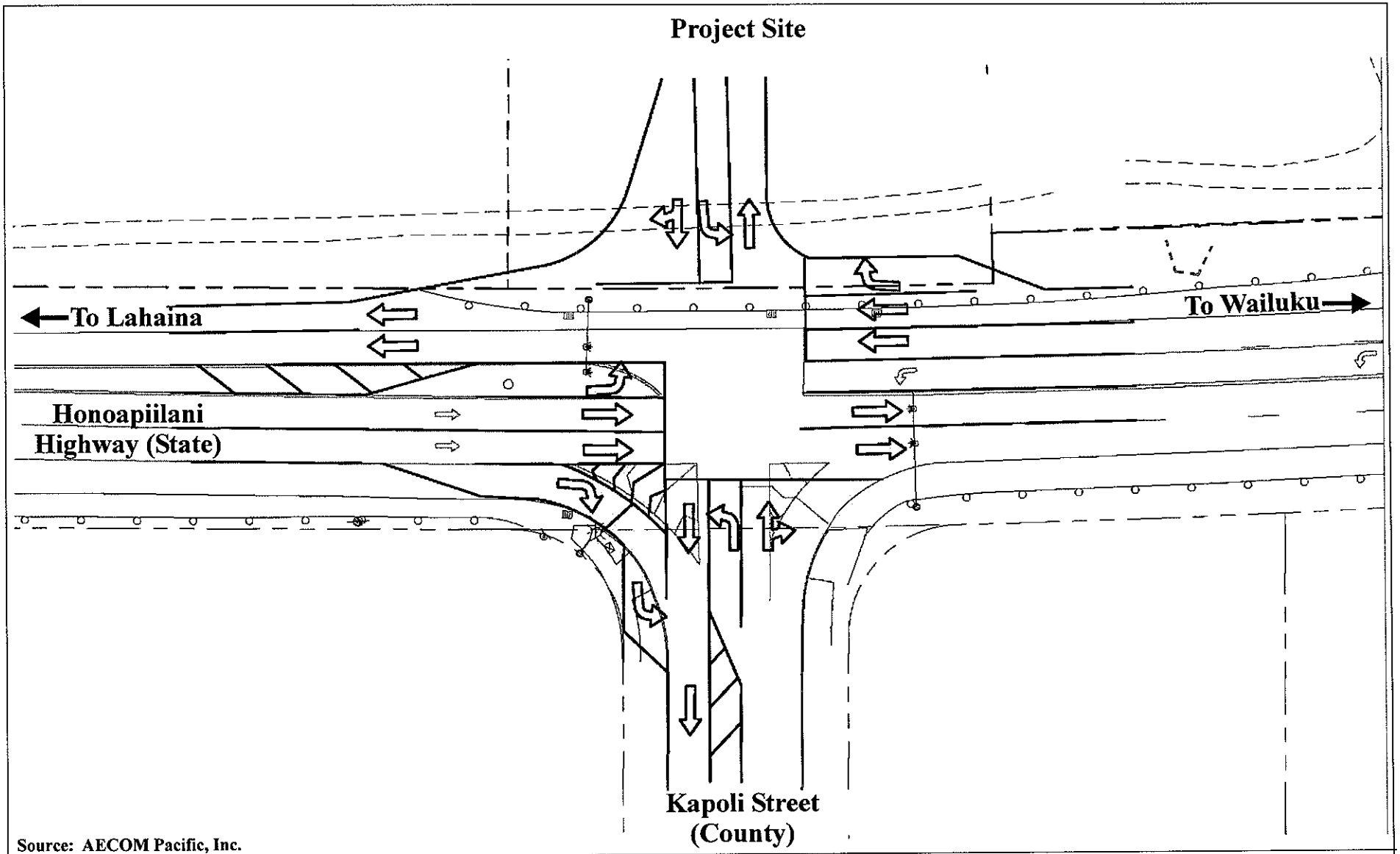
**Maalaea Road Intersection**

- Signalize the Maalaea Road (north) intersection, when warranted, or prohibit left-turns from Honoapiilani Highway on Maalaea Road to eliminate traffic safety problems associated with projected ambient traffic conditions.

**All Study Intersections**

- Interconnect and synchronize traffic signals from Kuihelani Highway to Kapoli Street.

Implementation of the foregoing mitigation measures will be undertaken by the applicant concurrently with the phased development of the proposed project. It is anticipated that with completion of these traffic mitigation measures, the LOS at the study intersections will be improved to acceptable levels (see ~~**Table 6**~~***Table 13*** below). Refer to **Appendix "~~J~~*L*"**.




Source: AECOM Pacific, Inc.

Figure 14

# Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

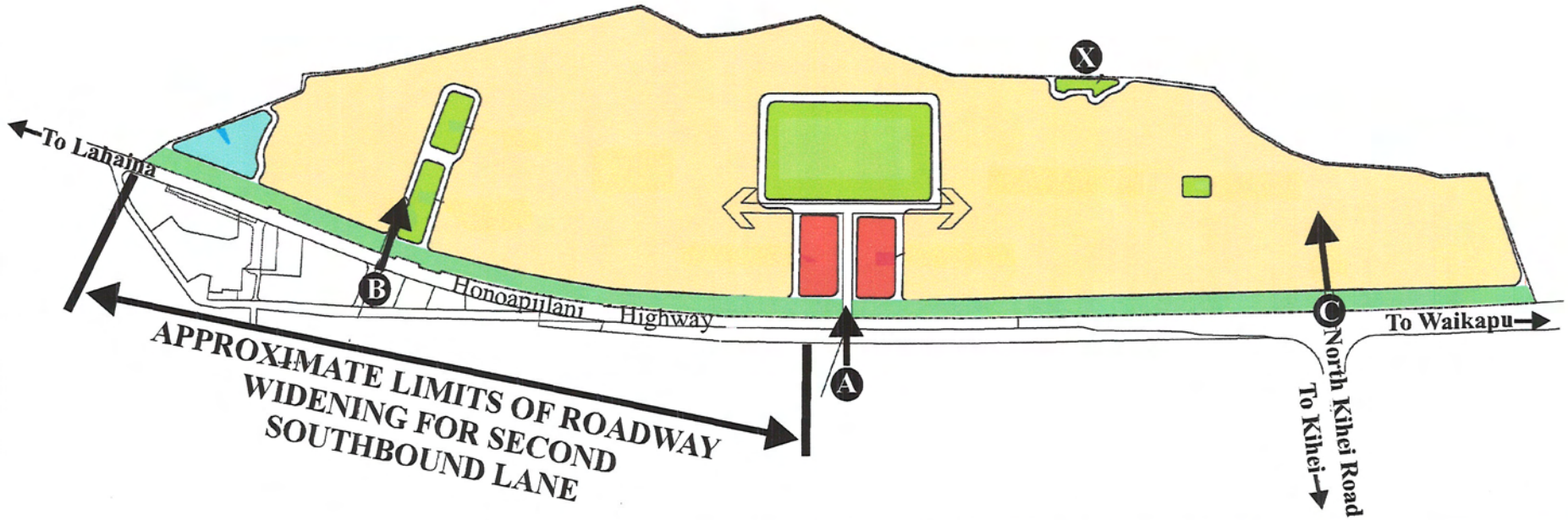
## Proposed Intersection Improvements (Honoapiilani Highway/Kapoli Street)

NOT TO SCALE

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/FinalEIS/PropImprovKapoliSt




**Key**

- Residential (1,100 Single-Family Homes)
- Village Town Center (Commercial)
- Wastewater Treatment Plant
- Public/Quasi-Public (Including Parks)
- Open Space Buffer (Including Drainage Retention)

- A — Primary Access Point
- B — Secondary Access Point
- C — Secondary Access Point
- X — Approx. Location of Lahaina Pali Trailhead

Source: KLJ Planning and Design

# Figure 15

# Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

## Proposed Honoapiilani Highway Widening Improvements

NOT TO SCALE

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/FinalEIS/PropHHwyImprove

~~Table 6~~*Table 13*. Level of Service (LOS) Analysis for Mitigation Improvements at Existing Signalized Intersections Along Honoapiilani Highway

| Intersection Approach Movement | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | 2009 | 2019 | | 2009 | 2019 | |
| | | With Project | | | With Project | |
| | Existing | w/o Mitigation | w/Mitigation | Existing | w/o Mitigation | w/Mitigation |
| | LOS | LOS | LOS | LOS | LOS | LOS |
| **NORTH KIHEI ROAD INTERSECTION** | C | D | **C** | C | D | **C** |
| N. Kihei Rd Ext EB | --- | E | **D** | --- | E | **D** |
| N. Kihei Rd WB | C | E | **D** | C | D | **D** |
| Honoapiilani Hwy NB | C | D | **C** | C | F | **C** |
| Left Turn Lane | --- | E | **D** | --- | F | **D** |
| Through Lanes | C | E | **D** | D | F | **D** |
| Honoapiilani Highway SB | C | D | **C** | B | D | **C** |
| Left Turn Lane | D | F | **D** | D | F | **D** |
| Through Lanes | A | C | **C** | A | C | **B** |
| **KAPOLI STREET INTERSECTION** | B | D | **C** | B | D | **C** |
| Kapoli Street Ext EB | --- | D | **D** | --- | D | **D** |
| Kapoli St. WB | D | D | **D** | C | D | **D** |
| Honoapiilani Highway NB | B | B | **B** | B | C | **C** |
| Left Turn Lane | --- | E | **D** | --- | D | **D** |
| Through Lanes | B | B | **B** | B | C | **C** |
| Honoapiilani Highway SB | A | E | **C** | A | E | **C** |
| Left Turn Lane | A | E | **D** | A | D | **D** |
| Through Lane | A | E | **C** | A | E | **C** |

An agreement on the mitigation measures and improvements to be implemented by the applicant will be determined with the *S*DOT Highways Division. *S*DOT approval will be required prior to finalizing plans and undertaking these roadway and intersection improvements.

The applicant will ensure that all proposed roadway development and improvements are in accordance with the Hawaii Revised Statutes, Maui

County Code, and other applicable rules and regulations. This includes the Hawaii Standard Specifications for Road and Bridge Construction dated 2005, the Standard Details for Public Works Construction, 1984, as amended, and the Manual on Uniform Traffic Control Devices for Streets and Highways, 2003. The Department of Public Works and the ***S***DOT Highways Division will be given the opportunity to review and approve roadway construction plans to ensure that applicable regulations are satisfied.

Lastly, the project presents an opportunity to promote non-automobile travel for recreational and household pursuits. Accommodations to support public bus transportation services will be provided within the subdivision to facilitate alternative modes of travel. Coordination will be undertaken with the County of Maui, Department of Transportation during the subdivision plans preparation phase of work to identify suitable locations for bus stops within the project. Also, recreational needs will be served by the active park within the subdivision and educational services will be offered at the onsite school site, thus reducing the number of trips to and from the subdivision. A network of bicycle paths and walking trails will connect these areas and promote recreational activity and also serve to promote a pedestrian friendly environment and reduce residents' reliance on automobiles.

## 2. Water System

### a. Existing Conditions

The County of Maui, Department of Water Supply serves five (5) main regions within the County: Central Maui, Upcountry Maui, West Maui, East Maui, and Molokai. No ~~potable~~***drinking*** water system infrastructure currently exists on the proposed project site. A nearby County system feeds a storage tank servicing the existing Maalaea community through a waterline line from Central Maui. Capacity in the nearby system is not adequate to support the proposed project. There are no existing fire hydrants within or along the project site. As such, new infrastructure, to be developed by MVI, LLC, will be required to service the proposed project.

A nearby existing well, identified as Pohakea #1 (State ID 4930-01), has recently been completed on the utility site. This well is capable of producing 300 gpm (432,000 gpd). Two (2) additional wells, identified as Pohakea #2 (State ID 4930-02) and #3 (State ID 4930-03), have also been installed in the

same area of the utility site and are estimated to be capable of producing 350 gpm (504,000 gpd) each. These wells will draw water from the Waikapu Aquifer. No storage tank currently exists in the vicinity of the project site.

**b. Potential Impacts and Proposed Mitigation Measures**

The applicant is committed to developing ***water*** source, storage, and transmission facilities to serve this project. A Preliminary Engineering Report (PER) has been prepared by Otomo Engineering, Inc., which describes the proposed project's water system. See **Appendix "~~K~~*M*"**. According to the report, the estimated average daily water demand for the 1,100 single family units, village town center, wastewater facility, and parks are as follows in ~~Table 7~~*Table 14*:

~~Table 7~~*Table 14*. Estimated Project Water Demand

| Description | Flows |
|---|---|
| Average Daily Demand | 729,200 gallons per day (gpd) |
| Maximum Daily Demand | 1,093,800 gpd (1.5 x average daily demand) |
| Maximum Fire Flow | 2,000 gallons per minute (gpm) for a 2 hour duration |

The projected demand will require a water infrastructure system consisting of wells and pumping facilities, storage capacity, and a distribution network.

To meet the demands of the proposed Ohana Kai Village Project, a private water system consisting of three (3) wells, two (2) storage tanks, and associated transmission infrastructure is in the process of being developed to the north of the project site by MVI, LLC. A copy of the preliminary site plans for the offsite water system is presented in **Appendix "~~K-1~~*M-1*"**. Easements ~~are in the process of being~~***have been*** acquired for use of these lands (utility site) from the neighboring landowners. See **Appendix "~~K-2~~*M-2*"**. As a result, the two (2) recently constructed wells, in addition to the existing Pohakea #1 well will be utilized to service the drinking water requirements of the proposed subdivision. ***These three (3) groundwater wells have been approved by the State Commission on Water Resources Management (CWRM). Specifically, by letter dated March 23, 2010, the***

***CWRM issued a combined well construction and pump installation completion certificate for the wells. See Appendix "M-3".*** The combined ~~use~~***capacity*** of these three (3) wells ~~is expected to be able to~~***will*** service 100 percent of the ~~potable~~***drinking*** and non-potable water requirements of the subdivision. ~~Preliminary testing results for these wells indicate that the source is sustainable and will produce the level of water quality necessary for drinking water supplies.~~

***Preliminary testing of the water quality from the three (3) wells has been completed. The samples taken during these preliminary tests were analyzed in accordance with the drinking water standards prescribed by the State Department of Health (DOH). These test results indicate that the source has the capability of producing the level of water quality necessary for drinking water supplies. The proposed water system for the project will be regulated as a new public water system and will be subject to compliance with applicable State regulations pertaining to such systems. Further testing of the groundwater from the project's three (3) wells and ongoing monitoring will, therefore, be required as part of the DOH approval process to ensure that water quality meets prescribed standards for drinking water supplies. Over the long term, should water quality exceed defined salinity parameters, the appropriate level of pre-treatment will be applied at that time to ensure that water quality standards are maintained as required by law.*** See **Appendix "~~K-3~~*M-4*"**. The proposed water system will be developed, operated and maintained by MVI, LLC (or its assign) in accordance with applicable State and County requirements.

~~*As noted previously,*~~Two (2) 750,000 gallon storage tanks will also be developed at the location of the three (3) existing wells (located at the mauka extent of the utility site) to provide gravity flow to the proposed project. Refer to **Appendix "~~K-1~~*M-1*"**. Finally, a water distribution system capable of handling 3,470 gpm of flow will be constructed to convey the water to the uses within the proposed subdivision. The distribution system will be designed to meet peak hourly demand, as well as maximum daily demand (including fire flow requirements).

Further, to facilitate a reduction in drinking water consumption, the applicant intends to utilize R-1 ~~and R-2~~ water produced from the project's Wastewater Treatment Plant (WTP) for the irrigation of landscaped common areas within and around the subdivision. The information on "Maui County Planting

Plan" from the Department of Water Supply, will also be utilized, as applicable, to place plants in landscaping, which will help to conserve water and protect the watershed from degradation. Rain sensors will be provided on all automated irrigation controllers in common landscaping areas. The applicant will initiate a regular maintenance program to check and reset the automated irrigation controllers.

Plumbing fixtures will be installed in accordance with Maui County Code Section 16.20A.680, which requires the utilization of low-flow fixtures and devices in an effort to conserve water.

With incorporation of the foregoing measures into the project's design, the proposed water system for the project is not anticipated to have a significant adverse impact on groundwater resources in the area.

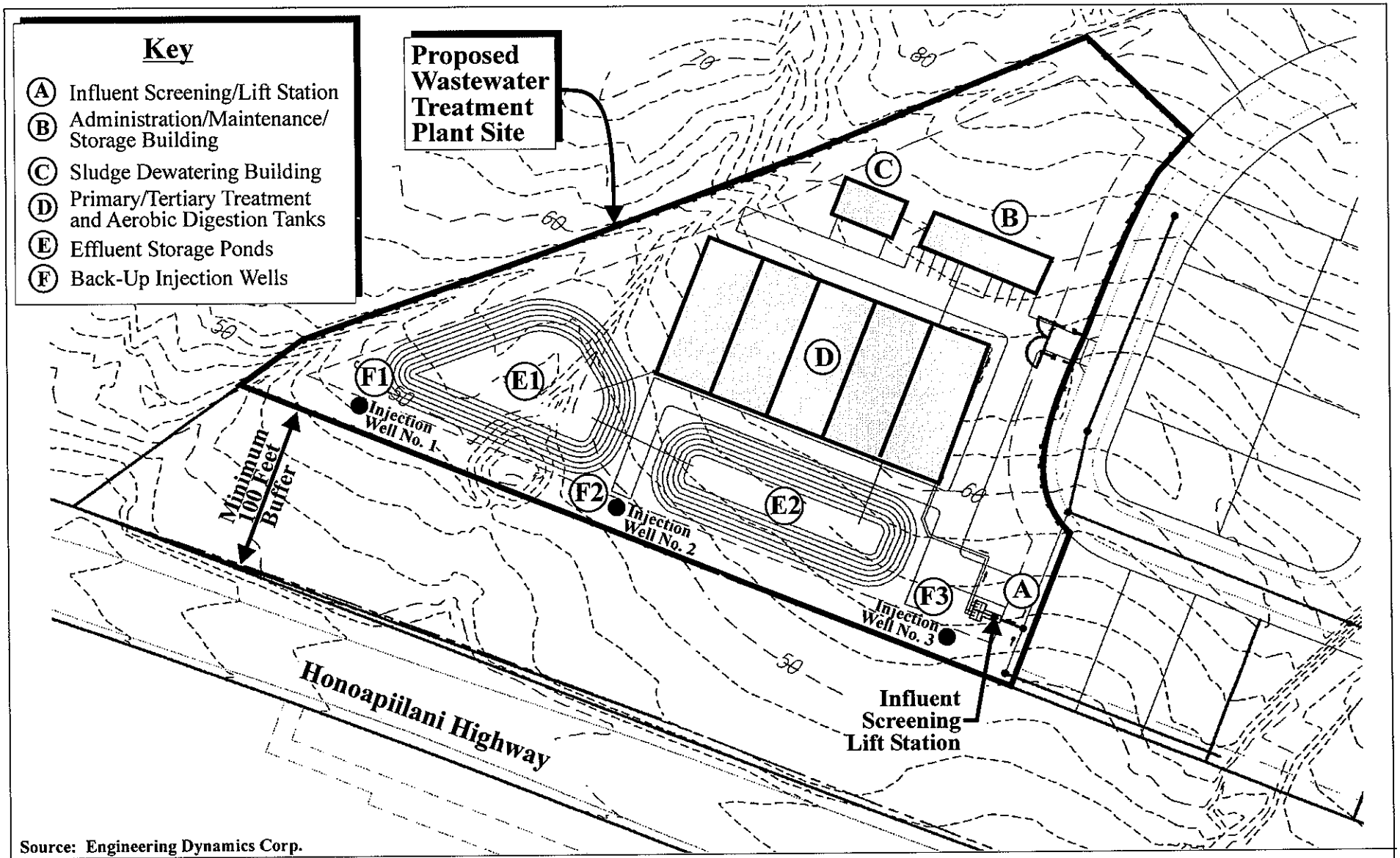
## 3. Wastewater System

### a. Existing Conditions

There is currently no sewage collection infrastructure serving the Maalaea community. The existing Maalaea community includes condominiums, apartments, single-family residences and a power generation (industrial) site. These existing uses utilize on-site wastewater treatment facilities such as cesspools, septic tanks or more advanced individual treatment systems. The project site for the proposed residential subdivision does not have any existing sewer collection infrastructure or a wastewater treatment facility. As such, new sewer infrastructure will be required to service the wastewater requirements of the proposed project.

### b. Potential Impacts and Proposed Mitigation Measures

The proposed Ohana Kai Village ***Affordable Housing*** Project will include the development of a new privately operated and maintained Wastewater Treatment Plant (WTP) that will be constructed prior to the occupancy of the first phase of residential units. The WTP will be designed to meet the wastewater collection and treatment requirements of the proposed subdivision. The proposed WTP will be located in the southern portion of the 257-acre project site in the southern portion. See **Figure 16**. A gravity collection system will be used to collect and transport wastewater from




Source: Engineering Dynamics Corp.

# Figure 16

NOT TO SCALE

## Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

### Wastewater Treatment Plant Site Plan

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/FinalEIS/WTPsiteplan

within the project site to the WTP. A Preliminary Engineering Report for the proposed WTP has been prepared by Engineering Dynamics Corp. See **Appendix "~~L~~*N*"**.

The WTP will be designed to handle the average daily flow from the project, which is estimated at 471,000 gpd. ~~Wastewater will be treated at the WTP to produce both R-1 and R-2 recycled water. R-1 is the highest form of treated effluent, which is characterized by a significant reduction in viral and bacterial pathogens.~~ ***Wastewater processed by the WTP will undergo primary, secondary and tertiary treatment to ensure that it meets with the reclaimed water quality standards set forth by the State Department of Health (DOH) for R-1 water quality. The characteristics of the treated reclaimed water will be similar to that of other R-1 design-based treatment facilities around Maui. R-1 is the highest form of treated effluent, which is characterized by a significant reduction in viral and bacterial pathogens. As defined by DOH, R-1 Water means recycled water that is at all times oxidized, then filtered, and then exposed, after the filtration process, to:***

*A.* ***A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least resistant to disinfection as polio virus may be used for purposes of demonstration; and***

*B.* ***A disinfection process that limits the concentration of fecal coliform bacteria to the following criteria:***

*(1)* ***The median density measure in the disinfected effluent does not exceed 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed; and***

*(2)* ***The density does exceed 23 per 100 milliliters in more than one sample in any 30-day period; and***

*(3)* ***No sample shall exceed 200 per 100 milliliters.***

Effluent reuse will be the primary means of disposing of the generated flows from the proposed subdivision. R-1 ~~and R-2~~ recycled water from the WTP

will be recycled for irrigation of common landscaped areas within and around the subdivision. Other County-owned facilities on Maui designed to utilize effluent reuse/recycle techniques include the Kihei Wastewater Reclamation Facility (WRF) and the Kahului WRF. The effluent for Kihei WRF is currently recycled for agricultural, commercial, and park irrigation purposes. There is one commercial facility that recycles the effluent for toilet flush water. The effluent from Kahului WRF is only recycled for in-plant reuse. Both facilities are advanced activated sludge plants with effluent sand filters that are designed to satisfy the DOH effluent recycle standards. These facilities are also designed to biologically remove nitrogen and phosphorus through a similar activated sludge process as will be used in the proposed WTP.

The proposed WTP site is located below the Underground Injection Control (UIC) line. The applicant is required by State Department of Health (DOH) standards to install and operate standby injection wells for use during wet conditions (anticipated to be during the rainy months from December through April) when R-1 ~~and R-2~~ water cannot be used for irrigation.

Noise and odor controls will be incorporated into the design of the proposed WTP to comply with DOH standards. Loud equipment such as blowers, pumps, fans and emergency diesel engine generators will be housed in a sound attenuated equipment enclosure to minimize ambient noise levels generated from the plant. The proposed WTP facility will be designed to comply with applicable DOH property line standards for odor control. Landscaping, as appropriate, will be installed to shield the WTP from Honoapiilani Highway.

Further details on the proposed Wastewater Treatment System are provided in the Preliminary Engineering Report (refer to **Appendix "~~L~~*N*"**).

## 4. Drainage

### a. Existing Conditions

A Preliminary Drainage Report (PDR) for the proposed project has been prepared by Otomo Engineering, Inc. See **Appendix "~~M~~*O*"**.

***The lands within the project site slope in a northwest to southeast direction***

***from an elevation of 210 feet above mean sea level (amsl) at the north western corner of the property to an elevation of 40 feet amsl at the southern boundary (Honoapiilani Highway). The average slope across the property is approximately 5.5 percent.***

Maui receives varying levels of rainfall in a given year depending on location. The average annual rainfall (2000-2006) for the Kihei area, which is also part of the drier southern coast of Maui, was 12.59 inches (Maui County Data Book, 2007). Annual rainfall in the vicinity of the Maalaea Small Boat Harbor is relatively low.

There are no ***existing*** drainage improvements within the project site, however, there are several unnamed drainageways that traverse the site in a west to east direction which direct both onsite and offsite surface runoff towards Honoapiilani Highway. ***Outside of the limits of the project site and to the north is the existing Pohakea Gulch. Refer to Figure 10 (on Page 27). Existing runoff from the project site does not flow in the direction or enter Pohakea Gulch.***

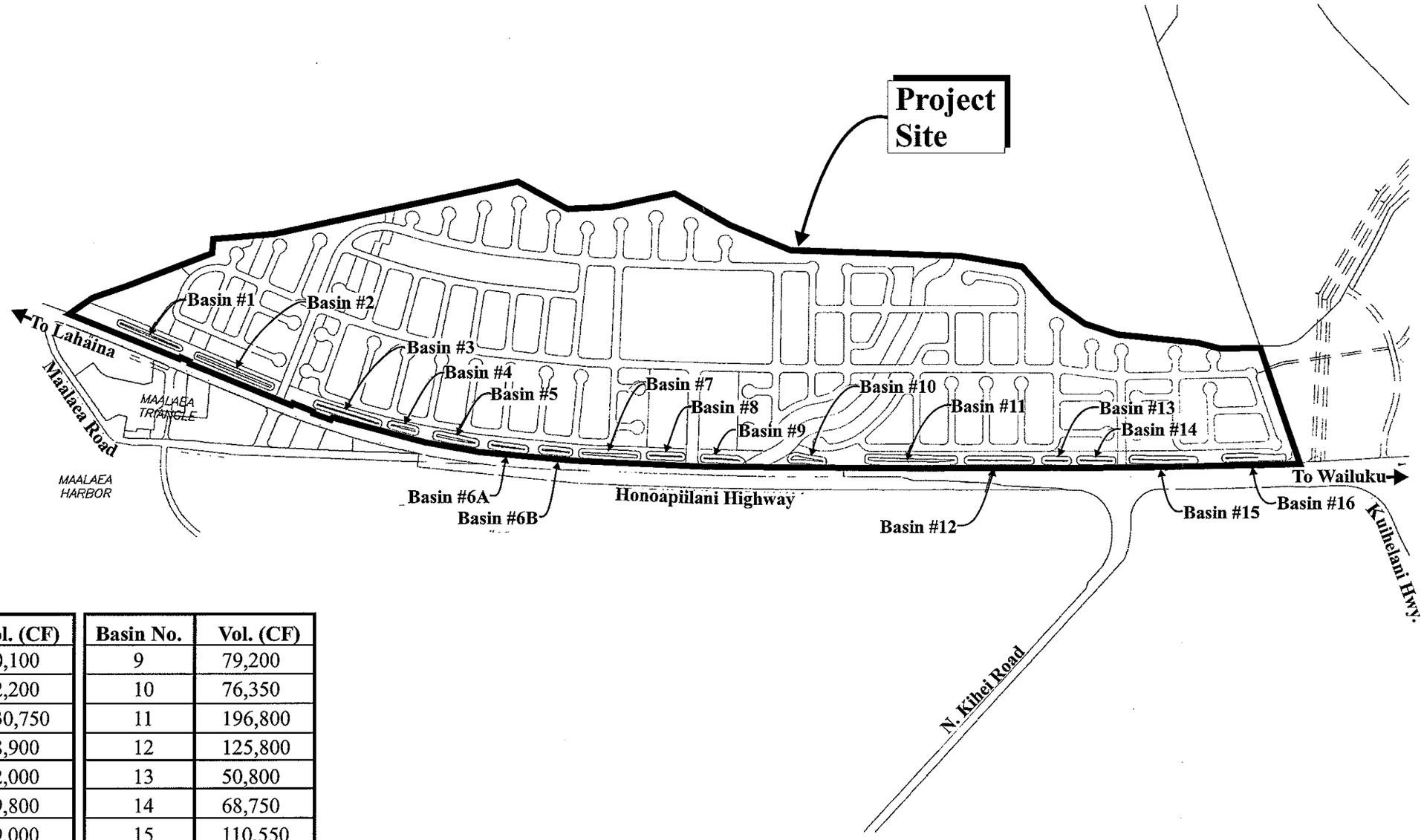
***Onsite and offsite stormwater runoff across the project site flows in a west to east direction towards Honoapiilani Highway.*** When the runoff reaches the Honoapiilani Highway along the makai or eastern boundary, it enters the State Department of Transportation ***(SDOT)*** drainage system. The ***S***DOT drainage system consists of grated inlet catch basins and inlet headwall structures which intercept surface runoff and conveys it under the highway via six (6) larger concrete box culverts and several smaller drainage culverts. From the makai side of the highway, runoff continues downstream through various drainage systems ***(including agricultural fields)*** and ultimately discharges into Maalaea Harbor. It is estimated that the existing onsite runoff for a 100-year, 24-hour storm from the project site is 790 cubic feet per second (cfs) or 138 acre-feet.

**b. <u>Potential Impacts and Proposed Mitigation Measures</u>**

The proposed project will increase hardscape (i.e. road pavements, sidewalks, housing) and reduce rainfall infiltration into the ground. Following project completion, it is estimated that the 100-year storm runoff from the property will be 1,228 cubic feet per second (166 acre-feet) which is an increase of 438 cfs (28 acre-feet) from existing conditions.

~~The drainage improvements for the project will be designed~~*A comprehensive drainage system has been designed for the proposed Ohana Kai Village Affordable Housing Project to exceed requirements as provided for under the Drainage Rules of the County of Maui.* ~~to~~*The system will* retain *approximately* ~~100~~*128* percent of project-generated increases in stormwater runoff onsite for the 100-year, 24-hour storm. ~~This will be achieved through the development of a master drainage system within the project, which~~*The system* will *provide 36 acre-feet of storage and will* consist of curb inlet catch basins and a series of linear retention basins *which will be located within the 100-foot open space buffer area* along the Honoapiilani Highway boundary of the project site. *A preliminary drainage plan showing the location and capacities of the linear drainage basins is presented in Figure 17.*~~Refer to **Figure 4**~~. The installation of this drainage system will ensure that no downstream properties are impacted by the proposed Ohana Kai Village *Affordable Housing* Project *by reducing existing runoff volume from the project site from 138 acre-feet to approximately 130 acre-feet, a net reduction in downstream flows of approximately 5.8 percent.* Refer to **Appendix "~~M~~O"**. The onsite drainage basins will also act to reduce the amount of suspended sediment present within the *stormwater* runoff flowing across the project site.

*The existing drainageways traversing the project site will remain in a natural condition except at road crossing where appropriate sized drainage culverts will be installed to allow runoff to continue downstream. The area around these existing drainageways will be graded to maintain existing runoff rates through these gulches and to further ensure that project-related increases in runoff are redirected into the proposed linear retention basins along Honoapiilani Highway. When the drainageways reach the proposed buffer strip at the makai side of the project adjacent to the highway, the runoff will continue to flow into the State drainage system along the highway as is presently occurring. Surface runoff from the project site under existing and proposed with-project conditions does not flow toward or into the existing Pohakea Gulch which is situated to the north of the project site.*




| Basin No. | Vol. (CF) | Basin No. | Vol. (CF) |
|---|---|---|---|
| 1 | 70,100 | 9 | 79,200 |
| 2 | 12,200 | 10 | 76,350 |
| 3 | 130,750 | 11 | 196,800 |
| 4 | 58,900 | 12 | 125,800 |
| 5 | 92,000 | 13 | 50,800 |
| 6a | 69,800 | 14 | 68,750 |
| 6b | 59,000 | 15 | 110,550 |
| 7 | 150,500 | 16 | 97,200 |
| 8 | 67,100 | TOTAL | 1,515,800 CF |

Source: Otomo Engineering, Inc.

Figure 17 Proposed Ohana Kai Village Affordable Housing Project and Related Improvements
Retention Basin Capacities

NOT TO SCALE

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/DraftEIS/retentionbasin

Opportunities to further reduce post-development flows will be evaluated during the design phase for the proposed project. Strategies to be reviewed in this context include:

- Use of perforated subdrains and underground french drains or dry wells to drain roof and parking areas ***within the subdivision***.

- Direction of runoff from parking lots and driveways ***within the subdivision*** to nearby landscaped areas and detention basins to minimize drainage-related impacts resulting from project implementation.

***The possible installation of offsite retention basins in State-owned conservation lands along the mauka boundary of the project site will help to reduce offsite runoff entering Project District 12. These improvements may also include a low berm along the property boundary as an additional measure to retain offsite runoff and direct overflow towards the existing drainageways prior to it entering the project site.***

Strategies to decrease the amount of impervious surfaces within the proposed project will also be evaluated and considered during the subdivision design phase, including but not limited to:

- Redirection of rooftop runoff to pervious areas around individual homes/buildings.

- Provision of landscaped areas adjacent to existing stream/gulch channels.

- Minimization and balance of clearing and grading activities during construction.

- Implementation of landscaped islands in instances where large cul-de-sacs are utilized.

- Incorporation of increased use of a vegetated buffers, filter strips and bioretention in the roadway design.

- The inclusion of rain gardens and increased use of trees in the landscape plan for the project.

Further, appropriate mitigation measures will be developed in consultation with the applicable governmental agencies during the design process. During construction, the contractor will implement a program of Best Management Practices (BMPs) for erosion and sediment control, examples of which are presented in the list below:

- Constructing of detention basins to capture sedimentation to minimize the quantity of sediment leaving the site.
- Staging construction
- Protecting of natural vegetation
- Stockpiling topsoil, and covering or stabilizing of the soil stockpiles
- Using wind erosion control
- Intercepting runoff above disturbed slopes
- Constructing of benches, terraces, or ditches at regular intervals to intercept runoff on long or man-made slopes
- ***Use of strong-rooted native shrubs for slope stabilization, where applicable.***
- Providing linings or other method to prevent erosion of storm channels
- Providing vehicle wheel wash-down facilities
- Using stabilized construction entrances
- Using vegetated filter strips

Greater detail of the design information for the proposed drainage and erosion control plan will be provided during the engineering design phase of development.

In summary, the PDR concludes that the development of the proposed project and its proposed drainage improvements will not impact properties located downstream of Honoapiilani Highway, including the Maalaea Small Boat Harbor and environmentally sensitive areas, such as Maalaea Bay. Refer to **Appendix "MO"**.

## 5. Electrical, Telephone, and Cable Television Services

### a. Existing Conditions

Electrical power, telephone, and CATV services to the area are provided by Maui Electric Company, Hawaiian Telcom, and Oceanic Time Warner Cable of Hawaii, respectively. Existing overhead power, telephone, and CATV transmission lines are located across the Honoapiilani Highway from the project area.

### b. Potential Impacts and Proposed Mitigation Measures

Electrical, telephone and cable service providers will likely need to implement system enhancements to accommodate the proposed project. The required system upgrades may involve electrical line extensions, accesses, and easements to provide service to the project.

Energy conservation measures will be considered as part of the project design phase of development and coordination with MECO will occur as early as possible. As a result, the applicant will consider implementation of the following demand side management measures to conserve natural resources and to promote energy efficiency within the proposed project.

- Installation of solar hot-water heating and Photo-Voltaic (PV) systems on all new homes.
- Siting buildings to take advantage of natural features and maximize their beneficial effects by providing for solar access, daylighting, and natural cooling.
- Designing south, east, and west shading devices to minimize solar heat gain.
- Locating land uses (residential, commercial, public/quasi-public) to encourage bicycle and pedestrian access and reduce dependency on automobile use.
- Consolidating utility and infrastructure in common corridors to minimize site degradation and cost, improve efficiency, and reduce impermeable surfaces.
- Design space for recycling and waste diversion opportunities.

Coordination with MECO, Hawaiian Telcom, and Oceanic Time Warner Cable of Hawaii will continue to ensure that systems planning and design can be programmed in accordance with the project's development schedule.

## E. CUMULATIVE AND SECONDARY IMPACTS

### ~~1. Cumulative Impacts Analysis~~

~~Cumulative impacts are defined as the impact on the environment which results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions.~~

~~The proposed project is not part of a larger action, nor would it occur within the context of such actions. There are no direct community growth impacts resulting from or occurring with the project. There are no other public works projects anticipated within the project context.~~

~~The project site, which is classified as Project District 12 in the Kihei-Makena Community Plan, is located adjacent to the existing Maalaea community and Project District 11. The development of the subject property will proceed on an independent timeframe from that of Project District 11. There currently is no development timeframe available for Project District 11. In this regard, it is noted that the context for considering cumulative impacts is established by the Kihei-Makena Community Plan. Project District 11 is the only major land use development element reflected in the community plan for this sub-region.~~

~~The Traffic Impact Analysis Report (TIAR) prepared for the Ohana Kai Village Project has examined and evaluated traffic impacts of the project, in the context of projected regional growth. Based on the analysis, the TIAR has recommended the implementation of applicable traffic mitigation measures and improvements. While other projects have been assumed to contribute to this projected future growth in regional traffic, some are still in the planning and entitlement stage and for various reasons may be subject to delay or may not materialize at all within the time horizon of this project.~~

~~With regard to the availability of drinking water for the project, the applicant is in the process of developing a private well water system to serve the proposed project. Maui County Ordinance No. 3502 requires that a long-term reliable supply of water~~

be verified at the time of subdivision approval. The ordinance requires each applicant to provide a long-term reliable supply of water, which is defined as *"the total water supplies from a private, non-County source that will meet the projected demand associated with a proposed development, in addition to existing and planned future demand"*. In light of this requirement, cumulative impacts will be addressed as new water sources are brought online as a condition of development. Other proposed projects will be required to similarly meet the requirements of this ordinance as their projects progress through the development process. Additionally, specific improvements to the water transmission and storage systems will be determined with the County for each project.

Sewage generated by the project will be treated at the proposed onsite Wastewater Treatment Plant (WTP) which will be developed as part of the project. Reclaimed water from the WTP will be reused for irrigation of common landscaped areas within and around the subdivision. Recycling of the reclaimed water will reduce the need for injection wells and will lessen potable water consumption for irrigation purposes.

In regards to agriculture, the impact of this project is not considered significant when taken in the context of the recent trends occurring on Maui. In the last 30 years, the closures of Wailuku Sugar and Pioneer Mill on Maui have taken significant acreages out of active sugar cane cultivation. These actions have greatly increased the supply of non-sugar based agricultural lands. In fact, much of the lands of these former plantations are still fallow. The proposed project will ultimately involve the use of approximately 257 acres of land, which represents 0.1 percent of the roughly 246,000 acres of State Agricultural district lands on the island of Maui. Further, rather than the available land supply, more salient factors facing the agricultural industry include the market demand for products (access to markets and local purchasing patterns) and the overall profitability of crops grown in Hawaii.

The mitigation of other potential adverse cumulative impacts resulting from infrastructure use will be resolved during the course of development either through the provision of additional facilities onsite and offsite (drainage, park facilities, roadway improvements) and through land contributions. Other planned projects will similarly be required to mitigate the impacts of their respective projects as they progress through the development process.

In general, processes and mechanisms for coordinating mitigation measures attributable to cumulative impacts are in place. An example of a process which

addresses cumulative impacts is the scoping of infrastructure studies (including traffic impact, as discussed above) to include those projects which are anticipated to be implemented within a timeframe similar to that of the proposed action.

It is important to note, however, that the implementation timeframes for these future development projects are dependent on their respective regulatory and market parameters which are not linked to the proposed project. Some of these projects are in the planning and entitlement phase, and as such, may not necessarily be constructed. The proposed Ohana Kai Village Project is being planned and is intended to be implemented within this timeframe set forth in Chapter I of this document.

Additionally, the County of Maui is currently undertaking its General Plan Update. A specific component of the General Plan Update is the preparation of a Maui Island Plan. The plan is required as part of a Managed and Directed Growth Plan. As provided by Chapter 2.80B of the Maui County Code:

> *The managed and directed growth plan shall describe existing and future land use patterns and planned growth for the twenty-year planning period and include a discussion on how these patterns are consistent with and support the vision, principles, goals, and policies of the County and the island of Maui. The managed and directed growth plan shall include a map that delineates urban and rural growth areas, consistent with, and illustrative of, the Maui island plan's vision, principles, goals, and policies.*

The Maui Island Plan is designed to be comprehensive in nature, considering existing community plan-designated land uses, as well as proposals for future uses to the planning horizon year of 2030. Thus, the Maui Island Plan establishes a context for structured land use planning to ensure that long range planning and development are properly sequenced. Towards this end, additional components of the Maui Island Plan include the following:

- **Water Element**. The water element shall assess and discuss water supply, demand, and quality.

- **Nearshore Ecosystem Element**. The nearshore ecosystem element shall assess the ecosystem in the nearshore waters of the County, and will discuss

preservation and restoration of these waters.

- **Implementation Program**. The implementation program shall include a capital improvement element, a financial element, and an implementation schedule.

  - **Capital Improvement Element**. The capital improvement element shall describe regional infrastructure systems and regional public facilities and services that will be needed over the twenty-year planning period.

  - **Financial Element**. The financial element shall describe a fiscally sound financial program for identified actions and capital improvements. Preparation of the County's annual operating budget and capital program, respectively developed pursuant to Sections 3.04.030 and 3.04.040 of this code, shall implement the general plan to the extent practicable.

  - **Implementation Schedule**. The implementation schedule shall identify and numerically prioritize specific actions, the implementation actions' commencement and completion dates, the lead implementation agency or person, the estimated implementation cost, and the anticipated funding source or sources.

The review of the draft Maui Island Plan has recently been completed by the General Plan Advisory Committee (GPAC) and the Maui Planning Commission. Existing and future developments in the Kihei-Makena region are being reviewed as part of this ongoing comprehensive planning process to evaluate both the current housing supply on Maui island and the potential cumulative impact of proposed development projects up to the Year 2030. Presentations on the proposed project were delivered to the GPAC in September 2007 and to the Maui Planning Commission in July 2009, formally requesting that Project District 12 continue to be reflected as a future urban growth area for Maui island. The draft Maui Island Plan is currently pending review by the Maui County Council. Adoption of the plan will be via ordinance by the County Council.

The applicant will continue to work alongside both the County Department of Planning and the Maui County Council as work proceeds on the final process of

~~review and adoption of the Maui Island Plan.~~

~~2. Secondary Impacts Analysis~~

~~Secondary impacts are those which have the potential to occur later in time or farther in distance, but are still reasonably foreseeable. They can be viewed as actions of others that are taken because of the presence of the project. Secondary impacts from highway projects, for example, can occur because they can induce development by removing transportation access-related impediments to growth.~~

~~Aside from the direct development impacts discussed in the previous sections of this chapter, other secondary impacts may be attributed to project effects on the island's overall housing situation. That is, the provision of affordable housing in Maalaea may affect demand and pricing in other areas of the island, depending on market conditions at the time of project development. As noted previously, a significant increase in resident housing supply will be needed to accommodate the region's anticipated growth. In comparison to many of the planned projects throughout the island which are geared toward the resort market, the proposed Ohana Kai Village Project will provide affordable housing opportunities for Maui's working families in both the near and long term. This in turn is anticipated to result in a more balanced housing market. The project is anticipated to increase the proportion of permanent residents in Maalaea and will add population to this sub-region of Kihei-Makena. In terms of population impacts to the island of Maui, it is expected that the proposed action will serve to accommodate growth in keeping with population parameters advanced by the County General Plan.~~

~~As noted previously, the project will result in construction-term expenditures, wages and taxes. Real property taxes will contribute to the County's revenue tax base to support the increase in public services. The project is not anticipated to have a significant adverse impact on the physical environment. As noted in previous sections, no adverse impacts to historic properties, cultural practices, or rare, threatened or endangered species are anticipated. Necessary engineering infrastructure systems and services will be provided to serve the project.~~

## *1. Context for Cumulative Impact Analysis*

***Pursuant to Section 11-200-2 of the Hawaii Administrative Rules, Chapter 200, entitled Environmental Impact Statement Rules, a cumulative impact means:***

> *The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.*

*A key element in understanding the requirement for assessing cumulative impacts, therefore, is the need to recognize what constitutes "reasonably foreseeable actions". A project which has been cited as having relevance in this regard is the 650-acre Project District 11 (Maalaea Village), which is described by the Kihei-Makena Community Plan as follows:*

> *This project district is located east of Honoapi`ilani Highway at Ma`alaea and extends to the Kealia Pond National Wildlife Refuge. As a master planned residential community, this project proposes to include a mix of single and multi-family housing types for a range of consumer groups, and community oriented amenities such as an 18-hole golf course, a community center, village centers with commercial services, a community park, pedestrian/bicycle paths, and buffer zones. The golf course and open space areas shall be used as buffers along North Kihei Road and the existing Ma`alaea residences. Design of the project shall seek to minimize impacts to the Kealia Pond National Wildlife Refuge, and to other shoreline resources.*

*To date, no timetable and development parameters in terms of number of units, and spatial allocations have been detailed for Project District 11. Based on the lack of a definitive planning and development information for this project, it is not considered a project which is deemed a "reasonable foreseeable action". Once planning for Project District 11 is initiated in the future, it is anticipated that environmental impact analysis for Project District 11 will take into account the environment as it exists at that time, and the cumulative impact of that project together with other actions which may be ongoing or planned as reasonably foreseeable.*

*In contrast to Project District 11, there is identified another project which does fall within the purview of a "reasonably foreseeable action". The Maalaea Village Mixed Use Commercial and Residential Project ("Maalaea Village Project") is located within the Maalaea Triangle property on TMK (2) 3-6-008:006. According to the project's Draft Environmental Assessment, dated December 21, 2007, the proposed Maalaea Village will consist of one hundred and ten (110) units within six (6) 2-story, 3-story and 4-story buildings. Live-work units are proposed as one*

*part of the overall project. The project will contain two hundred-fifty eight (258) paved parking stalls. Two hundred and five (205) parking stalls are existing, and fifty three (53) new stalls are proposed.*

*Where applicable therefore, the analysis of cumulative impacts will consider the Maalaea Village Mixed Use Commercial and Residential Project, together with the past and present actions as represented by the existing Maalaea community.*

2. *Cumulative Impact Evaluation Parameters*

*To ensure that cumulative impacts are analyzed in a structured and systematic manner, parameters described in Table 15 have been used to address cumulative effects.*

*Table 15. Criteria for Evaluating Cumulative Impacts*

| *Assessment Criteria* | *Basis for Impact Evaluation* |
|---|---|
| *Time Crowding* | *Effects of frequent and repetitive actions on the environment* |
| *Time Lags* | *Delayed effects of a proposed action* |
| *Space Crowding* | *Effects of spatial density on the environment* |
| *Cross Boundary* | *Effects of an action occurring away from the source* |
| *Fragmentation* | *Effects or changes in landscape pattern* |
| *Compounding Effects* | *Effects arising out of multiple pathways* |
| *Indirect Effects* | *Secondary effects* |
| *Triggers and Thresholds* | *Effects defined by agency laws, policies or regulations.* |

3. *Methodology for Addressing Cumulative Impacts*

*A list of potential cumulative impact issues and concerns were identified through full review of comment letters received on the Draft EIS. While the issues and concerns addressed a broad range of impact considerations, screening of these issues and concerns was required to ensure that the scope of the cumulative impact*

*assessment fell within the scope of a "cumulative impact" analysis, as set forth in Section 11-200-2 of the Hawaii Administrative Rules, Chapter 200. Pre-screening issues and concerns relating to cumulative impacts, as well as secondary impacts are listed below.*

1. *Roadway infrastructure impacts associated with the combined implementation of both Project District 11 (Maalaea Village) and Project District 12 (Ohana Kai Village)*

2. *Implementation relationship between Project District 11 and Project District 12 in terms of provision of infrastructure systems*

3. *Impacts to the existing Maalaea community relative to shoreline access and fishing rights*

4. *Impacts of the project upon the existing Maalaea community*

5. *Impacts upon infrastructure systems serving the region*

6. *Impacts upon the County's Water Use and Development Plan strategies*

7. *Impacts on natural resources, particularly given the density characteristics of the proposed action*

8. *Impacts of the proposed action on neighboring land uses*

*In applying the definition of "cumulative impacts" as a screening mechanism, issues relating to the combined effect of Project District 11 and Project District 12 were removed from the analysis due to the uncertainties associated with the development of Project District 11 (Maalaea Village). Given this uncertainty, it was deemed that Project District 11 did not fall within the realm of a "reasonably foreseeable future action".*

*The next step in the analysis involved the identification of applicable evaluative criteria to each of the remaining issues and concerns raised. This step resulted in the formulation of an evaluative criteria matrix, as presented in Table 16.*

*Table 16. Cumulative Impact Issues/Concerns and Applicable Assessment Criteria*

| | |
|---|---|
| *Time Crowding* | *a. Impacts to shoreline access and fishing rights*<br>*b. Impacts to natural resources* |
| *Time Lags* | *a. Effects on County's Water Use and Development Plan* |
| *Space Crowding* | *a. Impacts to existing Maalaea community*<br>*b. Impacts to neighboring land uses*<br>*c. Impacts to natural resources* |
| *Cross Boundary* | *a. Effects on County's Water Use and Development Plan* |
| *Fragmentation* | *a. Impacts upon existing Maalaea community*<br>*b. Impacts to neighboring land uses* |
| *Compounding Effects* | *a. Impacts to infrastructure systems* |
| *Indirect Effects* | *a. Impacts to existing Maalaea community*<br>*b. Impacts to neighboring land uses* |
| *Triggers and Thresholds* | *a. Effects on County's Water Use and Development Plan* |

## *4. Cumulative Impact Assessment*

***Based on the methodology described in the previous section, an analysis of each assessment criteria was undertaken for each applicable issue/concern. The analysis is presented below.***

### *a. Time Crowding Effects on Shoreline Access and Fishing, and Natural Resources*

***Time crowding refers to the repetitive and frequent effects from an action upon a particular component of the environment. For example, from a shoreline use and natural resource perspective time crowding effects may be the possible depletion of a resource or opportunity based on recurring impacts on that resource or opportunity.***

***Shoreline Access and Fishing:** While shoreline access and fishing opportunities were noted as the specific areas of concern, it is appropriate to consider the time crowding effects of the proposed Ohana Kai Village Affordable Housing Project on shoreline recreational opportunities in*

*general. In other words, what effects will the project have on shoreline activities which extend beyond access and fishing, to include recreational opportunity elements such as picnicking and swimming. The issues associated with time crowding on shoreline recreational opportunities relate primarily to the potential for overuse of coastal recreational resources. The County of Maui's Haycraft Park, for example, has been cited as inadequate from the standpoint of lack of parking, and spillover effects to neighboring properties. Comments pertaining to the implementation of the Ohana Kai Village Affordable Housing Project expressed concern that the residents from the project will further aggravate existing inadequacies at Haycraft Park. While Ohana Kai Village residents may have the option to use Haycraft Park or other nearby beach areas, the effects of such use should not be construed as a direct link between the project and any potential for resource degradation. Over the eight (8)-year buildout period, residents of Ohana Kai Village, together with the proposed Maalaea Village Mixed Use Commercial and Residential project in the Maalaea Triangle, will consist of the existing population of residents, as well as the future population anticipated by population growth models developed by the County of Maui. The Ohana Kai Village Affordable Housing Project and the Maalaea Village project are not shoreline properties, and hold different recreational demand characteristics from those of shoreline properties. For example, the development of shoreline properties provide direct access to beach areas from those properties, thus providing a direct linkage between shoreline recreational use and shoreline development. Such is not the case for the future Ohana Kai Village and Maalaea Village residents. Residents of Ohana Kai and the Maalaea Village project will seek shoreline recreation areas suitable for their particular family needs, which includes all shoreline recreation areas on the island. In this context, time crowding effects is considered an islandwide planning issue rather than a project specific issue.*

*<u>Natural Resources</u>: Natural resources having a potential time crowding relationship to the Ohana Kai Village Affordable Housing Project include marine waters, as well as flora and fauna. The time crowding effect associated with marine waters, for example, includes potential water quality degradation to Maalaea Bay, with repetitive contributions of storm runoff from the project site. The time crowding effect on flora and fauna relates to displacement of onsite flora and fauna on an incremental basis over the eight (8) year buildout period.*

*With respect to marine waters, appropriate stormwater runoff mitigation will be required in accordance with County drainage regulations. Project plans call for the development of drainage retention basins to mitigate impacts to Maalaea Bay's water quality. Properly managed, the use of the retention basins and its natural filtering characteristics will ensure that water quality degradation will not occur as a result of time crowding effects.*

*Beyond long-term drainage mitigation, concerns raised also point to historical circumstances which may have contributed to the degradation of Maalaea Bay. Specific issues relate to wastewater injection and construction runoff. The proposed Ohana Kai Village Affordable Housing Project will include the installation of injection wells for its wastewater treatment facility, which will be located at the project site's southern extent. Concerns expressed note the spatial proximity of the wastewater treatment facility to the Maalaea coastline. The Ohana Kai Village's wastewater treatment strategy calls for the reuse of R-1 treated water for non-drinking water purposes. Only during periods of heavy rain will the injections wells be used as a back up mechanism for disposal.*

*With regard to flora and fauna, biological resources investigations have concluded that there are no rare, threatened or endangered species found at the site. The use of the property as former agricultural lands has resulted in a current landscape which does not hold valuable habitats for flora and fauna. In this connection, adverse time crowding effects on flora and fauna are not anticipated.*

*b.* *Time Lag Effects on County's Water Use and Development Plan*

*Time lag effects refer to changes to the environmental which may occur over a longer duration. Such effects for example, may include changes in microclimates resulting from changes in land cover characteristics. Such changes may not be immediately identified, but may, over a period of time, become apparent. The applicability of time lag effects to cumulative impact issues has been evaluated with regard to the County's Water Use and Development Plan (WUDP). To illustrate, the cumulative effects of water source development in a given aquifer, may not be apparent until future source testing and development occurs in that aquifer. Such cumulative effects may also be argued to fall within the realm of the "compounding" criteria. The analysis of the cumulative effects of the Ohana Kai Village*

*Affordable Housing project on the County's WUDP is judged to cover both time lag and compounding issues.*

*To understand the potential effects and relationships of the proposed Ohana Kai Village water sources with the WUDP, a foundation understanding of the WUDP is considered beneficial. The WUDP for Maui is currently being prepared and responds to requirements set forth in Chapter 174, Hawaii Revised Statutes which requires that each County prepare a WUDP setting forth the allocation of water to land use in that county. Chapter 14.02, Maui County Code further specifies:*

> *The purpose of the water use and development plan is to meet the mandate of the State water code relative to statewide water resources planning and aid the commission on water resource management and the County of Maui in the conservation, development, and use of the water resources of the County.*

*Appendix B of the WUDP, entitled Characterization of Central District Specific Resource Options identifies the following options for meeting water use demand:*

- *Committed Resource Options - options that are in the process of being implemented but are not yet in service*
- *Short Term Resource Options - options that could mitigate immediate capacity reserve shortfalls*
- *Long Term Resource Options - alternative options that would form the fundamental basis of the resource strategies and would address the identified planning objectives over the time frame of the planning period*
- *General Resource Options - ancillary options and options that are not mutually exclusive (can be implemented in conjunction with most other combinations of options)*

*The options identified in each of the foregoing categories include developing new wells in the Iao, Waihee, Kahului, Kahakuloa, Haiku, and Honopou Aquifers, among others. In addition, options for brackish water and seawater desalinization, surface water treatment and water reclamation/recycling are also identified. Of these multiple options for new sources for Central Maui, only the Waikapu South Wells option would*

*have a direct relationship to the Ohana Kai Villages water source. This option involves the potential for drilling new wells in the Waikapu Aquifer, the same aquifer which is being used to provide water source to the Ohana Kai Village Affordable Housing Project. The Waikapu South Wells option falls within the short-term resources category which address source alternatives which have the ability to meet water demands or system capacity requirements in the next two (2) to three (3) years. The Waikapu South Wells are described by the WUDP's Characterization of Central District Specific Resource Options as follows:*

> *Two wells are being planned for the Waikapu aquifer above Waikapu town at an elevation of about 750 feet. Development of these wells would include well drilling and development and minor transmission improvements. Negotiations are underway for easements and rights of way. These wells would draw from the Waikapu basal groundwater aquifer. The earliest these wells could provide water to the DWS system is 2009. The sustainable contribution of these wells as a new source of water is limited to the 2 MGD sustainable yield of the Waikapu aquifer. These wells would provide needed reserve capacity to meet the engineering reliability criteria for the DWS Central system. It is not certain that these wells can be developed by the DWS. It is possible that several other candidate wells in this area may be developed by private entities. Whether these wells or other private wells are developed, it is presumed in the analyses supporting the Final Candidate Strategies Report that the 2 MGD sustainable yield of the Waikapu aquifer will be developed to serve water demand in the Central District area.*

*At this time, testing and development work on the Waikapu South Wells have not been started.*

*It is noted that water for the proposed Maalaea Village Mixed Use Commercial and Residential Project will be provided via connection to the County water system.*

*With regard to the Ohana Kai Village water source, three (3) wells have been drilled and tested. These wells are referred to as the Pohakea Wells 1 to 3 (Well Nos. 4930-01, 4930-02 and 4930-03). The Preliminary Engineering Report (Appendix "M"), places the average daily demand for the Ohana Kai Village project at approximately 729,200 gallons per day*

*(gpd). This amount is less than the 2.0 mgd sustainable yield of the Waikapu Aquifer. The development of the three (3) wells has been conducted in accordance with Chapter 174C, HRS, as administered by the Commission on Water Resource Management (CWRM). By letter dated March 23, 2010, the CWRM issued the combined Certificate of Well Construction and Pump Installation Completion. Refer to Appendix "M-3". The combined certificate approves the capacity of the three (3) installed pumps rated at 300 gpm, 475 gpm, and 475 gpm. The certifications are conditioned to ensure that proper monitoring of the wells are conducted for the life of the wells and that existing or future legal uses of water in the area are not adversely affected.*

*The future development of the Waikapu South Wells will follow the same process of well construction and pump installation set forth under Chapter 174, HRS, with the likely imposition of similar conditions. Pump capacity limits for the Waikapu South Wells will be required to respect the Waikapu Aquifer's 2.0 mgd sustainable yield.*

*In terms of time lag, as well as compounding effects, therefore, processes are in place to ensure that water resources of the Waikapu Aquifer are adequately protected. The approval of the three (3) Pohakea Wells ensures that long-term water availability will be provided for the project, within a context of protocols and measures designed to protect the integrity of the Waikapu Aquifer.*

c. *Space Crowding Effects on Existing Maalaea Community, Neighboring Land Uses and Natural Resources*

*Existing Maalaea Community and Neighboring Land Uses: With regard to the proposed Ohana Kai Village Affordable Housing Project, space crowding refers to the effects of added density of the proposed project upon the Maalaea community, including nearby neighboring landowners. In this regard, several comments were raised expressing concern regarding the density of the project and the effects of the project's added population.*

*According to data profiles gathered from the U.S. Census, in the year 2000, there were approximately 600 housing units in the Maalaea census designated place (CDP). (U.S. Census). Of this total, 263 were owner occupied housing units, 272 were for seasonal, recreational or occasional use, and the remaining units were classified as vacant. While*

*acknowledged to be ten (10) years old, this information is the best available to use as a basis for forming a general characterization for space crowding analysis.*

*The proposed Maalaea Village Mixed Use Commercial and Residential Project in the Maalaea Triangle will add 110 multi-family units to the Maalaea community, while the Ohana Kai Village Affordable Housing project will add another 1,100 single-family units, plus commercial and public/quasi-public uses. Utilizing a household size factor of 2.80, the household size factor estimated in the County of Maui's Socio-Economic forecast (2006), a potential added population of about 3,080 is expected to reside in the Ohana Kai Affordable Housing project and with an additional 310 residents in the Maalaea Village Mixed Use Commercial and Residential Project. Space crowding issues associated with this added population include the generation of new traffic and its impacts to the existing Maalaea community and other neighboring land owners, as well as impacts to other infrastructure components serving the region. In addition, concerns over the effects of these projects on public services such as, police and fire protection, and recreational resources (as noted above) are considered pertinent when conducting a space crowding analysis. The mitigative measures associated with the Ohana Kai Village Affordable Housing Project are viewed as appropriate when considering the potential impacts to be generated by the project.*

- *Traffic*

  *Traffic mitigation measures for the project are detailed in the Traffic Impact Analysis Report (TIAR). Refer to Appendix "L". From a cumulative impact standpoint, the TIAR considers the traffic generated by the proposed Ohana Kai Village Affordable Housing Project and adds that traffic volume to the estimated regional growth in traffic volumes. Traffic data from the Maalaea Village Mixed Use Commercial and Residential Project at the Maalaea Triangle is incorporated in the traffic report. Based on this analysis, the TIAR recommends mitigation measures intended to address traffic impacts along Honoapiilani Highway, an arterial used by Maalaea residents, as well as other island residents and visitors traveling to and from West Maui. The recommended mitigation measures includes improvements and actions at the*

*Kuihelani Highway-Honoapiilani Highway intersection, North Kihei Road-Honoapiilani Highway intersection, Kapoli Street-Honoapiilani Highway intersection, new middle access road-Honoapiilani Highway intersection and the Maalaea Road-Honoapiilani Highway intersection.*

- *Water and Wastewater Systems*

  *Impacts to the Maalaea community and neighboring landowners due to added demand for water and wastewater system requirements will be mitigated through the applicant's provision of private systems. There will be no impacts to water pressure or service capabilities to the existing Maalaea community and neighboring landowners, nor will there be adverse cumulative effects relating to wastewater collection and treatment systems which currently serve the community.*

- *Drainage*

  *The proposed drainage system for the Ohana Kai Village Affordable Housing project will be designed in accordance with the County of Maui's Rules for the Design of Storm Drainage Facilities in the County of Maui. Thus, the incremental increase in stormwater runoff will be retained onsite in retention basins located along the lower portion of the project site, adjacent to Honoapiilani Highway. In addition, construction Best Management Practices will be implemented to ensure that measures to contain storm runoff during the site construction phase of work appropriately mitigates runoff concerns which may potentially affect Maalaea Bay. With the mitigation measures required under State and County regulatory mechanisms, adverse cumulative impacts to downstream properties, including the existing Maalaea community and neighboring properties are not anticipated.*

- *Police and Fire Protection Services*

  *Concern has been expressed that the Ohana Kai Village Affordable Housing project will create a burden to police and fire protection capabilities. It is recognized that the placement of approximately*

*1,100 new homes in a heretofore vacant and undeveloped parcel will require operational adjustments by both the Maui Police Department and Department of Fire and Public Safety. In particular, over the eight (8) year project build out period, new personnel assignments may be required to department divisions. Corollary to this need, is the anticipated need to fund new positions or to acquire new equipment. The mitigation measure, while not a direct allocation of resources from the applicant, comes in the form of real property taxes which may then be used for County operational and capital programming.*

*In general, the implementation of the Ohana Kai Village Affordable Housing Project, together with the Maalaea Village Mixed Use Commercial and Residential Project will not lessen the Police Department's or Fire Department's ability to meet public safety needs of the existing Maalaea community.*

- *Recreational Resources*

  *The analysis for space crowding as it relates to recreational resources is addressed in the analysis presented for recreational resources effects under the time crowding parameter discussed above.*

*Natural Resources: Beyond long-term drainage related impacts discussed under time crowding effects, concerns raised also point to past and present conditions which may have water quality implications for Maalaea Bay. The specific issue relates to wastewater injection. From a space crowding standpoint, there presently exists, individual wastewater systems associated with existing residential condominiums, the Maalaea Small Boat Harbor and the Maalaea Triangle commercial property. The proposed Ohana Kai Village Affordable Housing Project will include the installation of injection wells for its wastewater treatment facility, which will be located at the project site's southern extent. Concerns expressed note the spatial proximity of the wastewater treatment facility to the Maalaea coastline. Towards mitigating this concern, the Ohana Kai Village's wastewater treatment strategy calls for the reuse of R-1 treated water for non-drinking water purposes. While injection wells will be used during periods of heavy rain as a back up mechanism for disposal, the wastewater reuse strategy,*

*in the context of past and present conditions, is considered an appropriate mitigation measure for natural resource protection.*

*d.* *Fragmentation Effects on Existing Maalaea Community and Neighboring Land Uses*

*Fragmentation refers to changes to landscape patterns as a result of a proposed action. For example, fragmentation of a historic district may occur if development approvals for a project having non-historic architectural design elements are approved and developed adjacent to such district. Fragmentation may also result with the construction of a new highway through a habitat area, where the functional continuity of the habitat may be disrupted by the highway. In the case of the Ohana Kai Village Affordable Housing Project, the development of 257 acres for single family, commercial and public/quasi-public uses will alter the area's landscape. For example, while agricultural lands now separate the Maalaea Triangle commercial property and neighboring State-owned Conservation lands mauka of the project site, the Ohana Kai Village Affordable Housing Project will create a continuous urban landscape up to the State-owned lands.*

*The issue then is whether an increase in the urban landscape is deemed to be an adverse effect. Effects on views and opens space corridors for example, have been cited as a concern by commenting parties. Mitigation for view impacts includes the provision of a 100-ft. open space buffer along Honoapiilani Highway and the installation of landscaping along the highway. Vertical construction within the project itself will be of a low rise character.*

*Notwithstanding specific viewshed concerns and mitigation measure associated with the proposed subdivision, the evaluative criteria for fragmentation is whether the development will adversely affect the regional landscape pattern of the Maalaea region in a significant way.*

*The urbanized character of Maalaea is established by the Maalaea Small Boat Harbor, the Maalaea Triangle, and the existing Maalaea residential community along Hauoli Street. In general, new development on previously vacant lands alters landscape. The extent to which such alteration adversely affects spatial continuity within a community or specific geographic area should be considered in terms of the character of*

*the existing landscape, land use spatial relationships of the existing landscape and the spatial relationship of the proposed action to the existing landscape. In this instance, the proposed Ohana Kai Village Affordable Housing project will be located at the edge of the existing Maalaea urbanized area. The placement of the subdivision at this location, follows a pattern of reasonable land use expansion without implications for spot zoning (which fragments geographic spaces). Nor does the future development of the property create fragmented access, infrastructure development and land use compatibility issues. These factors were considered in the designation of the property as Project District 12 in the Kihei-Makena Community Plan.*

e. *Compounding Effects on Infrastructure Systems*

*Compounding effects relate to the additive and synergistic effects of impacts arising out of multiple pathways. For example, the implementation of a new highway which will ultimately serve new residential communities must be analyzed not only in terms of the highway itself, but also the reasonably foreseeable future residential units which may develop as a result of the new highway. With regard to the Ohana Kai Village Affordable Housing Project, compounding effects was assessed in connection with the proposed Maalaea Village Mixed Use Commercial and Residential Project. This project proposes 110 multi-family units within the Maalaea Triangle commercial property located across the street from the Ohana Kai Village Affordable Housing Project site. The additive effects of both projects on infrastructure systems were analyzed utilizing the Draft EA for the Maalaea Village Mixed Use Project. The evaluation approach considers the adequacy of mitigation measures proposed for both projects in addressing compounding results. Specific infrastructure parameters considered in the analysis are traffic impacts, water and wastewater systems and drainage systems.*

- *Traffic*

  *According to the Draft EA for the Maalaea Village Mixed Use Residential and Commercial Project:*

  > *At the time of the original SMA Permitting for the Maalaea Triangle, traffic improvements were constructed to accommodate traffic volumes*

*generated by the full build out of the Maalaea Triangle Commercial Subdivision. The traffic generated by the proposed Maalaea Village is not expected to significantly impact traffic in the vicinity of the project. Traffic mitigation is not recommended at this time.*

*In particular, the Draft EA notes that the intersection of Honoapiilani Highway and Kapoli Street will operate at a Level of Service "B" for both morning and afternoon peak hours. This analysis is based on the Maalaea Village Project's projected trip generation of 94 morning peak hour trips and 98 afternoon peak hour trips. As noted above, the TIAR for the Ohana Kai Village Affordable Housing Project incorporates data from the Maalaea Village Mixed Use Commercial and Residential Project's TIAR to complete the traffic analysis. Thus, the context for recommending mitigation measures for the Ohana Kai Village Affordable Housing Project considers the additive or compounding effects attributed to the Maalaea Village Mixed Use Commercial and Residential Project.*

- *Water System*

*The estimated daily water demand for the Maalaea Village Mixed Use Commercial and Residential Project is estimated to be 63,000 gpd. The estimated demand for the Ohana Kai Village Affordable Housing Project is 729,200 gpd. The Maalaea Village Project proposes to connect to the County of Maui's Central Maui Water System. The Ohana Kai Village Affordable Housing Project has developed its own private water system which draws from the Waikapu Aquifer. Inasmuch as the projects will utilize different systems, there are no competing or compounding effects on water infrastructure.*

- *Wastewater*

*Wastewater from the Maalaea Village Mixed Use Commercial and Residential Project will be conveyed to the Maalaea Triangle's private wastewater treatment facility located within the Maalaea Triangle Property. The estimated wastewater flows from the*

*Maalaea Village Project is 28,479 gpd. The estimated average wastewater flows attributed to the Ohana Kai Village Affordable Housing Project is 471,000 gpd. As noted above, wastewater generated by the Ohana Kai Village Affordable Housing Project will be accommodated by an onsite private wastewater treatment facility. Since both projects will be using separate private wastewater treatment facilities, there are no additive effects relating to transmission and treatment.*

- *Drainage*

*According to the Draft EA for the Maalaea Village Mixed Use Commercial and Residential Project, the original development of the Maalaea Triangle project was designed to accommodate runoff from the entire project site, including the parcel proposed for the Maalaea Village Project. The drainage system for the Ohana Kai Village Affordable Housing project will be separate from that installed for the Maalaea Village project. In this regard, there are no additive effects on drainage systems for either project.*

*f. Indirect Effects on Existing Maalaea Community and Neighboring Land Uses*

*Indirect effects are also referred to as secondary impacts. According Section 11-200-2 of the Hawaii Administrative Rules, Chapter 200, entitled Environmental Impact Statement Rules, a secondary impact or indirect effect means:*

> *Effects which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.*

*The indirect effect associated with the Ohana Kai Village Affordable Housing Project pertains to its implications for future growth in the Maalaea community. In other words, the development of the Ohana Kai Village Affordable Housing Project may induce other development actions in the region based on the notion that growth permitted via the Ohana Kai*

*Affordable Housing Village Project, may serve as justification for future changes in land use patterns or population density. As discussed previously, Project District 11 is not considered a reasonable foreseeable action for this cumulative impact assessment. It is nonetheless noted as a representation of future development potential which may follow the Ohana Kai Village Affordable Housing Project. There are no other proposed reasonably foreseeable actions other than the Maalaea Village Mixed Use Commercial and Residential Project. The growth inducing effects of the Ohana Kai Village Affordable Housing Project should, however, be evaluated in terms of land use processes which will govern all future development actions. Each future proposed action will require its own cumulative impact assessment in connection with applicable entitlements applications. Moreover, each future development action must be evaluated on a case-by-case basis to ensure that impacts associated with such actions are appropriately mitigated. In this regard, the Ohana Kai Village's indirect or secondary effects on the existing Maalaea Community (in terms of growth inducing effects), will be managed through regulatory processes in place at the time each future action is proposed.*

g. *Triggers and Threshold Effects on County's Water Use and Development Plan*

*Triggers and thresholds refer to impacts which may be tied to indicators established through laws, policies, regulations or standards. Triggers and thresholds may include standards which identify key indicators which, when exceeded, would require special study or mitigation efforts. In traffic analysis for example, the Level of Service "F" reflects a worst case condition in terms of traffic operations. Such a level of service would require that traffic mitigation be implemented to bring conditions back within the acceptable range of operations. With regard to the Ohana Kai Village Affordable Housing project, the parameter identified as requiring evaluation with respect to triggers and thresholds is the effect of the project on the County's WUDP. The threshold which must be considered with reviewing the WUDP is the sustainable yield of the Waikapu Aquifer. As noted above, the WUDP cites this yield at 2.0 mgd. The three (3) Pohakea Wells which have received their certificates of well construction and pump installation completion are rated with pump capacities of 300 gpm, 475 gpm and 475 gpm. The estimated daily demand for drinking water for the project is 729,200 gpd. The use of the Pohakea Wells to service the Ohana Kai Village Affordable Housing project will not exceed this threshold. The*

***County's identification of the Waikapu South Wells as a short term option will need to consider the aquifer's threshold as well. However, the Pohakea Well do not preclude the development of the Waikapu South Wells and, accordingly, does not alter the conclusions and recommendation of the WUDP.***

***In conclusion, the*** ~~The~~ proposed Ohana Kai Village Affordable Housing Project is~~, therefore,~~ not anticipated to result in significant adverse ***cumulative or*** secondary impacts.

# III. RELATIONSHIP TO LAND USE PLANS, POLICIES, AND CONTROLS

# III. RELATIONSHIP TO LAND USE PLANS, POLICIES, AND CONTROLS

## A. STATE LAND USE DISTRICT

Chapter 205, Hawaii Revised Statutes, relating to the Land Use Commission, establishes four (4) major land use districts in which all lands in the state are placed. These districts are designated as "Urban", "Rural", "Agricultural", and "Conservation". Both the project site and utility site are located within the "Agricultural" district. See ~~Figure 17~~*Figure 18*.

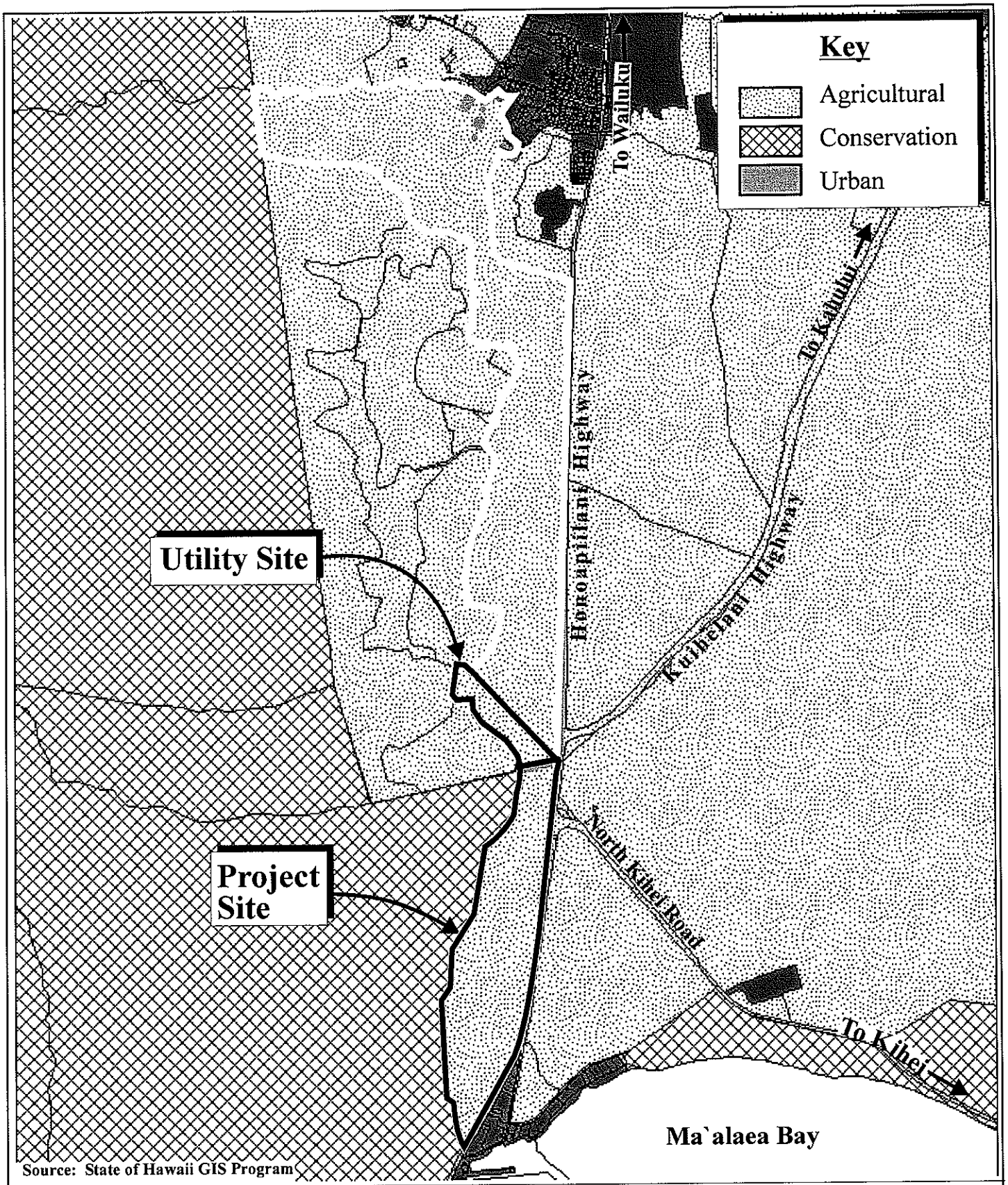
A State Land Use District Boundary Amendment (DBA) for the 257-acre project site for reclassification from "Agricultural" district to the "Urban" district will be requested as part of the Hawaii Revised Statutes (HRS) Section 201H application process to enable implementation of the Ohana Kai Village Affordable Housing Project. Criteria considered in the reclassification of lands are set forth in the State Land Use Commission Rules (Chapter 15-15-18, Hawaii Administrative Rules).

The proposed reclassification of the approximately 257 acres within the project site from Agricultural to Urban has been analyzed with respect to the criteria, as discussed below:

*1. It shall include lands characterized by "city-like" concentrations of people, structures, streets, urban level of services and other related land uses.*

**Comment:**

The area proposed for reclassification is adjacent to the existing development of Maalaea Commercial Triangle and the Maalaea Small Boat Harbor, which are located on lands classified as "Urban." Maalaea Village also encompasses condominium projects along Hauoli Street, providing an urban setting. Infrastructure systems implemented in conjunction with the proposed project will serve all areas within the limits of the project site. The proposed development will include city-like concentrations of people in a community which will include 1,100 single-family homes.




Source: State of Hawaii GIS Program

Figure 18 Proposed Ohana Kai Village Affordable Housing Project and Related Improvements
State Land Use Classifications

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An internal road network, village town center, park, and public/quasi-public uses will serve the needs of the community.

2. ***It shall take into consideration the following specific factors:***

**~~1.~~*(A)* Proximity to centers of trading and employment except where the development would generate new centers of trading and employment.**

**Comment:**

The proposed Ohana Kai Village project will expand the existing Maalaea community and will generate a new center of trading and employment through the development of a village town center and school facility within the core of the proposed residential subdivision. The area proposed for reclassification is also located adjacent to the Maalaea Commercial Triangle and Maalaea Small Boat Harbor. In addition to the employment opportunities presented in these commercial areas and the onsite village town center within the subdivision, the proposed project is located approximately six (6) miles from the commercial/employment centers of Kihei and Wailea and six (6) and eight (8) miles from the commercial/employment centers of Wailuku and Kahului, respectively. Numerous employment opportunities exist in the retail, resort, and service industries in the Kihei/Wailea area while Wailuku and Kahului serve as the central business districts of the island. Additionally, Federal, State, and County government offices and courts are located in Wailuku.

**~~2.~~*(B)* Availability of basic services such as schools, parks, wastewater systems, solid waste disposal, drainage, water, transportation systems, public utilities, and police and fire protection.**

**Comment:**

The area proposed for reclassification will be serviced by a new onsite Wastewater Treatment Plant (WTP) which will be developed in conjunction with the project. Additionally, ~~domestic~~***drinking*** water supply will be provided by privately developed wells within the utility site and will not rely on County sources. The area is located in close proximity to major roadways such as, Honoapiilani Highway, Kuihelani Highway, and North Kihei Road, which provide access to other communities on Maui. The proposed subdivision falls within the Baldwin complex of the State Department of Education (DOE), which is currently served by Wailuku Elementary (K-5),

Pomaikai Elementary (K-5), Iao Intermediate (6-8), and Baldwin High School (9-12). To enhance educational opportunities within the region, MVI, LLC has allocated public/quasi-public lands within the subdivision, which would allow the construction of a charter school at this location. This facility is anticipated to provide some level of relief to other schools within the Wailuku/Kahului and Kihei areas. Health care facilities, as well as police and fire protection services, are available in Wailuku and Kahului, as well as in Kihei. ~~Coordination with the Department of Fire and Public Safety will be undertaken to determine the suitability of providing a fire substation site within the public/quasi-public component of the subdivision.~~

~~3.~~*(C)* **Sufficient reserve areas for foreseeable urban growth.**

**Comment:**

As noted previously, a significant increase in housing supply will be needed to accommodate the region's anticipated growth. The project will provide affordable resident housing opportunities in both the short and long term, which in turn is anticipated to result in a more balanced housing market. The proposed project involves the development of a master-planned community involving residential, commercial, and public/quasi-public land uses. The project will be constructed in phases over a period of approximately eight (8) years. Project completion is expected to partially address the shortage of affordable housing currently being experienced in Maui County. In addition, Project District 11, located across Honoapiilani Highway from the project site, currently remains undeveloped. ~~and would be~~ ***Though implementation of Project District 11 is not currently "reasonably foreseeable", lands at this location are currently*** available to accommodate demands for urban growth beyond completion of Ohana Kai Village.

~~4.~~*3.* **It shall include lands with satisfactory topography, drainage, and reasonably free from the danger of any flood, tsunami, unstable soil conditions, and other adverse environmental effects.**

**Comment:**

The project site, containing slopes averaging 5.5 percent, is suitable for the planned uses. The majority of land proposed for reclassification is located within Flood Zone ~~C (an area of minimal flooding)~~*X (unshaded)* on the Federal Emergency

Management Agency (FEMA), Flood Insurance Rate Maps. ***Flood Zone X (unshaded) represents areas outside of the 0.2 percent annual chance flood plain.*** A portion of the land (gulches) to be reclassified is located in Flood Zone ~~B~~***X (shaded)***, which identifies areas ~~between the 100-year and 500-year flood~~***of 0.2 percent annual chance flood; areas of one (1) percent annual chance flood with average depths less than one (1) foot or with drainage areas less than one (1) square mile; or areas protected by levees from the one (1) percent annual chance flood. Refer to Figure 10 (on Page 27).*** Special Flood Hazard Area Development (SFHAD) requirements will be addressed for the project, as applicable. The project area is not subject to tsunami inundation or unstable soil conditions. Drainage improvements for the proposed subdivision will be designed in consultation with applicable governmental agencies to mitigate potential runoff and adverse drainage impacts on environmental resources.

Phase I Environmental Site Assessment (ESA) reports have been completed for both the project site and the utility site. Refer to **Appendix "D"**. A Phase II ESA was completed to address a recommendation in the Phase I ESA report that soils within the project site be tested. ***Refer to Appendix "D-1".*** An addendum Phase II ESA report was also prepared to address the potential presence of dioxins/furans from former agricultural operations within the project site. Refer to **Appendix ~~"D-1" and~~ "D-2"**. Based on the results of the soil testing, the Phase II ESA confirms that residual levels of pesticides, fertilizers, and dioxins/furans are within safe levels. All issues identified in the ESA reports have since been addressed such that there are no outstanding environmental conditions currently present within the limits of the project and utility sites. The use of the project site for a residential subdivision is not anticipated to present any impacts to public health and safety. ***During review of the Draft EIS, the State Department of Health, Hazard Evaluation and Emergency Response Office (HEER) issued a letter, dated February 3, 2010, stating that "the results provided in the Draft EIS indicate that there are no exposure risks to human health or the environment".***

No foreseeable adverse environmental effects are anticipated in conjunction with the proposed project.

***5.4.*** **Land contiguous with existing urban areas shall be given more consideration than non-contiguous land, and particularly when indicated for future urban use on state or county general plans.**

**Comment:**

A portion of the area proposed for reclassification is contiguous with existing State Land Use designated Urban lands to the southeast which include the Maalaea Commercial Triangle, the Maalaea Small Boat Harbor, and the condominium-based residential/visitor component of Maalaea Village. Additionally, as designated in the Kihei-Makena Community Plan, Business/Commercial lands and Project District 11 are adjacent to the project site. Commercial uses, including the Maalaea Commercial Triangle, occupy the Business designated lands while Project District 11 is identified as a future residential growth area in the Kihei-Makena Community Plan. See ~~**Figure 18**~~***Figure 19***. The subject property is designated for urban residential use (Project District 12) by the Kihei-Makena Community Plan.

~~6.~~***5.*** **It shall include lands in appropriate locations for new urban concentrations and shall give consideration to areas of urban growth as shown on the State and County plans.**

**Comment:**

The project site is designated Project District 12 by the Kihei-Makena Community Plan. The project area is in the vicinity of the commercial land uses of Maalaea ***Small*** Boat Harbor and Maalaea Commercial Triangle. As noted previously, the Kihei-Makena Community Plan also designates lands adjacent to the project site for business and commercial uses and for future residential development within Project District 11. The lands proposed for reclassification are located within an area suitable for new urban growth.

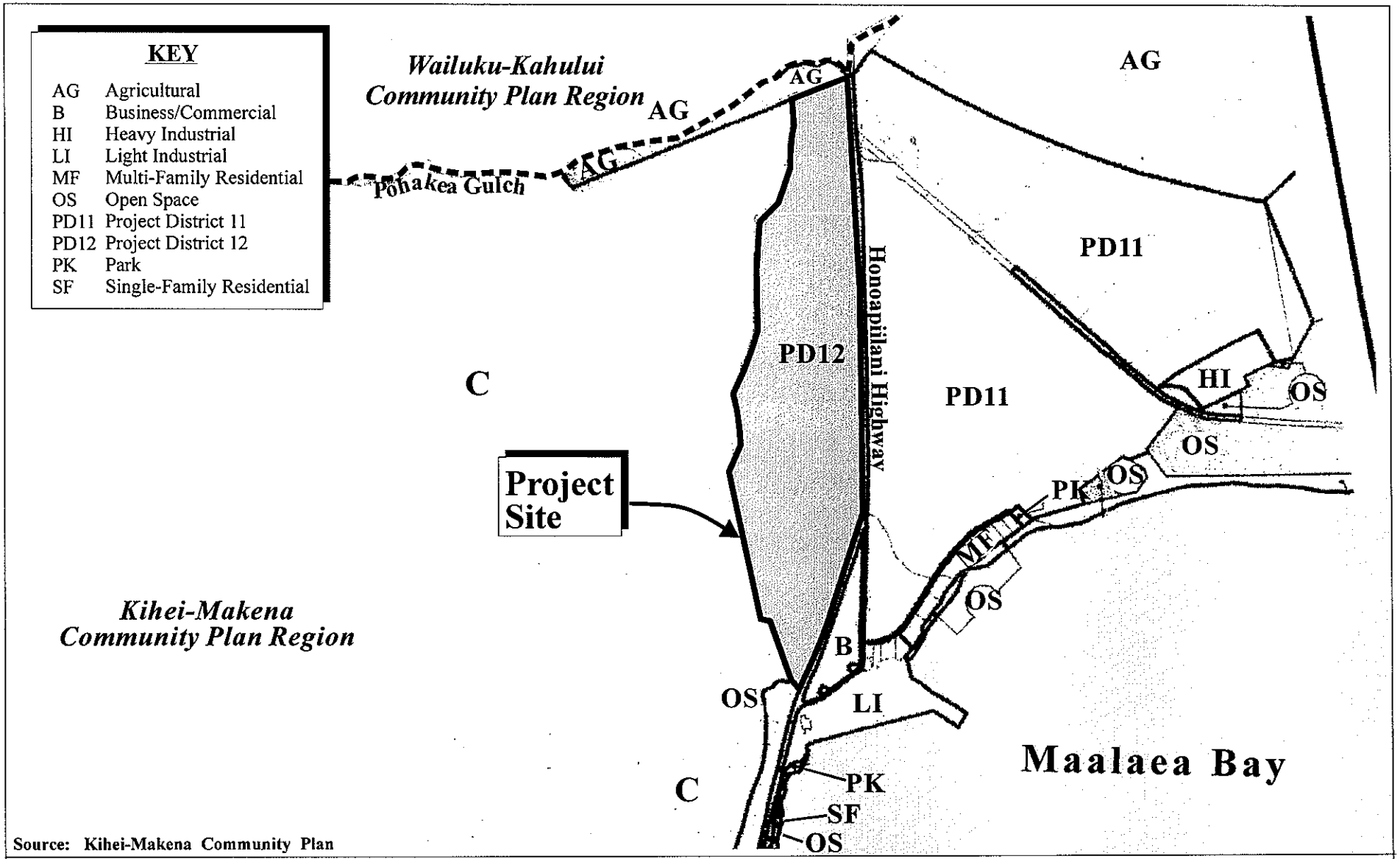
***6. It may include lands which do not conform to paragraphs (1) to (5):***

***(A) When surrounded by or adjacent to existing urban development; and***

***(B) Only when those lands represent a minor portion of this district.***

***Comment:***

As mentioned previously, the project site is located adjacent to areas of existing urban development. Existing State Land Use designated urban lands lie to the southeast, which include the Maalaea Commercial Triangle, the Maalaea Small Boat Harbor, and various condominiums and single-family residences along the Maalaea Bay coastline.




Source: Kihei-Makena Community Plan

Figure 19

# Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

## Kihei-Makena and Wailuku-Kahului Community Plan Land Use Designations

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7. ***It shall not include lands, the urbanization of which will contribute toward scattered spot urban development, necessitating unreasonable investment in public infrastructure or support services.***

***Comment:***

The development of Ohana Kai Village will not necessitate unreasonable investment in public infrastructure or support systems. All engineering infrastructure systems for Ohana Kai Village will be provided and installed by MVI, LLC.

8. ***It may include lands with a general slope of twenty percent (20%) or more if the commission finds that those lands are desirable and suitable for urban purposes and that the design and construction controls, as adopted by any Federal, State, or County agency, are adequate to protect the public health, welfare and safety, and the public's interest in the aesthetic quality of the landscape.***

**Comment:**

The project site, containing slopes averaging 5.5 percent, possesses suitable topographic characteristics for the proposed residential use. Applicable County grading regulations will be followed to ensure the protection of public health, safety, and welfare. Refer to **Appendix "B"**.

***It is further noted that during review of the Draft EIS, the State Land Use Commission (SLUC) provided the following additional information on Project District 12:***

> ***...the LUC reclassified an approximately 20.644-acre portion of the subject property from the Conservation District to the Agricultural District under Docket No. A91-672/C. Brewer Properties, Inc., to bring it in conformance with past and existing agricultural uses at that time. The reclassification was originally subject to nine conditions. The LUC subsequently released three of the conditions pursuant to Order Granting In Part And Denying In Part Motion To Release Conditions Of Approval Due To Satisfaction Of Conditions filed on April 7, 2000. The remaining six conditions, including the requirement that the approximately 20.644 acres continue in agricultural use, continue to be in full force and effect until otherwise released, modified, or deleted by the LUC.***

***A request to remove the above-noted agricultural-related conditions will be filed with the SLUC concurrently with the Section 201H District Boundary Amendment Petition for the project.***

## B. HAWAII STATE PLAN

Chapter 226, HRS, also known as the Hawaii State Plan, is a long-range comprehensive plan which serves as a guide for the future long-term development of the State by identifying goals, objectives, policies, and priorities, as well as implementation mechanisms. Examples of State objectives and policies relevant to the proposed project are as follows:

1. **Section 226-05, Objectives and policies for population. To achieve this objective, it shall be the State policy to:**

    a. Promote increased opportunities for Hawaii's people to pursue their socio-economic aspirations throughout the islands.

    b. Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.

2. **Section 226-13, Objectives and policies for physical environment-land, air, and water quality. To achieve this objective, it shall be the State policy to:**

    a. Promote effective measures to achieve desired quality in Hawaii's surface, ground, and coastal waters.

    b. Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.

    c. Encourage design and construction practices that enhance the physical qualities of Hawaii's communities.

    d. Encourage urban developments in close proximity to existing service and facilities.

3. **Section 226-14, Objectives and policies for facility systems-in general. To achieve the general facility systems objective, it shall be the policy of the State to:**

    a. Accommodate the needs of Hawaii's people through coordination of facility

systems and capital improvements in consonance with State and County plans.

b. Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.

c. Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.

4. **Section 226-15, Objectives and policies for facility systems-solid and liquid wastes. To achieve the solid and liquid waste objectives, it shall be the policy of the State to:**

a. Encourage the adequate development of sewage facilities that complement planned growth.

b. Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.

5. **Section 226-16, Objectives and policies for facility systems-water. To achieve the facilities systems water objectives, it shall be the policy of the State to:**

a. Coordinate development of land use activities with existing and potential water supply.

b. Support research and develop alternative methods to meet future water requirements well in advance of anticipated needs.

c. Reclaim and encourage the productive use of runoff water and wastewater discharges.

d. Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.

e. Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.

6. **Section 226-17, Objectives and policies for facility systems-transportation. To achieve the facilities systems transportation objective, it shall be the policy of the State to:**

a. Encourage a reasonable distribution of financial responsibilities for transportation among participating government and private parties.

b. Encourage transportation systems that serve to accommodate present and future development needs of communities.

7. **Section 226-19, Objectives and policies for socio-cultural advancement – housing. To achieve the housing objectives, it shall be the policy of the State to:**

a. Effectively accommodate the housing needs of Hawaii's people.

b. Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households.

c. Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.

The proposed Ohana Kai Village Affordable Housing Project will serve to meet the residential workforce housing needs of the region at an attractive and central location in Maalaea. Additional housing choices in Maui County will provide healthy competition and allow for a more balanced housing market. The applicant will provide all required engineering infrastructure as part of project implementation. In addition, MVI, LLC will participate in nexus-based transportation network improvements to alleviate the incremental increase in demand on roadways resulting from the proposed project. To this end, the proposed project is in conformance with the above-noted objectives and policies of the Hawaii State Plan.

The State Functional Plans define actions for implementation of the Hawaii State Plan through the identification of needs, problems and issues, and recommendations on policies and priority actions which address the identified areas of concern. The proposed project is consistent with the following State Functional Plans:

1. **State Agricultural Functional Plan**

The proposed project will reclassify approximately 257 acres of land from the State "Agricultural" district to the State "Urban" district. While the project site for the proposed Ohana Kai Village was formerly used for sugarcane cultivation, it is now fallow with a portion currently being utilized to support short-term cattle operations. The proximity of the project site to existing and planned urban land uses (both residential and commercial) provides a reasonable nexus and an appropriate foundation for the proposed reclassification request, particularly in the context of meeting affordable housing needs of the community and the critical shortage in housing currently being experienced in Maui County.

## 2. State Housing Functional Plan

As noted above, recent policy discussions and the growing public demand for affordable housing indicate a current shortage of affordable housing in the Central Maui area. The proposed 1,100 single-family residential units within the proposed subdivision will help address this critical community need.

## 3. State Recreational Functional Plan

Outdoor recreation is recognized by the Hawaii State Plan as an important part of life for Hawaii's residents. As the population rises and residential land uses increase, creating areas dedicated to outdoor recreation becomes increasingly vital. The State Functional Plan for Recreation urges the improvement and expansion of recreational facilities in urban areas and local communities. The proposed subdivision is designed to provide approximately ~~16~~*21.57* acres of land for public/quasi-public use (including parks) and ~~20~~*21.36* acres for retention/open space. Recreational resources would be available for use by both residents of the proposed subdivision and members of the general public living elsewhere on Maui. The incorporation of an active park facility in the design of the proposed subdivision is anticipated to address the objectives of the State Recreational Functional Plan.

## 4. State Transportation Functional Plan

The Hawaii State Plan addresses the vital role of transportation, particularly in light of population increases and community growth. The State Functional Plan for transportation calls for a Statewide transportation system consistent with planned growth objectives throughout the State. The proposed project's roadway system will be developed in consultation with the State Department of Transportation and the County Department of Public Works to ensure consistency with the objectives of the State Transportation Functional Plan. Internal subdivision roads will be constructed to County of Maui design standards.

## 5. State Historic Preservation Functional Plan

The State Historic Preservation Functional Plan deals with the preservation of historic properties, the collection and preservation of historic records, artifacts and oral histories, and the provision of public information and education on the ethnic and cultural heritages and history of Hawaii. Archaeological inventory surveys have

been completed for the project area by Scientific Consulting Services, Inc. in compliance with applicable historic preservation requirements. Refer to **Appendix "~~G~~*H*"**. The AIS reports have been reviewed and approved by the State Historic Preservation Division (SHPD). Refer to **Appendix "~~G-1~~*H-1*"**. SHPD-approved archaeological monitoring plans will be implemented during construction activities for the project in accordance with applicable inadvertent discovery requirements. Refer to **Appendix "~~G-2~~*H-2*"** and **Appendix "~~G-3~~*H-3*"**. The proposed project is consistent with the objectives outlined under the State Historic Preservation Functional Plan.

## C. MAUI COUNTY GENERAL PLAN

~~The Maui County General Plan (1990 Update) sets forth broad objectives and policies to help guide the long-range development of the County. As stated in the Maui County Charter, the General Plan shall:~~

> ~~*"...indicate desired population and physical development patterns for each island and region within the County; shall address the unique problems and needs of each island and region; shall explain the opportunities and the social, economic, and environmental consequences related to potential developments; and shall set forth the desired sequence, patterns, and characteristics of future developments. The General Plan shall identify objectives to be achieved, and priorities, policies, and implementing actions to be pursued with respect to population density, land use maps, land use regulations, transportation systems, public and community facility locations, water and sewage systems, visitor destinations, urban design, and other matters related to development."*~~

~~The proposed action is in keeping with the following General Plan objectives and policies:~~

~~**POPULATION**~~

~~**Objective:**~~

~~To plan the growth of resident and visitor population through a directed and managed growth plan so as to avoid social, economic and environmental disruptions.~~

~~**Policy:**~~

~~Balance population growth by achieving concurrency between the resident employee work force, the job inventory created by new industries, affordable resident/employee housing, constraints on the environment and its natural resources,~~

public and private infrastructure, and essential social services such as schools, hospitals, etc.

**LAND USE**

**Objectives:**

1. To preserve for present and future generations existing geographic, cultural and traditional community lifestyles by limiting and managing growth through environmentally sensitive and effective use of land in accordance with the individual character of the various communities and regions of the County.

2. To use the land within the County for the social and economic benefit of all the County's residents.

**Policies:**

1. Provide and maintain a range of land use districts sufficient to meet the social, physical, environmental and economic needs of the community.

2. Encourage land use methods that will provide a continuous balanced inventory of housing types in all price ranges.

3. Encourage programs to stabilize affordable land and housing prices.

**HOUSING**

**Objective:**

To provide a choice of attractive, sanitary and affordable homes for all our residents.

**Policies:**

1. Encourage the construction of housing in a variety of price ranges and geographic locations.

2. Ensure that each community plan region contains its fair share of affordable housing.

**URBAN DESIGN**

**Objective:**

To encourage developments which reflect the character and the culture of Maui

~~County's people.~~

~~**Policy:**~~

~~Encourage community design which establishes a cohesive identity.~~

~~**RECREATION AND OPEN SPACE**~~

~~**Objective:**~~

~~To provide high-quality recreational facilities to meet the present and future needs of our residents of all ages and physical ability.~~

~~**Policy:**~~

~~Develop facilities that will meet the different recreational needs of the various communities.~~

***As indicated by the Maui County Charter, the purpose of the general plan shall be to:***

> ***... indicate desired population and physical development patterns for each island and region within the county; shall address the unique problems and needs of each island and region; shall explain opportunities and the social, economic, and environmental consequences related to potential developments; and shall set forth the desired sequence, patterns and characteristics of future developments. The general plan shall identify objectives to be achieved, and priorities, policies, and implementing actions to be pursued with respect to population density; land use maps, land use regulations, transportation systems, public and community facility locations, water and sewage systems, visitor destinations, urban design, and other matters related to development.***

***Chapter 2.80B of the Maui County Code, relating to the General Plan and Community Plans, implements the foregoing Charter provision through enabling legislation which calls for a Countywide Policy Plan and a Maui Island Plan. The Countywide Policy Plan was adopted as Ordinance No. 3732 on March 24, 2010. The Maui Island Plan is currently in the process of review and formulation by the Maui County Council.***

***With regard to the Countywide Policy Plan, Section 2.80B.030 of the Maui County Code states the following.***

> ***The countywide policy plan shall provide broad policies and objectives which portray the desired direction of the County's future. The countywide***

*policy plan shall include:*

1. *A vision for the County;*
2. *A statement of core themes or principles for the County; and*
3. *A list of countywide objectives and policies for population, land use, the environment, the economy, and housing.*

*Core principles set forth in the Countywide Policy Plan are listed as follows:*

1. *Excellence in the stewardship of the natural environment and cultural resources;*
2. *Compassion for and understanding of others;*
3. *Respect for diversity;*
4. *Engagement and empowerment of Maui County residents;*
5. *Honor for all cultural traditions and histories;*
6. *Consideration of the contributions of past generations as well as the needs of future generations;*
7. *Commitment to self-sufficiency;*
8. *Wisdom and balance in decision making;*
9. *Thoughtful, island appropriate innovation; and*
10. *Nurturance of the health and well-being of our families and our communities.*

*Congruent with these core principles, the Countywide Policy Plan identifies goals objectives, policies and implementing actions for pertinent functional planning categories, which are identified as follows:*

1. *Natural environment*
2. *Local cultures and traditions*
3. *Education*
4. *Social and healthcare services*
5. *Housing opportunities for residents*

6. *Local economy*

7. *Parks and public facilities*

8. *Transportation options*

9. *Physical infrastructure*

10. *Sustainable land use and growth management*

11. *Good governance*

***With respect to the Ohana Kai Village Affordable Housing Project the following goals, objectives, policies and implementing actions are illustrative of the project's compliance with the Countywide Policy Plan:***

***PROTECT THE NATURAL ENVIRONMENT***

***Goal:***

***Maui County's natural environment and distinctive open spaces will be preserved, managed, and cared for in perpetuity.***

***Policy:***

c. ***Restore and protect forests, wetlands, watersheds, and stream flows, and guard against wildfires, flooding, and erosion.***

***Objective:***

2. ***Improve the quality of environmentally sensitive, locally valued natural resources and native ecology of each island.***

***Policy:***

a. ***Protect and restore nearshore reef environments and water quality.***

***Objective:***

3. ***Improve the stewardship of the natural environment.***

***Policy:***

*c.* ***Evaluate development to assess potential short-term and long-term impacts on land, air, aquatic, and marine environments.***

## *IMPROVE EDUCATION*

***Goal:***

***Residents will have access to lifelong formal and informal educational options enabling them to realize their ambitions.***

***Objective:***

***Provide nurturing learning environments that build skills for the 21st century.***

***Policies:***

*d.* ***Promote development of neighborhood schools and educational centers.***

*k.* ***Design school and park facilities in proximity to residential areas.***

## *EXPAND HOUSING OPPORTUNITIES FOR RESIDENTS*

***Goal:***

***Quality, island-appropriate housing will be available to all residents.***

***Objective:***

***Reduce the affordable housing deficit for residents.***

***Policies:***

*a.* ***Ensure that an adequate and permanent supply of affordable housing, both new and existing units, is made available for purchase or rental to our resident and/or workforce population, with special emphasis on providing housing for low- to moderate-income families, and ensure that all affordable housing remains affordable in perpetuity.***

*b. Seek innovative ways to lower housing costs without compromising the quality of our island lifestyle.*

*m. Develop neighborhoods with a mixture of accessible and integrated community facilities and services.*

*Objective:*

*Increase the mix of housing types in towns and neighborhoods to promote sustainable land use planning, expand consumer choice, and protect the County's rural and small town character.*

*Policies:*

*b. Design neighborhoods to foster interaction among neighbors.*

*f. Develop workforce housing in proximity to job centers and transit facilities.*

*Objective:*

*Increase and maintain the affordable housing inventory.*

*Policy:*

*a. Recognize housing as a basic human need, and work to fulfill that need.*

## *STRENGTHEN THE LOCAL ECONOMY*

*Goal:*

*Maui County's economy will be diverse, sustainable, and supportive of community values.*

*Objective:*

*Promote an economic climate that will encourage diversification of the County's economic base and a sustainable rate of economic growth.*

***Policies:***

*a.* ***Support economic decisions that create long-term benefits.***

*c.* ***Invest in infrastructure, facilities, and programs that foster economic diversification.***

## *IMPROVE PARKS AND PUBLIC FACILITIES*

***Goal:***

***A full range of island-appropriate public facilities and recreational opportunities will be provided to improve the quality of life for residents and visitors.***

***Objective:***

***Expand access to recreational opportunities and community facilities to meet the present and future needs of residents of all ages and physical abilities.***

***Policy:***

*b.* ***Expand and enhance the network of parks, multi-use paths, and bikeways.***

***Objective:***

***Improve the quality and adequacy of community facilities.***

***Policy:***

*d.* ***Maintain, enhance, expand, and provide new active and passive recreational facilities in ways that preserve the natural beauty of their locations.***

## *DIVERSIFY TRANSPORTATION OPTIONS*

***Goal:***

***Maui County will have an efficient, economical, and environmentally sensitive means of moving people and goods.***

***Objective:***

***Provide an effective, affordable, and convenient ground-transportation system that is environmentally sustainable.***

***Policies:***

***d.*** ***Increase route and mode options in the ground-transportation network.***

***m.*** ***Encourage businesses in the promotion of alternative transportation options for resident and visitor use.***

***Objective:***

***Reduce the reliance on the automobile and fossil fuels by encouraging walking, bicycling, and other energy-efficient and safe alternative modes of transportation.***

***Policy:***

***a.*** ***Make walking and bicycling transportation safe and easy between and within communities.***

## *IMPROVE PHYSICAL INFRASTRUCTURE*

***Goal:***

***Maui County's physical infrastructure will be maintained in optimum condition and will provide for and effectively serve the needs of the County through clean and sustainable technologies.***

***Objective:***

***Improve water systems to assure access to sustainable, clean, reliable, and affordable sources of water.***

***Policies:***

***b.*** ***Develop and fund improved water-delivery systems.***

*d. Promote the reclamation of gray water, and enable the use of reclaimed, gray, and brackish water for activities that do not require potable water.*

*Objective:*

*Direct growth in a way that makes efficient use of existing infrastructure and to areas where there is available infrastructure capacity.*

*Policy:*

*e. Support catchment systems and on-site wastewater treatment in rural areas and aggregated water and wastewater systems in urban areas if they are appropriately located.*

*Objective:*

*Improve the planning and management of infrastructure systems.*

*g. Ensure that infrastructure is built concurrent with or prior to development.*

*Objective:*

*Design all developments to be in harmony with the environment and to protect each community's sense of place.*

*Policies:*

*d. Ensure that adequate recreational areas, open spaces, and public-gathering places are provided and maintained in all urban centers and neighborhoods.*

*e. Ensure business districts are distinctive, attractive, and pedestrian-friendly destinations.*

*f. Use trees and other forms of landscaping along rights-of-way and within parking lots to provide shade, beauty, urban-heat reduction, and separation of pedestrians from automobile traffic in accordance with community desires.*

*g. Where appropriate, integrate public-transit, equestrian, pedestrian, and bicycle facilities, and public rights-of-way as design elements in new and*

*existing communities.*

*i. Adequately buffer and mitigate noise and air pollution in mixed-use areas to maintain residential quality of life.*

*l. Facilitate safe pedestrian access, and create linkages between destinations and within parking areas.*

***In summary, the Ohana Kai Village Affordable Housing Project is consistent with the themes and principles of the Countywide Policy Plan.***

## D. COUNTY OF MAUI COMMUNITY PLANS

Within Maui County, there are nine (9) community plan regions. From a General Plan implementation standpoint, each region is governed by a community plan which sets forth desired land use patterns, as well as goals, objectives, policies, and implementing actions for a number of functional areas including infrastructure-related parameters.

The proposed Ohana Kai Village project will provide affordable housing opportunities for working families within Maui County and will be processed in accordance with Section 201H-38 of the Hawaii Revised Statutes (HRS). The applicant will be seeking exemptions from certain regulatory and statutory requirements relating to land use, construction, subdivision, public services and infrastructure, and administrative procedures. An exemption from Chapter 2.80B of the Maui County Code, relating to the General Plan and Community Plans, will be included in the Section 201H-38 exemption list. An analysis of the proposed project in relation to the goals, objectives, and policies of the respective community plans is, however, presented below:

- **Kihei-Makena Community Plan**

  The project site for the Ohana Kai Village Affordable Housing Project is located within the Kihei-Makena Community Plan region. The existing land use designations for the project area under the Community Plan are set forth in the 1998 Kihei-Makena Community Plan Land Use Map. Refer to ~~Figure 18~~*Figure 19 (on Page 141)*. The lands underlying the project site are designated as Project District 12 by the Kihei-Makena Community Plan.

  As described in the Kihei-Makena Community Plan, project districts provide a "flexible and creative planning approach rather than specific land use designations", establishing "continuity in land uses and designs while providing for orderly growth

of the community as well as comprehensive and concurrent provision of infrastructural facilities and systems". According to the "recommended spatial allocations" for Project District 12, 218 acres should be allocated for residential use, 5 acres for a community center, 27 acres for park, open space, and buffer zones, and 10 acres for collector roadways. The Community Plan guidelines also suggest a total of 1,150 residential units be developed in Project District 12.

The proposed project, involving the development of a total of 1,100 single-family residential units, meets the intent of the Project District-specific goals and objectives of the 1998 Kihei-Makena Community Plan.

The proposed project is also in conformance with the following, more general, goals, objectives, and policies of the Kihei-Makena Community Plan:

## LAND USE

### Goal:

A well-planned community with land use and development patterns designed to achieve the efficient and timely provision of infrastructural and community needs while preserving and enhancing the unique character of Maalaea, Kihei, Wailea and Makena as well as the region's natural environment, marine resources and traditional shoreline uses.

### Objectives and Policies:

1. Identify priority growth areas to focus public and private efforts on the provision of infrastructure and amenities to serve existing residents and to accommodate new growth.

2. Provide for limited residential expansion in Maalaea which complements the existing natural and built environment.

## HOUSING AND URBAN DESIGN

### Goal:

A variety of attractive, sanitary, safe and affordable homes for Kihei's residents, especially for families earning less than the median income for families within the County. Also, a built environment which provides complementary and aesthetically pleasing physical and visual linkages with the natural environment.

**Objectives and Policies:**

1. Provide an adequate variety of housing choices and range of prices for the needs of Kihei's residents, especially for families earning less than the median income for families within the County, through the project district approach and other related programs. Choices can be increased through public/private sector cooperation and coordinated development of necessary support facilities and services.

2. Require a mix of affordable and market-priced housing in all major residential projects, unless the project is to be developed exclusively as an affordable housing project.

## PHYSICAL AND SOCIAL INFRASTRUCTURE

**Goal:**

Provision of facility systems, public services and capital improvement projects in an efficient, reliable, cost effective, and environmentally sensitive manner which accommodate the needs of the Kihei-Makena community, and fully support present and planned land uses, especially in the case of project district implementation. Allow no development for which infrastructure may not be available concurrent with the development's impacts.

**Objective and Policy (Transportation):**

1. Strengthen the coordination of land use planning and transportation planning to promote sustainable development and to reduce dependence on automobiles. New residential communities should provide convenient pedestrian and bicycle access between residences and neighborhood commercial areas, parks and public facilities.

**Objective and Policy (Water Distribution):**

1. Provide for appropriate water source and transmission improvements concurrent with planned growth of the Kihei-Makena region.

2. Encourage the use of non-potable water for irrigation purposes and water features.

3. Encourage the use of plants which have a relatively low need for water.

**Objective and Policy (Liquid and Solid Waste):**

1. Provide efficient, safe and environmentally sound systems for the reuse, recycling, and disposal of liquid and solid wastes.

2. Reduce the reliance on injection wells for wastewater disposal. Require the use of reclaimed effluent--a procedure which is safe, economical and environmentally sound--for irrigation of golf courses, parks and landscaped areas.

**Objective and Policy (Drainage):**

1. Design drainage systems that protect coastal water quality by incorporating best management practices to remove pollutants from runoff. Construct and maintain, as needed, sediment retention basins and other best management practices to remove sediments and other pollutants from runoff.

2. Minimize the increase in discharge of storm water runoff to coastal waters by preserving flood storage capacity in low-lying areas, and encouraging infiltration of runoff.

**Objective and Policy (Energy and Public Utilities):**

1. Promote energy efficiency as the energy resource of first choice, and increase energy efficiency in all sectors of the community.

2. Promote environmentally and culturally sensitive use of renewable energy resources like biomass, solar, wind, and hydroelectric energy in all sectors of the community.

**Objective and Policy (Recreation):**

1. Provide high-quality recreational facilities to meet the present and future needs of residents of all ages and physical ability.

2. Provide for a range of park sizes and types at neighborhood, community and regional scales. New residential developments shall provide recreational facilities on-site to meet the immediate needs of project residents.

**Objective and Policy (Education):**

1. Require the delivery of quality educational facilities at the time such facilities are needed. Emphasize advanced planning so that school

facilities such as classrooms, playgrounds, libraries, cafeterias and other appurtenant structures are delivered in a timely manner so as to eliminate the use of portable facilities.

- **Wailuku-Kahului Community Plan**

The utility site is located within the Wailuku-Kahului Community Plan region. The land use map for the Wailuku-Kahului Community Plan region designates the utility site as "Agricultural". Improvements to occur within this area include three (3) wells, two (2) 750,000 gallon water storage tanks, and related transmission line infrastructure improvements pursuant to State Department of Health and County of Maui requirements. Refer to **Figure 4** ***(on Page 6)***.

The above-noted utility improvements are in conformance with the following goals, objectives, and policies of the Wailuku-Kahului Community Plan:

**ENVIRONMENT**

**Goal:**

A clean and attractive physical and natural environment in which man-made developments or alterations to the natural environment relate to sound environmental and ecological practices, and important scenic and open space resources are maintained for public use and enjoyment.

**Objectives and Policies:**

1. Preserve agricultural lands as a major element of the open space setting that borders the various communities within the planning region. The close relationship between open space and developed areas is an important characteristic of community form.

**HOUSING**

**Goal:**

A sufficient supply and choice of attractive, sanitary and affordable housing accommodations for the broad cross section of residents, including the elderly.

**Objectives and Policies**

1. Coordinate the planning, design and construction of public

infrastructure improvements with major residential projects that have an affordable housing component.

2. Plan, design and construct off-site public infrastructure improvements (i.e. water, roads, sewer, drainage, police and fire protection, and solid waste) in anticipation of residential, commercial and industrial developments defined in the Community Plan.

**INFRASTRUCTURE**

**Goal:**

Timely and environmentally sound planning, development and maintenance of infrastructure systems which serve to protect and preserve the safety and health of the region's residents, commuters and visitors through the provision of clean water, effective waste disposal and drainage systems, and efficient transportation systems which meet the needs of the community.

**WATER AND UTILITIES**

**Objectives and Policies:**

1. Coordinate expansion of and improvements to the water system to coincide with the development of residential expansion areas.

**Implementing Actions:**

1. Plan and construct water system improvements, including additional source, transmission, and storage capabilities.

The proposed project consists of development of residential master-planned residential community with ancillary commercial and public/quasi-public land uses at a site identified by the Kihei-Makena Community Plan as an appropriate location for urban growth. The project site is located in an area characterized by adjacent urban land uses, both residential and commercial in nature. Necessary engineering infrastructure systems and services to serve the project will be developed by the applicant as part of project implementation. The proposed Wastewater Treatment Plant (WTP) and comprehensive drainage system will present an opportunity to improve existing environmental conditions within the Maalaea community. Recreational needs of the proposed project are anticipated to be addressed through the provision of parks, open space, and access to nearby walking trails. The proposed project is, therefore, in conformance with the above-noted goals, objectives, and policies of both the Kihei-Makena and Wailuku-Kahului community plans.

## E. COUNTY ZONING

The project site is currently zoned "Agricultural" by the County of Maui. While the current zoning does not allow for the proposed residential subdivision, the Section 201H-38 HRS application, which will be filed with the Maui County Council, will include an exemption from the County's Title 19 zoning and project district processing provisions which would allow for the proposed project.

In regards to the proposed residential use of the project site, an assessment of Section 19.30A.20 of the Maui County Code has been completed as part of this document. Section 19.30A.20 states that County agricultural lands that meet at least two (2) of the following criteria should be given the highest priority for retention in the agricultural district:

1. **Agricultural Lands of Importance to the State of Hawai'i (ALISH)**

   **Response:** The majority of the approximately 257-acre project site is classified by the ALISH map as "Prime" agricultural lands. The project site, however, has remained out of use for commercial sugarcane production for over ten (10) years now. Agricultural uses on the project site are presently limited to portions of the site being utilized for small-scale cattle-grazing activities. The project site, therefore, meets this first criterion.

2. **Lands not classified by the ALISH system whose agricultural land suitability, based on soil, topographic, and climatic conditions, supports the production of agricultural commodities, including but not limited to coffee, taro, watercress, ginger, orchard and flower crops and non-irrigated pineapple. In addition, these lands shall include lands used for intensive animal husbandry, and lands in agricultural cultivation in five of the ten years immediately preceding the date of approval of this chapter; and**

   **Response:** As noted above, the project site for the proposed residential subdivision is classified by the ALISH system as "Prime" agricultural lands. The project site, therefore, does not meet this second criterion. Refer to **Figure 8** ***(on Page 22)***.

3. **Lands which have seventy-five percent or more of their boundaries contiguous to lands within the agricultural district.**

**Response:** The project site for the proposed residential subdivision is located in an area of the Maalaea community which is characterized by a mixture of residential, commercial, agricultural and conservation uses. Maalaea Small Boat Harbor and Maalaea Commercial Triangle are situated along the south eastern boundary of the project site. The Honoapiilani Highway runs along the remaining eastern perimeter of the project site separating lands currently utilized by HC&S for the commercial cultivation of sugarcane. Lands falling within the State conservation district lie along the western perimeter of the project site. The parcel of land which lies to the north of the project site (a portion of which is referred to in this document as the utility site) is currently zoned by the County of Maui for agricultural use. Based on the preceding description of surrounding land uses in the Maalaea area, less than 75 percent of the boundaries of the project site are contiguous to lands within the County of Maui's agricultural district. The project site, therefore, does not meet this third criterion.

The foregoing assessment indicates that the project site for proposed residential subdivision meets only one (1) out of the three (3) criteria of MCC Section 19.30A.20. As such, the project site should not merit being given the highest priority for retention in the agricultural district during the 201H application process.

The agricultural impact of this project is near negligible when taken in the context of the recent trends occurring on Maui. In the last 30 years, the closures of Wailuku Sugar and Pioneer Mill on Maui have taken significant acreages out of active sugar cane cultivation. These actions have greatly increased the supply of non-sugar based agricultural lands. Much of the lands of these former plantations are still fallow. The proposed project will ultimately involve the use of approximately 257 acres of land, which represents 0.1 percent of the roughly 246,000 acres of State Agricultural district lands on the island of Maui.

When evaluated based on the housing shortage that exists on Maui, coupled with the scarcity of entitled, undeveloped residential lands in Central Maui, the conversion of the project's agricultural lands into residential development presents a beneficial opportunity. This project will supply additional affordable housing units for Maui's working families at a site deemed less than optimal for sustained long-term agricultural use.

# F. COASTAL ZONE MANAGEMENT/SPECIAL MANAGEMENT AREA

A small portion of land on the southern tip of the project site is located within the County of Maui's Special Management Area (SMA). See ~~**Figure 19**~~***Figure 20***. Review of the preliminary development plans for the project indicates that the Wastewater Treatment Plant (WTP) and a portion of the southernmost component of single-family homes are located within the SMA zone. The applicant will address SMA requirements for applicable components of the proposed project following receipt of State and County Section 201H approvals.

The Hawaii Coastal Zone Management Program (HCZMP), as formalized in Chapter 205A, Hawaii Revised Statutes, (HRS), establishes objectives and policies for the preservation, protection, and restoration of natural resources of Hawaii's coastal zone. As set forth in Chapter 205A, HRS, this section addresses the project's relationship to applicable coastal zone management considerations.

## 1. Recreational Resources

**Objective:** Provide coastal recreational opportunities accessible to the public.

**Policies:**

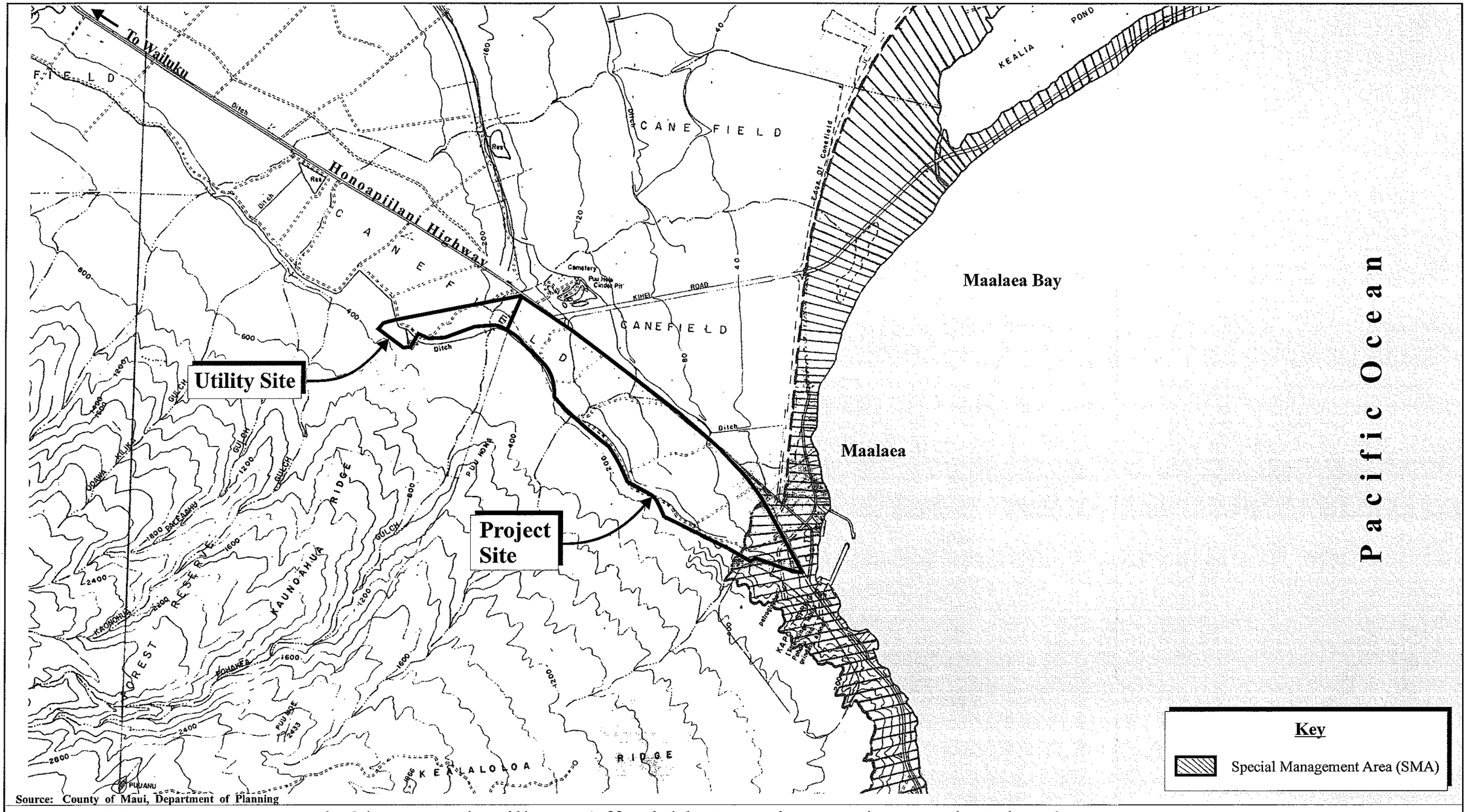
a. Improve coordination and funding of coastal recreational planning and management; and

b. Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:

   i. Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;

   ii. Requiring replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;

   iii. Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;




Source: County of Maui, Department of Planning

Figure 20 Proposed Ohana Kai Village Affordable Housing Project and Related Improvements
Special Management Area (SMA) Boundary Map

NOT TO SCALE

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/FinalEIS/smaboundary

iv. Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;

v. Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;

vi. Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;

vii. Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and

viii. Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of section 46-6.

**Response:** The project site is not a shoreline abutting property. Recreational needs of the proposed project are anticipated to be addressed through the allocation of lands for park and open space uses within the master-planned community. The active park within the subdivision will be privately operated and maintained, but will be available for use by both subdivision residents and members of the general public living elsewhere on Maui. Additionally, the master-planned community will maintain public access opportunities to mauka trails above the project site. Coordination with the State Department of Land and Natural Resources (DLNR) will be undertaken to identify operational requirements (i.e., parking) for continued access to the Lahaina Pali trail.

2. **Historic Resources**

**Objective:** Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

**Policies:**

a. Identify and analyze significant archaeological resources;

b. Maximize information retention through preservation of remains and artifacts or salvage operations; and

c. Support state goals for protection, restoration, interpretation, and display of historic resources.

**Response:** As stated previously, archeological inventory surveys (AIS) and a Cultural Impact Assessment (CIA) report were completed for the project area (in accordance with State Historic Preservation requirements) to identify and issue recommendations regarding historic, cultural and archeological resources. Refer to **Appendix "~~G~~*H*"** and **Appendix "~~H~~*I*"**. As reflected in the AIS and CIA documentation, no significant impacts to cultural or historic resources are anticipated from development within the project area. Archaeological monitoring plans for both the project site and utility site have been reviewed and approved by the State Historic Preservation Division (SHPD) and will be implemented prior to initiation of any ground altering activities for the project. In accordance with Section 6E-43.6, Hawaii Revised Statutes and Chapter 13-300, Hawaii Administrative Rules, should any significant cultural deposits or human skeletal remains be encountered during ground altering activities, work will stop in the immediate vicinity and the applicant will contact the State Historic Preservation Division of the Department of Land and Natural Resources (SHPD/DLNR).

3. **Scenic and Open Space Resources**

**Objective:** Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.

**Policies:**

a. Identify valued scenic resources in the coastal zone management area;

b. Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;

c. Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and

d. Encourage those developments that are not coastal dependent to locate in inland areas.

**Response:** The project site for the proposed Ohana Kai Village ***Affordable***

***Housing*** p*P*roject is located along the lower slopes of the West Maui Mountains above Honoapiilani Highway and Maalaea on elevations ranging from 40 feet above mean sea level (amsl) at the south portion of the property to approximately 210 feet (amsl) at the north western corner of the property. The average slope across the property is approximately 5.5 percent. Refer to **Appendix "~~K~~*M*"**. The urban forms established by the proposed project plan will conform to height restrictions under Title 19 of the Maui County Code and will be buffered with landscaping and open space areas to mitigate the impact on visual resources. ~~View~~***Significant view*** corridors will not be adversely affected by the proposed subdivision project. ***Refer to Appendix "J".***

**4. Coastal Ecosystems**

**Objective:** Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

**Policies:**

a. Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;

b. Improve the technical basis for natural resource management;

c. Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;

d. Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and

e. Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.

**Response:** A Water Quality and Marine Biology Survey was completed in September 2006 by AECOS, Inc. for development within the project area. Refer to **Appendix "~~F~~*G*"**. The survey concluded that, with implementation of Best Management Practices (BMPs), the proposed project should have minimal long-term adverse effects on the nearby coastal ecosystems. As such, appropriate BMPs and erosion-control measures will be implemented to ensure that coastal ecosystems are not adversely impacted by construction activities.

The proposed drainage system for the project has been designed in accordance with applicable regulatory standards and will retain all increases in post-development runoff associated with the project such that there will be no impacts on downstream properties or to water quality within Maalaea Bay. The onsite drainage basins will also act to reduce the amount of suspended sediment present within the runoff flowing across the project site.

## 5. Economic Uses

**Objective:** Provide public or private facilities and improvements important to the State's economy in suitable locations.

**Policies:**

a. Concentrate coastal dependent development in appropriate areas;

b. Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and

c. Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:

   i. Use of presently designated locations is not feasible;

   ii. Adverse environmental effects are minimized; and

   iii. The development is important to the State's economy.

**Response:** The project site is identified as a suitable residential growth area in both the 1970 Kihei Civic Development Plan and the 1998 Kihei-Makena Community Plan. In fulfilling an important community need for affordable housing, the proposed project has been designed to meet the intent of the recommended spatial allocations of the property's Project District 12 designation in the Kihei-Makena Community Plan. A Fiscal and Economic Impact Assessment Report has been completed for the proposed project by ACM Consultants, Inc. Refer to **Appendix "~~K~~K" *and Appendix "K-1"***. The proposed residential subdivision will provide a number of economic benefits through the provision of 1,100 affordably-priced

housing units, approximately 838 direct and indirect construction-related employment positions, State/County tax revenues, a privately developed and operated Wastewater Treatment Plant and drinking water supply system, water/sewage collection systems, interior roadways, and parks. The annual net revenue/expenditure for the State of Hawaii to support the project is $5.9 million (revenue) in the development phase and ~~$5.8~~***6.5*** million (expenditure) in the operational phase. The project is expected to generate ~~$407,000.00~~***2.8 million*** in annual ~~revenue~~***expenditures*** for the County of Maui during the operational phase. In considering the need for new affordable housing supply, and that appropriate measures for mitigating adverse environmental effects can be implemented, the proposed action, while not coastal dependent, will positively contribute to the long-term economic and social welfare of both the State of Hawaii and the County of Maui.

## 6. Coastal Hazards

**Objective:** Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.

**Policies:**

a. Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;

b. Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards;

c. Ensure that developments comply with requirements of the Federal Flood Insurance Program; and

d. Prevent coastal flooding from inland projects.

**Response:** ~~The majority of the project site falls within Flood Zone C, with small portions (gulches) located within Flood Zone B. Flood Zone B designates areas between the 100-year and 500-year flood, or areas that experience less than 12 inches of flooding.~~***According to Panel Number 150003 0560E of the Flood Insurance Rate Map, September 25, 2009, prepared by the United States Federal Emergency Management Agency, the majority of the project site is situated in Flood Zone X (unshaded), an area that represents areas outside the 0.2 percent annual chance floodplain. Two (2) small portions of the parcel with two (2) existing drainageways***

***are designated in Flood Zone X (shaded), which represents areas of 0.2 percent annual chance flood; areas of one (1) percent annual chance flood with average depths less than one (1) foot or with drainage areas is less than one (1) square mile; or areas protected by levees from one (1) percent annual chance flood. The entire utility site falls within Flood Zone X (unshaded). Refer to Figure 10 (on Page 27).*** Special Flood Hazard Area Development (SFHAD) Permits will be obtained for the project, as applicable. ~~The entire area of the utility site is located in Flood Zone C, an area of minimal flooding.~~ The proposed project-related drainage system will be designed in accordance with the Drainage Standards of the County of Maui, as applicable, to ensure that the project will not adversely affect downstream and adjoining properties or coastal water quality within Maalaea Bay.

## 7. Managing Development

**Objective:** Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

**Policies:**

a. Use, implement, and enforce existing laws effectively to the maximum extent possible in managing present and future coastal zone development;

b. Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and

c. Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

**Response:** Public input will be solicited in coordination with the processing of the Draft EIS, pursuant to the Chapter 343, Hawaii Revised Statutes (HRS) environmental assessment review process. All aspects of development will be conducted in accordance with applicable Federal, State, and County standards. Opportunities for review of the proposed project will also be made available through the regulatory review process for the State and County Section 201H and Special Management Area (SMA) Permit applications.

## 8. Public Participation

**Objective:** Stimulate public awareness, education, and participation in coastal

management.

**Policies:**

a. Promote public involvement in coastal zone management processes;

b. Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and

c. Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

**Response:** The EIS document will be processed in accordance with Chapter 343, HRS, and opportunity for comment by agencies and the public will be provided. It is noted that a series of design workshops was conducted with the Maalaea Community Association on October 15, October 29 and November 12, 2005 by the previous landowner, Maalaea Properties, LLC, during the formulation of preliminary plans for a former project on the site - known at the time as the "Maalaea Mauka" project. Input received at these community meetings have been reviewed by MVI, LLC as part of the master plan development process for the Ohana Kai Village Affordable Housing Project. Additionally, project development parameters have been presented to and discussed with the Wailuku Main Street Association at meetings held on March 20, 2007, September 25, 2007, and February 17, 2009.

As previously mentioned, public input opportunities will also be provided through the State/County Section 201H, and SMA Permit processes.

**9. Beach Protection**

**Objective:** Protect beaches for public use and recreation.

**Policies:**

a. Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;

b. Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and

c. Minimize the construction of public erosion-protection structures seaward of the shoreline.

**Response:** The proposed project is situated inland on the mauka side of Honoapiilani Highway and is not a shoreline abutting property. Appropriate Best Management Practices (BMPs) will be implemented to manage drainage during all construction phases for the project. In the long term, the permanent drainage system for the Ohana Kai Village will be designed to retain all project-related increases in run-off in accordance with applicable County drainage rules and regulations. The onsite drainage basins will also act to reduce the amount of suspended sediment present within the runoff flowing across the project site. As such, the proposed project is not anticipated to present any significant adverse impacts on beach processes.

## 10. Marine Resources

**Objective:** Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

**Policies:**

a. Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

b. Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;

c. Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;

d. Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and

e. Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

**Response:** As mentioned previously, the proposed project is situated inland (mauka) of the Honoapiilani Highway and is not a shoreline abutting property. To evaluate potential impacts on coastal resources, a Water Quality and Marine Biology Survey was completed for development within the project area by AECOS, Inc. on

September 2006. Refer to **Appendix "~~F~~*G*"**. With implementation of appropriate BMPs and erosion control measures during construction, as well as the construction of a permanent drainage system, no significant short-term or long-term adverse effects on marine or coastal resources are anticipated to result from development of the proposed project.

In addition to the foregoing objectives and policies, SMA permit review criteria pursuant to Act 224 (2005) provides that:

> No special management area use permit or special management area minor permit shall be granted for structures that allow artificial light from floodlights, uplights, or spotlights used for decorative or aesthetic purposes when the light:
>
> (1) Directly illuminates the shoreline and ocean waters; or
>
> (2) Is directed to travel across property boundaries toward the shoreline and ocean waters.

**Response:** As noted previously, the project site is not a shoreline abutting property. The preliminary lighting plan for the project will, however, be designed to both comply with all applicable code requirements pertaining to lighting and ensure that no lighting is directed across property boundaries towards the shoreline.

## G. SECTION 201H-38, HAWAII REVISED STATUTES

Section 201H-38 of the Hawaii Revised Statutes (HRS) allows eligible developers/housing projects to be exempt from "all statutes, ordinances, charter provisions, and rules of any governmental agency relating to planning, development improvement to land, and the construction of units thereon...", in order to facilitate the timely and cost effective implementation of proposed affordable housing projects. The Ohana Kai Village Affordable Housing Project has been determined to be an eligible 201H project by the County of Maui's Department of Housing and Human Concerns (DHHC). Accordingly, a Section 201H-38, HRS application has been prepared and will be submitted to DHHC for review and transmittal to the Maui County Council. Upon receipt of the 201H-38, HRS request, the County Council shall have 45 days to render its decision on the request for exemptions.

The list of exemptions sought for the project is listed in **Appendix "~~N~~*P*"** of this document.

The proposed exemptions are intended to support the timely implementation of the project without compromising public health, safety, or welfare considerations. ***It is noted that the Ohana Kai Village Affordable Housing Project will provide all essential infrastructure for the proposed subdivision (including both water and wastewater systems) and will not be requesting any exemptions (through the Section 201H application process) from environmental or public health regulations.***

## H. OTHER REGULATORY APPROVALS

Coordination with the Department of Army, State Department of Health, State Office of Planning and other relevant agencies is being conducted by the MVI, LLC to determine applicable Federal permit requirements, ~~the applicability of~~***as well as*** Section 401 Water Quality Certification and Coastal Zone Management Consistency approval requirements~~, respectively in relation to the proposed Ohana Kai Village Affordable Housing Project and related improvements~~ ***for the project***.

# IV. ALTERNATIVES TO THE PROPOSED ACTION

# IV. ALTERNATIVES TO THE PROPOSED ACTION

The following section is a discussion of the various alternatives that have been considered by MVI, LLC as part of the planning process for the proposed Ohana Kai Village Affordable Housing Project:

## A. PREFERRED ALTERNATIVE

The proposed development plan (as reflected in **Figure 4** ***(on Page 6)***) represents the preferred alternative for the project. This alternative, covering 257 acres, provides 1,100 affordable housing units within a master-planned community that includes ancillary commercial, parks, and public/quasi-public land uses. Landscaping and open space will be used to provide a common unity to the project and interconnectivity between the residential, commercial, and public/quasi-public land uses within the subdivision. Refer to **Figure 4** ***(on Page 6)***.

The preferred alternative seeks to address the following smart growth principles:

1. *Create walkable neighborhoods:* MVI, LLC recognizes the importance of promoting alternative forms of transportation within communities. As such, Ohana Kai Village will be designed to incorporate safe and inviting pedestrian corridors, where possible, to encourage walkable neighborhoods within the context of the overall subdivision.

2. *Encourage community and stakeholder collaboration:* Opportunities for public review and input have been provided through the EIS process, and will continue to be provided through the State and County 201H and SMA application processes.

3. *Foster distinctive, attractive communities with a strong sense of place:* MVI, LLC recognizes the importance of creating a strong sense of place by designing communities which reflect the core values of the people who reside there.

4. *Make development decisions predictable, fair and cost effective:* The proposed land use plan has been developed in accordance with the Project District 12 designation of the property. The recommended spatial allocations for Project District 12 are laid out in the 1998 Kihei-Makena Community Plan. This EIS document is intended to

document the project's technical characteristics, evaluate the full range of potential impacts and identify appropriate mitigation options. The EIS will help facilitate a fair and informed decision making process for the Section 201H applications.

5. *Provide a mix of land uses:* The Ohana Kai Village project has been master planned to provide affordable housing opportunities to Maui's working families at a desirable location that is currently designated as a future urban growth area for Maui County. The residential, commercial, and public/quasi-public land uses within the project will ensure that residents have easy access to basic shops and services, as well as recreational opportunities. Furthermore, future implementation of Project District 11, located across the Honoapiilani Highway from the project site, combined with the commercial uses located within the Maalaea Commercial Triangle, would enable the Maalaea area to make the transition toward becoming a more self-sufficient residential community.

6. *Provide a variety of transportation choices:* Opportunities to link existing mass transit services to Ohana Kai Village through the incorporation of bus stops will be explored with the County of Maui, Department of Transportation. The subdivision will be designed to encourage walking, the use of bicycles and other alternative transportation methods by residents.

7. *Strengthen and direct development towards existing communities:* As noted previously, the project site is identified as Project District 12 in the Kihei-Makena Community Plan. The proposed plan has been developed to conform to the community plan's vision for the Maalaea community and to provide much needed affordable housing for Maui's working families.

## B. PREVIOUS DEVELOPMENT PLAN ALTERNATIVES

The project site was acquired by MVI, LLC on October 21, 2008 from former owner Maalaea Properties, LLC. Prior to the sale of the property, the previous owner (Maalaea Properties, LLC) had been involved in the processing of land use entitlement applications for development of a proposed residential subdivision on the property, referred to at the time as the "Maalaea Mauka" project. The Maalaea Mauka proposal is no longer being pursued by Maalaea Properties, LLC ***and the land use entitlement applications for the project have been withdrawn from processing***. Prior to the sale of the property, Maalaea Properties, LLC conducted a series of design workshops in the Maalaea community on October 15, October 29, and November 12, 2005 as part of the plan development process for Maalaea Mauka.

The workshops were attended by property owners and the Board of Directors for the Maalaea Community Association, which represents residential property owners in Maalaea. Participants evaluated several alternative land use layouts and were given the opportunity to have input into the planning of a residential community at Project District 12. Three (3) conceptual plans were derived as a result of the community input received at these meetings, which are being referred to for the purposes of this analysis as Conceptual Plan A, Conceptual Plan B, and Conceptual Plan C:

1. **Conceptual Plan A**

Conceptual Plan A was developed based on the principle of establishing a transition of density and housing types from higher density adjacent to open space and along the highway to lower density, single-family dwellings higher on the subdivision site to maximize views and distance from the highway. Plan A would have incorporated a total of 936 units (383 single-family units, 408 multi-family units, and 145 apartment units) over approximately 170 acres. See ~~**Figure 20**~~***Figure 21***.

2. **Conceptual Plan B**

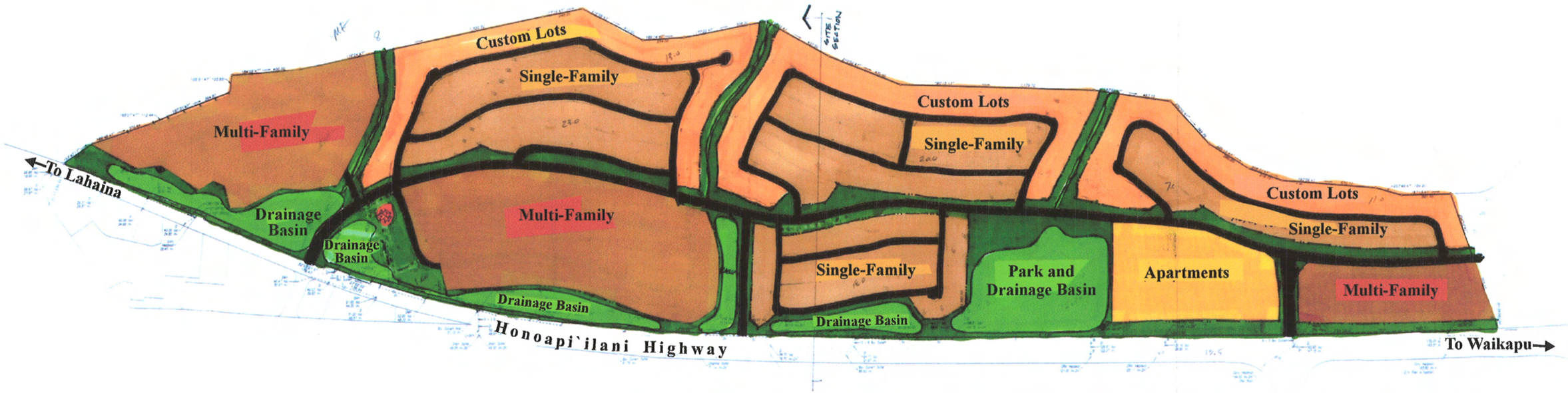
Conceptual Plan B was developed based on the principle of integrating all housing types and densities throughout the property to create a more diverse community. The plan involved the development of 903 units (518 single-family units, 240 multi-family units, and 145 apartment units) on 184 acres of land. See ~~**Figure 21**~~***Figure 22***.

3. **Conceptual Plan C**

Conceptual Plan C represented a modified version of Conceptual Plan B in which senior housing, town homes, and single-family patio homes were also included in the housing mix. Conceptual Plan C was the plan that was put forth by Maalaea Properties, LLC as the preferred alternative for the Maalaea Mauka project. This plan contained a total of 949 housing units on 166 acres of land that were to be provided through a combination of single-family custom lots (144 units), single-family homes (355 units), single-family patio homes (164 units), apartments (126 units), town homes (100 units), and senior care housing units (60 units). See ~~**Figure 22**~~***Figure 23***.

**KEY**

- Custom Lots
- Single-Family Production
- Community Center
- Apartments
- Parks and Open Space
- Drainage Basins
- Multi-Family Patio Homes




Source: Maalaea Properties LLC

Figure 21

Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

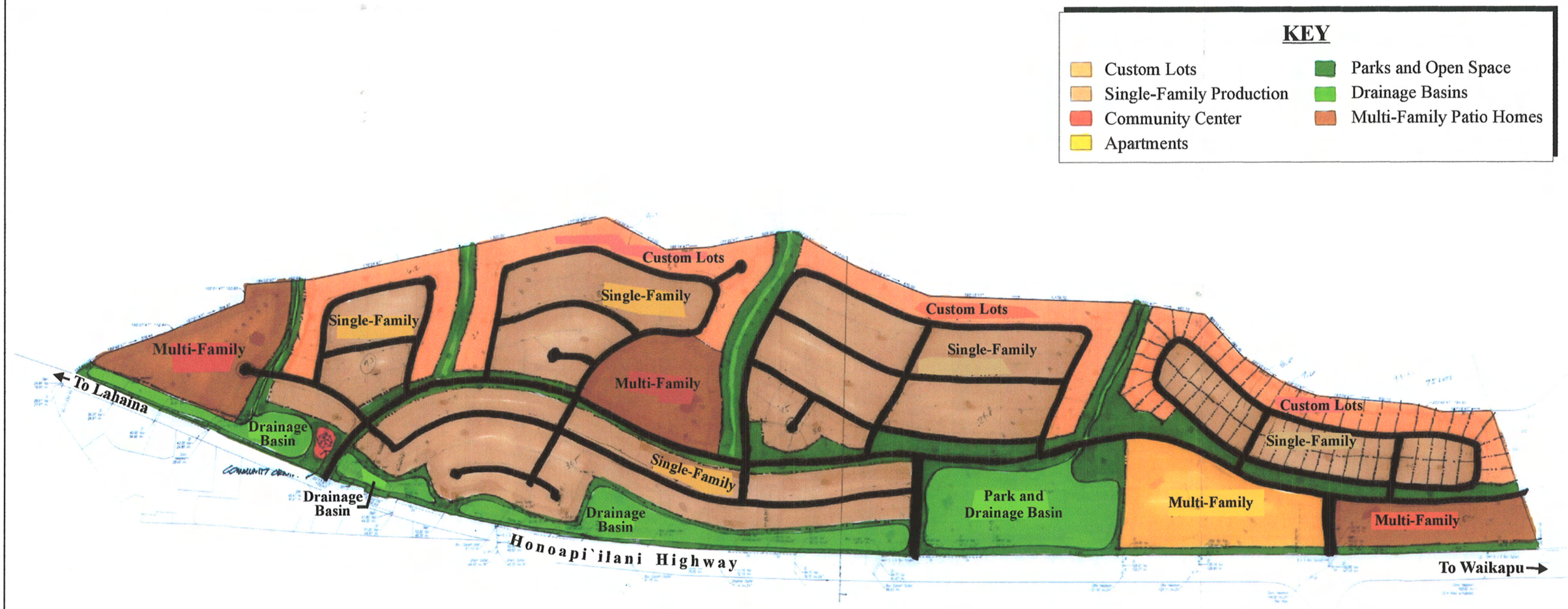
Conceptual Plan A Prepared by Maalaea Properties, LLC

NOT TO SCALE

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/FinalEIS/ConceptPlanA




Source: Maalaea Properties LLC

Figure 22

# Proposed Ohana Kai Affordable Housing Project and Related Improvements

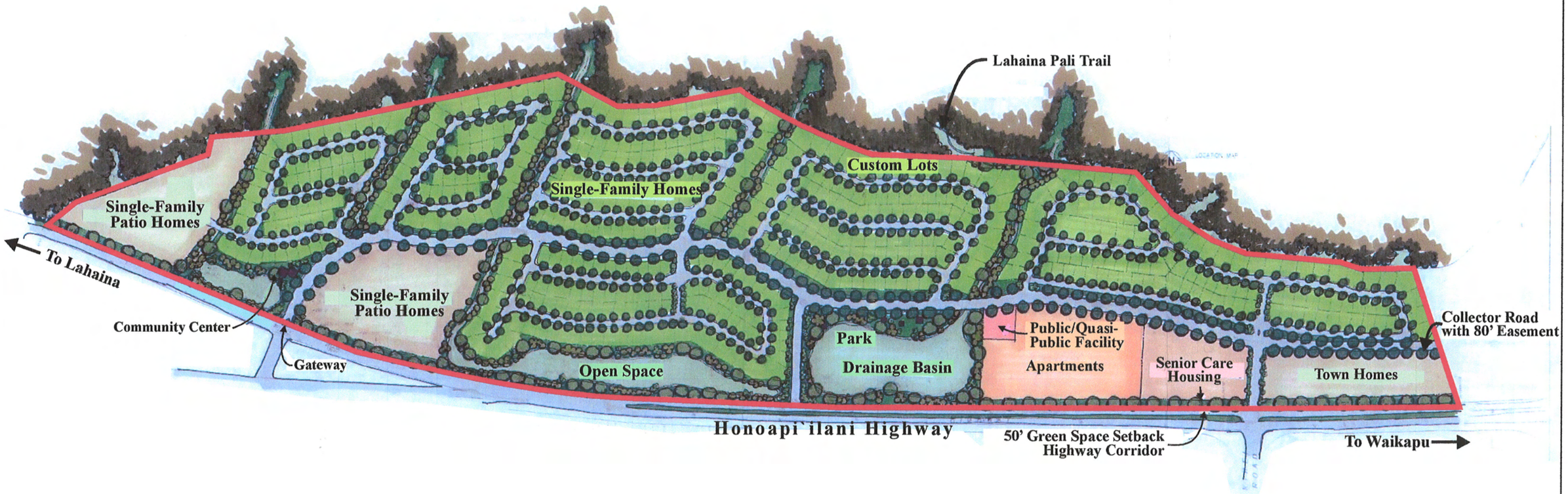
Conceptual Plan B Prepared by Maalaea Properties, LLC

NOT TO SCALE

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/FinalEIS/ConceptPlanB




Source: Maalaea Properties, LLC

Figure 23

Proposed Ohana Kai Village Affordable Housing Project and Related Improvements

Conceptual Plan C Prepared by Maalaea Properties, LLC

NOT TO SCALE

Prepared for: MVI, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/FinalEIS/ConceptPlanC

Since acquiring the site, MVI, LLC has reviewed the above-noted conceptual plans developed by the former landowner, as well as comments received during design review presentations to the Wailuku Main Street Association during which it was emphasized that a commercial component would be particularly valuable to residents living at this locale. This information has allowed MVI, LLC to move forward with the formulation of a revised master plan (presented as the preferred alternative in this document) that focuses on the goal of providing 100 percent of units within the subdivision at affordable prices while also incorporating lands for parks, open space, and public/quasi-public facilities, as well as a village town center component that would offer basic commercial services to residents thus reducing the necessity to travel.

## C. NO-ACTION ALTERNATIVE

Under the "no action" alternative, the site would not be developed for residential use and the no-action alternative would involve the continued under utilization of the 257-acre property. The "no action" alternative would involve neither a commitment of resources nor short- and long-term adverse environmental effects related to residential and commercial development. Under this alternative, there would be no additional demands on infrastructure (e.g. sewer, water, roadways, and educational facilities and resources) or public services (e.g. police and fire protection) associated with project implementation. The no action alternative, however, is not deemed appropriate given both the community plan designation of the property as Project District 12 ***(as reflected in the Kihei-Makena Community Plan)*** and the current shortage of affordable housing on the island. Over recent years, both resident and non-resident (offshore) demand for housing on Maui has intensified due to increased population growth and historically low interest rates. This strong demand, coupled with limited supply, has led to ~~rising~~***high*** housing prices ***in comparison to median income levels***. ~~With~~***While*** the median sales price of a single-family house and lot on Maui ~~over $500,000.00~~***has decreased over the last five (5) years from approximately $675,000.00 in 2005 to $500,000.00 in 2009, prices are expected to gradually increase again from 2010/2011 onwards as the recovery from the global economic downturn continues. Even at the lower end of this price range ($500,000.00)***, many residents ***in Maui County*** have been unable to purchase their own homes. ~~The~~***In regards to housing projections, the*** County of Maui, Socio-Economic Forecast (2006) estimates that total housing demand in Maui County will increase from 53,793 units in 2005 to 89,890 units in 2030, an increase of approximately 67 percent over 25 years. ~~The Hawaii Housing Policy Study Update 2003, estimates that an additional 4,072 resident housing units will be needed by 2010 to meet projected demand. According to the 2003 study, this number is anticipated to further increase to a 4,225-unit deficit in the supply of housing units on Maui by the Year 2020, based on production and~~

~~population forecasts (SMS, 2003).~~*A Market Study has been prepared to evaluate the proposed project in the context of other major residential developments in the region, the findings of which indicate that there is a supply of approximately 1,893 units currently available on Maui. This limited supply is forecasted to last approximately three (3) years when using a historic average annual absorption rate of 604 units/year. Refer to Appendix "A". Further, projections contained within the 2003 Hawaii Housing Policy Study indicate that there will be a 4,225-unit deficit in housing units on Maui by the Year 2020 (SMS, 2003).*

The proposed Ohana Kai Village *Affordable Housing* p*P*roject responds to the need to address the shortage of affordable housing available for Maui's working families in both the near and long term and does so at an attractive and central location in Maalaea. In light of current and projected housing market conditions and prices, the proposed Ohana Kai Village *Affordable Housing Project*~~project~~ is considered to provide a significant community benefit by offering Maui residents new opportunities to secure affordable housing products. The "no action" alternative, therefore, would not address the urgent need for additional affordable housing units for Maui's working families.

## D. DEFERRED ACTION ALTERNATIVE

Similar to the no action alternative, the deferred action alternative is not deemed reasonable as it would not address the current shortage of affordable housing that is currently being experienced in Maui County.

## *E. AGRICULTURAL SUBDIVISION ALTERNATIVE*

***Use of the project site for purposes of development of an agricultural subdivision, consisting of minimum two (2) acre lots, was also considered as part of the process of evaluating alternatives to the proposed Ohana Kai Village Affordable Housing Project. In the scenario of an agricultural subdivision, a total of approximately 21 agricultural lots may be created via subdivision pursuant to Chapter 19.30.A.030 of the Maui County Code. In order to implement an agricultural alternative, a Community Plan Amendment would be required to establish land use consistency between County zoning and the Kihei-Makena Community Plan's land use designation, which is currently Project District 12.***

***It is MVI, LLC's firm belief that affordable housing for local Maui residents is of highest importance with regard to land use options, and therefore, the use of the 257-acre parcel as an agricultural subdivision would not meet that philosophical objective.***

## F. OTHER USES ALTERNATIVE

Similar to the "no action" alternative, agricultural use of the property would involve neither a commitment of resources nor short- and long-term adverse environmental effects related to residential and commercial development. As a result, aside from potential water use impacts, the agricultural use alternative would not involve an increase of infrastructure or public service demands associated with project implementation. Agricultural use at the project site would increase the potential for locally grown food crops.

The agricultural impact of the proposed Ohana Kai Village ***Affordable Housing*** project is near negligible when viewed in the context of the recent trends occurring on Maui. In the last 30 years, the closures of Wailuku Sugar and Pioneer Mill on Maui have taken significant acreages out of active sugar cane cultivation. These actions have greatly increased the supply of non-sugar based agricultural lands and much of these former plantations lands remain fallow. The proposed project will ultimately involve the use of approximately 257 acres of land, which represents approximately 0.1 percent of the roughly 246,000 acres of State Agricultural district lands on the island of Maui. Further, rather than the available land supply, more salient factors facing the agricultural industry include the market demand for products (access to markets and local purchasing patterns) and the overall profitability of crops grown in Hawaii.

Use of the site for entirely commercial/industrial purposes was also examined, which would result in economic benefit to the community in terms of the creation of jobs and increased commerce. Commercial and industrial uses of the site would likely result in similar short and long-term environmental effects as the proposed action. These alternatives were not deemed to be viable from a market and goods distribution standpoint. Further, the property's Project District 12 designation in the Kihei-Makena Community Plan does not allow for development of large-scale commercial/industrial uses at this location.

Potential use of the site exclusively for government services and/or office buildings would not be appropriate given the need to respect Wailuku Town's role as County of Maui's government and business center. There has been no interest expressed by the Federal, State, or County governments concerning any lease or purchase of the property.

## G. INFRASTRUCTURE DEVELOPMENT ALTERNATIVES

Water and wastewater infrastructure limitations were carefully considered during the

planning of the proposed project. Due to the location of the property and water source limitations facing the County of Maui, the applicant has determined that the private development of new source and related water delivery infrastructure would be an appropriate solution to this infrastructural component. Similarly, as there is no County wastewater collection and transmission system in the vicinity of the project, the proposed construction of an onsite Wastewater Treatment Plant (WTP) offers a viable alternative for the treatment and disposal of project generated wastewater. Development of the WTP will also facilitate the recycling of R-1 ~~and R-2~~ water for irrigation of common landscaped areas within and around the subdivision. Use of R-1 ~~and R-2~~ water to meet irrigation requirements is anticipated to yield annual significant savings in the use of drinking water from the privately developed water supply system.

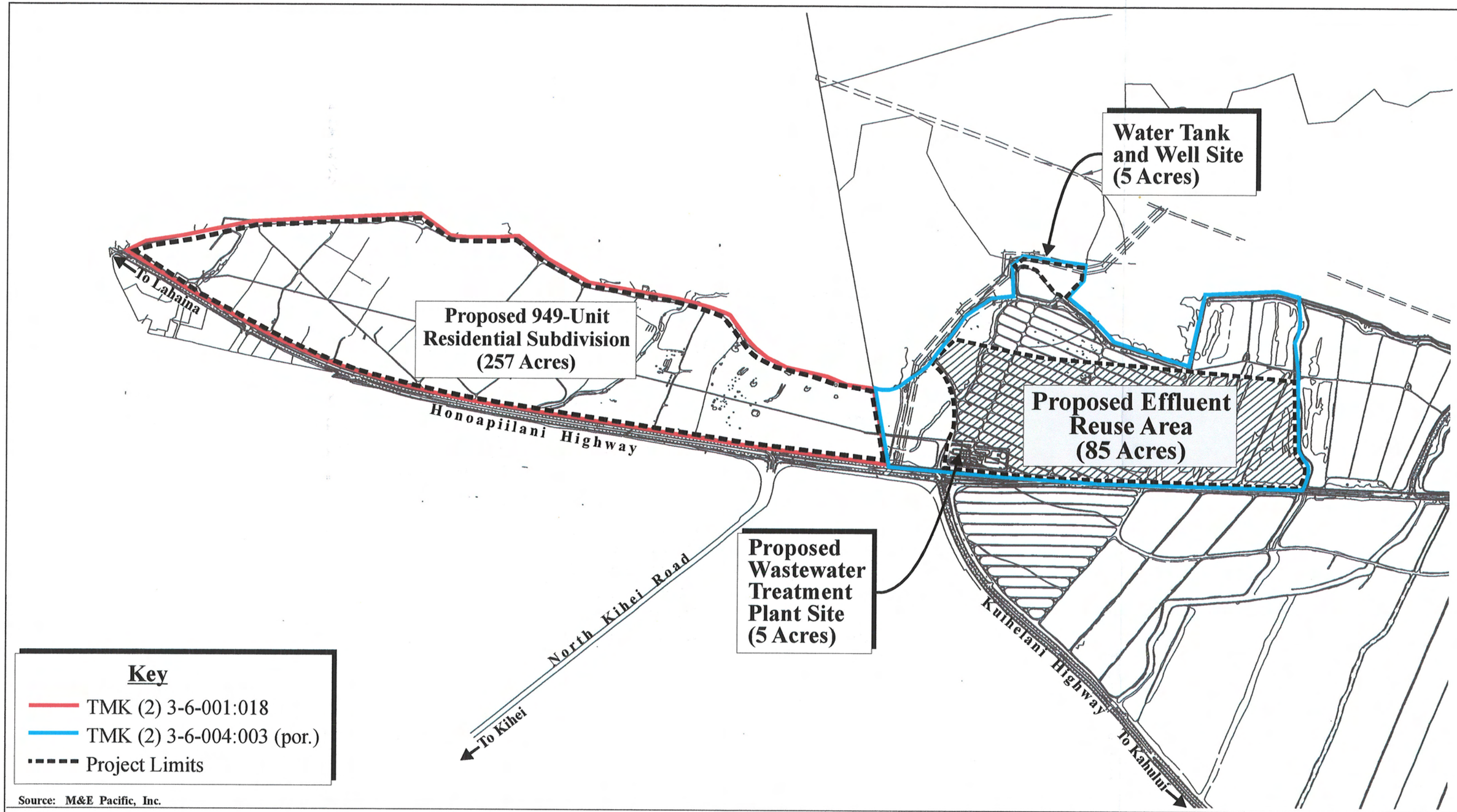
Coordination will be undertaken with applicable governmental agencies during the engineering design phase of work to identify and incorporate, where necessary, any operational requirements into the water system and WTP plans.

## *H. WASTEWATER TREATMENT PLANT LOCATION ALTERNATIVE*

***Alternative locations for the project's Wastewater Treatment Plant (WTP) have also been considered as part of the early planning stages for the proposed project, including the wastewater facility location proposed by the previous owners of Project District 12, Maalaea Properties, LLC. Maalaea Properties, LLC proposed to construct its wastewater treatment facility on an approximately 85-acre portion of TMK (2) 3-6-004:003. See Figure 24. However, the location of the previous wastewater treatment facility was not acquired by MVI, LLC as part of the purchase agreement for Project District 12. Other onsite locations were also considered, with the final site selected (as reflected in Figure 4) based on operational parameters, including site topography and gravity flow design criteria for the facility. Partnership opportunities with the County of Maui were not considered given the limited service scope of the proposed wastewater treatment facility.***

## I. SITE LOCATION ALTERNATIVE

Alternative locations were also evaluated during the process of selecting the preferred alternative for the proposed Ohana Kai Village ***Affordable Housing*** Project. However, market availability of lands suitable for housing development is limited. MVI, LLC explored other acquisition opportunities, but determined that the subject property was best suited to meet their affordable housing objectives in terms of land area, infrastructure solutions, and construction feasibility.




Source: M&E Pacific, Inc.

Figure 24 Proposed Ohana Kai Village Affordable Housing Projet and Related Improvements

Maalaea Mauka Wastewater Treatment Plant Location

NOT TO SCALE

Prepared for: Maalaea Properties, LLC

MUNEKIYO & HIRAGA, INC.

SpenHome/MaalaeaAH/FinalEIS/MaalaeaMaukaWTP

MVI, LLC's goal of providing affordable housing at this site is based on their commitment to address the demand for housing on Maui which has intensified due to steady population growth and historically low interest rates. This strong demand has led to high housing prices ***in comparison to median income levels*** and a projected shortage in housing over the next ten (10) to fifteen (15) years.

In this context, MVI, LLC has pursued and completed the acquisition of the project site, having considered factors important to affordable housing delivery, some of which are presented below:

- The site has been ear-marked as a suitable location for residential housing for over thirty (30) years, since the adoption of the 1970 Kihei Civic Development Plan.

- There are no topographic or geographic constraints to develop ***the proposed project*** present on the property.

- The site is designated for residential development of 1,150 units by the 1998 Kihei-Makena Community Plan.

- The site is a suitable urban growth area which is located adjacent to existing residential and commercial areas. The property is positioned in an attractive and central location in Maalaea, in close proximity to the Maalaea Small Boat Harbor, Maalaea Commercial Triangle, and employment centers in South and Central Maui.

- Necessary engineering infrastructure systems and services will be provided by the applicant to serve the project.

- Development of a residential community at the site is not anticipated to have a significant adverse impact on the physical environment.

- Meteorological conditions at the property are conducive to the implementation of an environmental design program for the project, which includes installation of solar hot water systems ~~and optional~~***as well as consideration of*** photo-voltaic panels on residential structures within the subdivision. Integration of such green design solutions is being pursued for this project by MVI, LLC in an effort to promote long-term affordability in home ownership and assist buyers with reducing housing utility costs.

# V. SUMMARY OF UNAVOIDABLE IMPACTS AND COMMITMENTS OF RESOURCES

# V. SUMMARY OF UNAVOIDABLE IMPACTS AND COMMITMENTS OF RESOURCES

## A. UNAVOIDABLE IMPACTS

The proposed development of the Ohana Kai Village Affordable Housing Project will result in certain unavoidable construction-related environmental impacts as outlined in Chapter II.

In the short-term, construction associated with the proposed development will generate noise impacts. These impacts will be limited to the immediate vicinity of the project construction areas. Sound attenuating construction equipment will be used, where practicable, to mitigate noise impacts caused by construction.

Unavoidable air quality impacts will also arise as a result of construction activities, such as the generation of dust and other airborne pollutants. Appropriate Best Management Practices (BMPs) will be incorporated to mitigate adverse impacts such as watering of exposed surfaces and regular maintenance of construction equipment to minimize construction-related impacts.

## B. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The project will commit approximately 257 acres of agricultural land formerly used for sugar cane cultivation to an urban use for affordable housing. The production of sugar cane at this location ceased over ten (10) years ago and a portion of the parcel is now being utilized for cattle grazing under a lease that can be terminated upon 30 days' notice. The loss of cattle grazing land is not anticipated to adversely impact ranching productivity on Maui due to the fact that the subject parcel represents only a small fraction of available grazing lands on the island.

The visual landscape of the project site will be changed from an agricultural landscape to one which reflects a master planned residential community. Development of the project will, therefore, alter the existing landscape, but is not anticipated to have a significant adverse impact upon scenic or open space resources. ***Refer to Appendix "J".*** The proposed

~~residential community~~***Ohana Kai Village Affordable Housing Project*** will be developed as an architecturally integrated master planned area with low-rise residential structures. Landscaping will be installed as part of the development improvements to ensure visual buffering and softening of the built landscape. The project will incorporate a park and open space areas that will contribute to view corridors both within and through the project. Design standards will establish landscaping details with open space, roadways, public and quasi-public facilities and buffer zones to create a smooth transition to surrounding lands.

From an infrastructure use perspective, project implementation will result in alteration of existing hydrology (drainage), largely due to the increase in impervious surface area, and other impacts related to wastewater, water, park, school, and roadway usage. However, these impacts will be mitigated through the provision of additional resources including a master drainage system, private drinking water system, private wastewater treatment plant, a park, and a site for public/quasi-public facilities.

The drainage system for the proposed ***Ohana Kai Village Affordable Housing Project***~~project~~ will be designed to retain all increases in post-development peak runoff such that downstream properties and water quality within Maalaea Bay will not be impacted by the project. Opportunities to further increase the amount of runoff retained onsite and improve existing downstream drainage conditions will be evaluated during the design phase of the proposed development. Opportunities to direct runoff from parking lots and driveways to nearby landscaped areas and detention basins ***within the subdivision*** will also be considered during the design phase for the project. Also, native plants which require less water will be sought for the landscaped areas within the project.

The applicant is currently in the process of developing a privately operated and maintained water supply system to meet the drinking water requirements of the proposed subdivision. This system ~~will~~ consist***s*** of three (3) wells which ~~will draw~~***have been approved by the State Commission on Water Resource Management (CWRM) to draw*** ~~drinking~~ water from the Waikapu Aquifer beneath the site. ~~Preliminary water quality testing of these wells indicates that the source is sustainable and that the water supply is able to produce the quality of water necessary for drinking water purposes.~~***Refer to Appendix "M-3". The combined capacity provided by these three (3) wells will service 100 percent of the drinking and non-potable water requirements of the subdivision. The proposed water system will be regulated as a new public water system and will be required to comply with applicable State Department of Health (DOH) regulations regarding the development and operations of such systems and the delivery of drinking water fit for human consumption.***

***Comprehensive testing of the groundwater from the project's three (3) wells and ongoing***

***monitoring will be required as part of the DOH approval process for the water system to ensure that water quality meets prescribed standards for drinking water supplies across the life of the project. Over the long term, should water quality exceed defined parameters, the appropriate level of pre-treatment will be applied at that time to ensure that water quality standards are maintained as required by law.***

Additional traffic congestion is anticipated with the completion of this development due to project generated traffic flows and increased ambient traffic associated with regional population growth. Implementation of the traffic improvements outlined in the recommendations section of the TIAR (Refer to **Appendix "~~J~~L"**) is anticipated to mitigate these anticipated traffic problems.

To minimize potential adverse impacts to natural resources in building design, the Office of Environmental Quality Control's publication entitled "Guidelines for Sustainable Building Design in Hawaii" has been reviewed, as well as the U.S. Green Building Council's Leadership in Environmental and Energy Design green building rating system. As a result, the following measures to conserve natural resources and to promote energy efficiency will be considered in the planning, design, construction, and operation of the project:

- Site buildings to take advantage of natural features and maximize their beneficial effects by providing for solar access, daylighting, and natural cooling.
- Design south, east, and west shading devices to minimize solar heat gain.
- Locate buildings to encourage bicycle and pedestrian access and pedestrian oriented uses.
- Installation of solar hot water heating and Photo-Voltaic (PV) systems on all residences.
- Consolidate utility and infrastructure in common corridors to minimize site degradation and cost, improve efficiency, and reduce impermeable surfaces.
- Incorporate locations for recycling and waste diversion opportunities.

# VI. RELATIONSHIP BETWEEN THE SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

# VI. RELATIONSHIP BETWEEN THE SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Though utilized to support commercial sugarcane production in the past, the project site ***(Project District 12)*** has remained out of use for large-scale crop cultivation for over ten (10) years now. In light of the shortage of affordable housing units that currently exists on Maui, coupled with the scarcity of entitled, undeveloped residential lands in the Central Maui region, the conversion of the project's agricultural lands for use as housing presents a beneficial opportunity. It is noted that the project's 257 acres of land represents approximately 0.1 percent of the roughly 246,000 acres of State Agricultural lands on the island of Maui.

The project's anticipated short- and long-term housing and economic benefits are expected to outweigh that from the current short-term uses at the site. The total construction cost of the project is estimated at approximately $400 million, which includes both site utility improvements and vertical construction costs. As a result, the development of the project is anticipated to result in a considerable injection of funds into the local economy. More specifically, the Fiscal and Economic Impact Assessment Report (May 2009), prepared by ACM Consultants, Inc. concludes that the project will result in economic benefits including, but not limited to, the provision of 1,100 affordable housing units, the generation of approximately 838 direct and indirect construction-related employment positions, and payment of State/County tax revenues, as well as development of a Wastewater Treatment Plant, a privately developed water supply system, water/sewage collection systems, interior roadways, and neighborhood parks. The annual net ~~revenue/~~expenditure for the State of Hawaii ***and the County of Maui*** to support the project ***at build-out*** is ~~$5.9 million (revenue) in the development phase and $5.8~~***6.5*** million (expenditure) ~~in the operational phase. The project is expected to generate $407,000.00 in annual revenue for the County of Maui during the operational phase.~~***and $2.8 million (expenditure), respectively. Negative net annual revenues to both the State and County are typical in the case of affordable housing developments due to the low tax burden placed on homeowners in Maui County and the relatively low income levels of families expected to reside in the subdivision.***

It is unlikely that short-term uses of the project site will yield more than limited agricultural cultivation, considering the current market-based conditions for productive long-term agricultural use. In evaluating the conversion of underutilized agricultural lands against the prospect of

providing affordable housing for Maui's working families who will sustain the local economy, the latter is anticipated to result in greater long-term productivity for the region.

# VII. UNRESOLVED ISSUES

# VII. UNRESOLVED ISSUES

***The following section summarizes the issues that remained unresolved at the time of writing the Final EIS for the proposed Ohana Kai Village Affordable Housing Project:***

***IMPLEMENTATION OF INFRASTRUCTURE SOLUTIONS***

The proposed Ohana Kai Village Affordable Housing Project will involve the development of a 1,100 unit master-planned residential community, a village town center, and ~~a~~ public/quasi-public ~~component~~***land uses*** (including a school site and park). Infrastructure solutions for the project have been identified by MVI, LLC and will be developed concurrently with construction of the project. These engineering solutions have been evaluated as part of the analysis provided in this document and include a private drinking water system, a Wastewater Treatment Plant ***(including installation of standby injection wells for effluent disposal)***, roadway improvements along Honoapiilani Highway, and a comprehensive drainage system. All infrastructural systems for the project will be designed and constructed in consultation with the relevant governmental agencies and in accordance with applicable legislative requirements. ***All required regulatory approvals for these system designs will be obtained prior to project implementation.***

***DRINKING WATER QUALITY TESTING***

***It is also noted that the three (3) wells of the private drinking water system have been approved by the State Commission on Water Resource Management (CWRM) to draw groundwater from the Waikapu Aquifer beneath the site. The combined capacity of these three (3) wells will service 100 percent of the drinking and non-potable water requirements of the subdivision. The proposed water system will be regulated as a new public water system and will be required to comply with applicable State Department of Health (DOH) regulations regarding the development and operations of such systems and the delivery of drinking water fit for human consumption. The proposed water system will utilize state of the art monitoring equipment to ensure that the quality of the water being extracted through the groundwater wells is maintained within the parameters prescribed by DOH for drinking water uses. Preliminary testing of the water quality from the three (3) wells that will provide drinking water for the project has been completed. The samples taken during these preliminary tests were analyzed in accordance with the drinking water standards prescribed by DOH. The preliminary testing results are presented in Appendix "M-4" and are intended to give the reader a general indication of the level of water quality available within this particular portion of the Waikapu aquifer. The results indicate that the source has***

***the capability of providing the water quality necessary to produce drinking water to service the requirements of the Ohana Kai Village subdivision. Further comprehensive testing of the groundwater from the project's wells and ongoing monitoring will be required as part of the DOH approval process for the water system to ensure that water quality meets prescribed standards for drinking water supplies across the life of the project. Over the long-term, should water quality exceed defined parameters, the appropriate level of pre-treatment will be applied at that time to ensure that water quality standards are maintained as required by law.***

## *FORMULATION OF UNILATERAL AGREEMENT AND MARKETING PROGRAM FOR AFFORDABLE UNITS*

Implementation of the project will address the shortage of affordable housing currently being experienced on Maui and will be processed in accordance with Section 201H-38 of the Hawaii Revised Statutes (HRS). The applicant will be working alongside the County of Maui, Department of Housing and Human Concerns (DHHC) as the project proceeds to formulate a unilateral agreement and marketing program for the project's affordable units. The sales prices for affordable units will be established at the time of development and will be based on Maui's median family income at that time. The applicant will formulate and execute the affordable housing agreement with the DHHC prior to project implementation.

## *REVIEW AND ISSUANCE OF SECTION 201H EXEMPTIONS*

Through the 201H process, the applicant will be seeking exemptions from certain regulatory and statutory requirements relating to land use, construction, subdivision, public services and infrastructure and administrative procedures. The list of exemptions being requested for this project is presented in **Appendix "~~N~~*P*"**. Approval of these exemptions will ~~address impact fee requirements for the project and will~~ enable the units to be constructed and made available to qualified buyers within the timeframe reflected in Chapter I of this report. ***A determination on the requested exemptions will be made by the Maui County Council as part of its deliberations on the Section 201H application for the project.***

## *COMPLETION OF 2030 GENERAL PLAN UPDATE*

While an exemption from Chapter 2.80B of the Maui County Code, relating to the General Plan and Community Plans, will be included in the Section 201H-38 exemption list for the project, the applicant is currently actively participating in the County of Maui's 2030 General Plan Update process, a comprehensively planning process that has been ongoing for a number of years now. As part of it's involvement in the 2030 General Plan Update process, MVI, LLC has submitted a formal request to the Department of Planning asking that the subject property (designated as Project District

12 in the 1998 Kihei-Makena Community Plan) continue to be reflected as a future urban growth area for the Maalaea community. Development plans for the property have also been discussed with both the General Plan Advisory Committee and the Maui Planning Commission during landowner presentations held as part of the General Plan process on September 20, 2007 and July 21, 2009. MVI, LLC will continue to work alongside the Department of Planning and the Maui County Council as work on the draft Maui Island Plan continues.

***SATISFACTION OF EDUCATIONAL CONTRIBUTION REQUIREMENTS***

***MVI, LLC is proposing to facilitate the construction of a charter school within the 16-acre public/quasi-public land use component of the proposed subdivision. The development of this educational facility will offset the impact of the proposed Ohana Kai Village Affordable Housing Project on State owned and operated facilities in both Central and South Maui. The applicant met with the State Department of Education, Facilities Development Branch staff on February 25, 2010 (during the EIS preparation process) to discuss the development of the proposed charter school and the satisfaction of educational contribution requirements for this affordable housing project. Additional coordination with the DOE will be undertaken prior to project implementation to address educational contribution requirements for the Ohana Kai Village Affordable Housing Project. MVI, LLC will request issuance of credits for the proposed charter school facility as part of this process.***

***LEASE OF MAUKA CONSERVATION DISTRICT LANDS***

***The applicant is currently in discussions with the Department of Land and Natural Resources to request issuance of a lease for the use of a linear strip of Conservation District land along the mauka boundary of the project site. This land would be utilized as part of the reclaimed water reuse program for the project. This would offer the opportunity for increase R-1 irrigation use within and around the subdivision, thus reducing the need to utilize onsite injection wells to dispose of effluent from the Wastewater Treatment Plant. The leased land would serve a dual function as it would also be regularly maintained as a green fire prevention buffer between the untended State-owned conservation lands to the west of the property line and the urban land uses programmed for development within the subdivision.***

***AFTER-THE-FACT DEPARTMENT OF ARMY PERMITTING REQUIREMENTS***

***Since publication of the Draft EIS, correspondence was received from the U.S. Army Corps of Engineers on May 27, 2010 rescinding the previous Preliminary Non-Jurisdictional Determination that was issued by USACE on October 13, 2009 for Pohakea Gulch, an offsite drainageway located to the north of the proposed subdivision. Refer to Figure 10 (on Page 27).***

*The May 27th USACE letter (refer to Appendix "F") asserts jurisdiction over Pohakea Gulch and provided the following information in support of the change in determination:*

> *On February 2, 2010, our office received new information that indicated Pohakea Gulch may, in fact, have a direct surface water connection to navigable waters as well as have a significant nexus to those waters. We reviewed available literature, including the Atlas of Hawaiian Watersheds and their Aquatic Resources, dated April 2008, by the State of Hawaii and we performed a site visit on March 4, 2010, to confirm the presence or absence of a significant nexus. We have determined that Pohakea Gulch and the unnamed tributary to Pohakea Gulch, as shown on the enclosed drawings, are waters of the U.S., and are, therefore, regulated under Section 404 of the Clean Water Act. Our assertion of jurisdiction is based on the recognition that these waterbodies have more than a speculative or insubstantial effect on the chemical, physical, and biological integrity of a traditional navigable water. Please see the attached jurisdictional determination for additional information.*

*By letter, dated June 22, 2010, MVI, LLC provided a response to USACE confirming that the applicant will be proceeding in accordance with guidance provided by USACE Honolulu staff with the submittal of an after-the-fact DA permit application for a waterline and road crossing that was installed across Pohakea Gulch in 2009 (prior to the issuance of a jurisdictional determination for this drainageway). Refer to Appendix "F-1". MVI, LLC will continue to work with USACE staff to address applicable after-the-fact DA permit requirements for the 2009 improvements to remain in place.*

*In regards to onsite drainageways located within the limits of TMK (2)3-6-001:018 (the 257-acre subdivision site), MVI, LLC will be submitting a separate jurisdictional determination request to USACE to request confirmation of applicable DA permitting requirements for project-related improvements affecting these features.*

# VIII. COMMUNITY MEETINGS

# VIII. COMMUNITY MEETINGS

The project site (Project District 12) was acquired by MVI, LLC on October 21, 2008 from former owner Maalaea Properties, LLC. Prior to the sale of the property, the previous owner (Maalaea Properties, LLC) had been involved in the processing of land use entitlement applications for development of a proposed residential subdivision on the property, referred to at the time as the "Maalaea Mauka" project. The Maalaea Mauka proposal is no longer being pursued by Maalaea Properties, LLC ***and the land use entitlement applications for this project have been withdrawn from processing by the former owners of the property***. Prior to the sale of the property, Maalaea Properties, LLC conducted a series of design workshops in the Maalaea community on October 15, October 29, and November 12, 2005 as part of the plan development process for Maalaea Mauka. The workshops were attended by property owners and the Board of Directors for the Maalaea Community Association (MCA), which represents residential property owners in Maalaea. Participants at the workshops evaluated several alternative land use layouts and were given the opportunity to have input into the planning of a residential community at Project District 12. Three (3) conceptual plans ***(including the preferred alternative that was eventually selected for the Maalaea Mauka project)*** were derived as a result of the community input received at these meetings as discussed in the Alternatives Analysis section of this document. ***On November 13, 2006, the MCA, however, issued a Resolution in Opposition to the former Maalaea Mauka project.***

Since acquiring ~~the site~~***Project District 12***, MVI, LLC has reviewed the conceptual plans that were defined as a result of this dialogue with the community and has participated in follow-up meetings with the MCA Board of Directors to discuss the current land use plan for the Ohana ***Kai*** Village ***Affordable Housing*** Project. ***Copies of both the EIS Preparation Notice (EISPN) and the Draft EIS prepared for the Ohana Kai Village Affordable Housing Project were sent to the MCA for review and comment in June 2009 and December 2009, respectively. Following review of each respective document, the MCA submitted comment letters stating opposition in both instances to the proposed project. Copies of the MCA comment letters and responses from MVI, LLC are provided in Chapters X and XI of this Final EIS document. The most recent letter from MCA, dated February 4, 2010, stated in part that the 'resolution remains in full force and effect'.***

***In regards to the design of the proposed Ohana Kai Village Affordable Housing Project,*** ~~Comments~~***comments*** received during design review presentations to the Wailuku Main Street Association ~~have also been~~***were also*** reviewed ***by MVI, LLC***, ~~during~~ which ~~it was~~ emphasized that a commercial component would be particularly valuable to residents living at this locale.

~~This information~~ ***The additional input received from the Wailuku Main Street Association*** has allowed MVI, LLC to move forward with the formulation of a revised master plan for the Ohana Kai Village Affordable Housing Project that focuses on the goal of providing 100 percent of units within the subdivision as affordable whilst also incorporating lands for parks, open space, and public/quasi-public facilities as well as a village town center ***(commercial)*** component that would offer basic ~~commercial~~***shops and*** services to residents, thus reducing the necessity to travel.

# IX. LIST OF PERMITS AND APPROVALS

# IX. LIST OF PERMITS AND APPROVALS

The following ~~list of~~ permits and approvals, ***as summarized (along with projected submittal dates) in Table 17 below,*** are anticipated to be needed for project implementation:

~~1. Federal~~

~~Section 404, Department of Army Permit, as applicable~~

~~2. State of Hawaii~~

~~A. Section 201H, Hawaii Revised Statutes (HRS), District Boundary Amendment~~

~~B. National Pollutant Discharge Elimination System (NPDES) Permits, as applicable~~

~~C. State Department of Health Underground Injection Control Permit, as applicable (Wastewater Treatment Plant only)~~

~~D. Section 401, Water Quality Certification, as applicable~~

~~E. Coastal Zone Management (CZM) Consistency Determination, as applicable~~

~~F. Stream Channel Alteration Permit, as applicable~~

~~G. Permit to Work Within State Right-of-Way, State Department of Transportation~~

~~3. County of Maui~~

~~A. County Section 201H, HRS Approval~~

~~B. Subdivision Approval~~

~~C. Special Management Area (SMA) Use Permit, as applicable~~

~~D. Construction Permits (Grading, Grubbing, Building, Stockpiling, Driveway)~~

~~E. Special Flood Hazard Area Development (SFHAD) Permits, as applicable~~

*Table 17. List of Permits and Approvals*

| *Permit/Approval* | *Projected Submittal Date By Year (Quarter)* |
|---|---|
| *FEDERAL* | |
| *A. Section 404, Department of Army Permits* | *2010 (3Q)* |
| *STATE OF HAWAII* | |
| *A. Section 201H, Hawaii Revised Statutes (HRS), District Boundary Amendment* | *2011 (1Q)* |
| *B. National Pollutant Discharge Elimination System (NPDES) Permits, as applicable* | *2011 (1Q)* |
| *C. State Department of Health Approval to Construct Wastewater System (Wastewater Treatment Plant Only)* | *2011 (2Q)* |
| *D. State Department of Health Wastewater Operation Permit (Wastewater Treatment Plant Only)* | *2011 (2Q)* |
| *E. State Department of Health Permit to Operate a Water Reuse Project (Wastewater Treatment Plant Only)* | *2011 (2Q)* |
| *F. State Department of Health Underground Injection Control Permit, as applicable (Wastewater Treatment Plant only)* | *2011 (1Q)* |
| *G. State Department of Health Preliminary Engineering Report, and, Start-Up Technical, Managerial and Financial Capacity Demonstration Approvals (Water System OnlyP* | *2011 (1Q)* |
| *H. Section 401, Water Quality Certifications, as applicable* | *2010 (4Q)* |
| *I. Coastal Zone Management (CZM) Consistency Determinations, as applicable* | *2010 (4Q)* |
| *J. Stream Channel Alteration Permit, as applicable* | *2010 (4Q)* |
| *K. Permit to Work Within State Right-of-Way, State Department of Transportation* | *2011 (2Q)* |
| *COUNTY OF MAUI* | |
| *A. County Section 201H, HRS Approval* | *2010 (4Q)* |
| *B. Subdivision Approval* | *2011 (1Q)* |
| *C. Special Management Area (SMA) Use Permit, as applicable* | *2011 (1Q)* |
| *D. Construction Permits (Grading, Grubbing, Building, Stockpiling, Driveway)* | *2011 (1Q)* |
| *E. Special Flood Hazard Area Development (SFHAD) Permits, as applicable* | *2011 (1Q)* |

# X. PARTIES CONSULTED DURING THE PREPARATION OF DRAFT ENVIRONMENTAL IMPACT STATEMENT; LETTERS RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENTS

# SEE VOLUME II

# XI. PARTIES CONSULTED DURING THE REVIEW OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT; LETTERS RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENTS

# SEE VOLUME II

# XII. REFERENCES

# XII. REFERENCES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