



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

State Comptroller  
Department of Accounting and  
General Services  
P.O. Box 119  
Honolulu, Hawaii 96810-0119

SUBJECT: Comments on the Environmental Impact Statement Preparation  
Notice (EISPN) for the Proposed Olowalu Town Master Plan at  
Olowalu, Maui, Hawaii

Dear Mr. Coppa:

Thank you for your department's letter of July 26, 2010 on the proposed Olowalu Town Master Plan. We appreciate your department's review of the Environmental Impact Statement Preparation Notice (EISPN) and your conveying confirmation that the proposed project does not impact your department's projects or facilities and that the department has no comments at this time.

Thank you again for your participation in the Chapter 343, HRS, review process. A copy of your letter will be included in the Draft Environmental Impact Statement (EIS). Further, a copy of the Draft EIS will be forwarded to your office for review and comment.

If additional information or clarification is required, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,

Colleen Suyama  
Senior Associate

CS:tn

Cc: Dan Davidson, Land Use Commission  
Bill Frampton, Olowalu Town, LLC

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LINDA LINGLE  
GOVERNOR



JUL 22 2010

KAREN SEDDON  
EXECUTIVE DIRECTOR

**STATE OF HAWAII**

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT AND TOURISM  
HAWAII HOUSING FINANCE AND DEVELOPMENT CORPORATION  
677 QUEEN STREET, SUITE 300  
Honolulu, Hawaii 96813  
FAX: (808) 587-0600

IN REPLY REFER TO:

10:PEO/115

July 21, 2010

Mr. Orlando "Dan" Davidson, Executive Director  
State Land Use Commission  
P.O. Box 2359  
Honolulu, Hawaii 96804

✓ Ms. Colleen Suyama, Project Manager  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Mr. Davidson and Ms. Suyama:

Re: Environmental Impact Statement Preparation Notice for Proposed Olowalu Town Project,  
TMK: (2) 4-8-003: 84, 98 thru 118, 124, Olowalu, Maui, Hawaii

The proposed Olowalu Town Project combines various land uses including housing. Approximately 1,500 residential dwelling units are proposed for development, including single family houses, apartments, live-work apartments, cottages, rural homes and farmsteads. We are pleased to note that the housing units will be offered at a wide-range of income levels. Further, the workforce housing will be provided in compliance with Chapter 2.96 of the Maui County Code and details on the workforce housing allocations by income categories will be addressed in the Draft EIS.

The proposed project, and in particular residential use, is consistent with the affordable housing policy set forth in the Hawaii State Plan of increasing homeownership and rental housing opportunities and choices in terms of quality, location, cost, densities, style and size of housing.

Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in cursive script, appearing to read "Karen Seddon".

Karen Seddon  
Executive Director



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

Karen Seddon, Executive Director  
Department of Business, Economic Development and Tourism  
Hawaii Housing Finance and Development Corporation  
677 Queen Street, Suite 300  
Honolulu, Hawaii 96813

SUBJECT: Comments on the Environmental Impact Statement Preparation  
Notice (EISPN) for the Proposed Olowalu Town Master Plan at  
Olowalu, Maui, Hawaii

Dear Ms. Seddon:

Thank you for your letter of July 21, 2010 providing comments on the Proposed Olowalu Town Master Plan. As stated in the Environmental Impact Statement Preparation Notice (EISPN), the project will meet the workforce housing guidelines of Chapter 2.96 of the Maui County Code. We appreciate your agency's determination that the Olowalu Town Master Plan is consistent with the affordable housing policy set forth in the Hawaii State Plan.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Draft EIS. Further, a copy of the Draft Environmental Impact Statement (EIS) will be forwarded to your office for review and comment.

Karen Seddon, Executive Director  
December 21, 2011  
Page 2

If additional information or clarification is required, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:tn

cc: Dan Davidson, Land Use Commission  
Bill Frampton, Olowalu Town, LLC

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**DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM**

SEP 22 2010

LINDA LINGLE  
GOVERNOR  
THEODORE E. LIU  
DIRECTOR  
ABBEY SETH MAYER  
DIRECTOR  
OFFICE OF PLANNING

**OFFICE OF PLANNING**

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813  
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2845  
Fax: (808) 587-2824

Ref. No. P-13113

September 21, 2010

Mr. Orlando Davidson  
Executive Officer  
Land Use Commission  
P.O. Box 2359  
Honolulu, Hawai'i 96804

Ms. Colleen Suyama, Project Manager  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawai'i 96793

Dear Mr. Davidson and Ms. Suyama:

Subject: LUC Docket A10-786, Olowalu Town LLC/Olowalu Eklou LLC  
Proposed Olowalu Town Master Plan  
Environmental Impact Statement Preparation Notice  
TMK(s) (2) 4-4-003: 084, 098 through 118, and 124 (portions)  
Olowalu, Maui, Hawai'i

The Office of Planning (OP) appreciates the opportunity to comment on the Environmental Impact Statement Preparation Notice (EISP) for the above referenced proposal, for which the landowner(s) have filed a petition to reclassify approximately 320 acres of land from the State Agricultural District to the State Rural and Urban Districts. The petitioners propose to develop a master-planned community on approximately 636.48 acres of land at Olowalu.

OP will be coordinating the State's position on the petition with respect to areas of cross-cutting State concern. It is very important that the Draft Environmental Impact Statement (DEIS) fully identify and discuss potential impacts, including cumulative and secondary impacts, of the proposed project, as well as recommendations for mitigating potential adverse impacts, on the following areas of State concern.

1. **Groundwater and Surface Water Resources.** Water resource protection and water quality are critical State issues. The DEIS should discuss the water requirements of the proposed project, the proposed potable and non-potable water

sources to be used for the project, and measures proposed to reduce water demand and promote water reuse in the project. This discussion should identify whether the proposed project is within a designated Water Management Area, the impact of the project on the sustainable yield of affected aquifers, and the impact of the project on projected water use and system improvements contained in the County's water use and development plan.

The DEIS should provide an assessment of projected water use and impacts on affected groundwater and surface water resources under both single well and second well development scenarios. The DEIS should clarify the source of untreated agricultural water and how it will be used in the project. Existing diversions and current water use from Olowalu Stream should be quantified and discussed, as well as the cumulative water demand from the project and existing users that will be met by continued diversion of stream water and any plans for restoration of stream flows. Groundwater withdrawal for the project and its potential impact on Olowalu Stream and other surface and coastal water resources and habitats need to be addressed. The DEIS should also discuss the potential impact of proposed development along the stream corridor and how these impacts will be mitigated.

The DEIS should explain the factors that might constrain widespread use of native Hawaiian and drought resistant species in the project area.

2. **Agricultural Lands.** Preservation of important agricultural lands is a priority for the State and Counties. The DEIS should quantify the total amount of agricultural land being proposed for development under the proposed Master Plan and the amount of agricultural land that is being proposed for reclassification by their respective ALISH classification and Land Study Bureau overall productivity rating. The DEIS's agricultural impact assessment being conducted should include documentation of existing agricultural activity within and in the vicinity of the Master Plan area, and discuss the impact of the proposed development and loss of agricultural lands on localized agricultural activities and agriculture on Maui. The DEIS should explain how existing and proposed agricultural activity will be promoted and protected in Master Plan development and buildout. The DEIS should also discuss how adverse impacts from the loss of agricultural lands would be mitigated, including consideration of protection of an equivalent amount of quality agricultural lands elsewhere.
3. **Cultural, Archaeological, and Historic Resources**—The DEIS should include a complete inventory of archaeological and historic sites found on the subject property, and identify the status of any monitoring and preservation plans being prepared for or approved by the State Historic Preservation Division. The DEIS should identify and describe any cultural resources and cultural practices,

including visual landmarks, if applicable, on the subject property and within the ahupua'a in which the property is situated. The DEIS should discuss the impact of the proposed project on identified cultural resources and practices, alternatives considered, and proposed mitigation measures.

OP recommends the DEIS include a map that overlays the conceptual Master Plan with identified sites and resources to enable the reviewer to visualize the relationship between proposed development and existing resources to be preserved and protected. We understand that the DEIS will describe the Olowalu Cultural Preserve, existing and planned activities and resource management, how it is managed and administered, and what relationship, if any, it will have with the proposed new town.

4. **Coastal Zone Management (CZM) Concerns.** The State oversees protection of natural, cultural, and economic resources within the coastal zone, which is defined as all lands of the State and the area extending seaward from the shoreline to the limit of the State's police power and management authority, including the United States territorial sea (§205A-1, Hawaii Revised Statutes). The DEIS should note this definition of the coastal zone, and discuss how the proposed project will balance the competing values of economic development and preservation of coastal resources, including the following CZM objective areas.

The DEIS should include a map delineating the proposed 150-foot shoreline setback on the conceptual Master Plan.

- a. **Coastal and Ocean Resources.** The State has an affirmative duty to protect Hawaii's nearshore waters. The DEIS should provide an inventory of and discuss important coastal and marine resources and ecosystems that may be impacted by the proposed project. Recent studies have indicated the presence of wastewater effluent in coastal waters off Lahaina from injection wells at the municipal wastewater treatment plant. The DEIS should discuss how wastewater and stormwater generated by the project will be prevented from adversely impacting nearshore waters, species, and habitats.

The DEIS should discuss the impact of the project on existing site and offsite hydrology and how the project will manage stormwater and runoff. OP recommends the use of green infrastructure, specifically the use of low impact development design and other best management practices (BMPs) that promote onsite infiltration and minimize runoff from storm events. More information on stormwater BMPs can be found at <http://hawaii.gov/dbedt/czm/initiative/lid.php>.

- b. **Coastal and Other Hazards.** The DEIS should describe any hazard conditions that are relevant to the site, such as potential risk or harm from tsunami, hurricane, wind, storm wave, sea level rise, flood, erosion, volcanic activity, earthquake, landslide, subsidence, and point and nonpoint source pollution. The DEIS should describe the measures that are proposed to mitigate any hazard impacts. It should discuss how climate change and the potential for sea level rise and storm events might impact the proposed community over time.

OP recommends the DEIS provide a map that overlays the FIRM zones and tsunami evacuation zone on the conceptual Master Plan for the reviewer. The DEIS should also include a discussion of wildfire hazards and any mitigation measures that might be required to address any potential threat from wildfires.

- c. **Coastal-dependent Uses, Beach Protection, and Scenic Resources.** The DEIS should discuss why the proposed development needs to be located on the coast, the economic uses that will be of benefit to the State, as well as the measures to be taken to enhance beach protection and access. The DEIS should also discuss the project's impact on scenic views to and from the coast and how these will be mitigated.
  - d. **Recreational Resources.** The DEIS should include a complete description of recreational uses and facilities on or near the project site, and discuss how the impact of increasing users on these resources, in particular, coastal and ocean recreational resources, will be mitigated and managed during project development and at buildout.
- 5. **Affordable Housing.** Increasing the supply of affordable housing is a critical State and County issue. The DEIS should specifically discuss how the Petitioner plans to meet the County affordable housing and workforce housing requirements, to include a discussion of how the project's proposed residential product types will be allocated among the market and various affordable housing target populations, and the expected price ranges for the different product types.
  - 6. **Impact on State Facilities.** The DEIS should include a discussion of anticipated short- and long-term project impacts on State-funded facilities, including schools, highways, harbors, and airports, and document State agency concerns related to their respective State facilities and resources. The DEIS should cite the measures proposed to mitigate the project's impacts on State facilities and describe discussions held with State agencies to address their concerns.



7. **Energy Use and Impacts.** The DEIS should quantify the projected energy requirements of the project by type of use, and discuss measures to be taken to reduce energy demand, promote energy efficiency, and to promote use of alternative, renewable energy sources, and otherwise advance State efforts to increase energy efficiency and alternative energy use under the Hawai'i Clean Energy Initiative. OP recommends the project's energy and resource use be evaluated with respect to the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating systems for new construction and neighborhood development. The DEIS should also identify any generating or transmission capacity constraints that may arise as a result of the proposed project and other projects planned for the region. The DEIS should also discuss the degree to which the project promotes transportation energy savings and reduces vehicular trips for project residents and users within the project and the region.
8. **Biota.** The DEIS should include an inventory of flora and fauna, including invertebrates, found on or in proximity to the project site and in any lava tubes and caves that may be on the property. Flora and fauna of concern should not be limited to listed threatened or endangered species or those under consideration for listing, and should include those species and ecosystems identified as 'rare' by The Nature Conservancy of Hawai'i. The DEIS should also discuss measures to be taken to protect rare, threatened or endangered species or ecosystems of concern. Consideration should be given to conducting field observations in both wet and dry season surveys to capture the fullest range of flora and fauna.

It is unclear from the EISPN how much of the conceptual Master Plan area has been surveyed for biological resources. The DEIS should clearly identify the surveys that are being relied on, the area they cover, and when they were conducted. Given the scale of the project, additional biological surveys may be warranted.

The EISPN notes the presence of o'opu in Olowalu Stream. The scale of the project may require an updated stream assessment to establish a current baseline of the stream system and biota.

9. **Conservation District.** The DEIS should provide an inventory of conservation resources within the Master Plan area and identify potential impacts on these resources from proposed development, and how these impacts will be mitigated.
10. **Conformance with County Plan Designations and Urban Growth or Rural Community Boundaries.** Act 26, Session Laws of Hawaii 2008, reaffirmed the Land Use Commission's duty to consider any proposed reclassification with respect to the Counties' adopted general, community, or development plans. Thus, the DEIS should discuss the proposed project's consistency with the County land

use plans. If the proposed project is not consistent with the County plans, would require a County plan amendment, or lies outside a County urban growth or rural community boundary, then the DEIS should provide an analysis and discussion of the following:

- a. **Alternative Sites Considered.** The DEIS should describe and discuss alternative sites that were considered for the project, and discuss why the project could not be accommodated on lands within the urban growth or rural community boundary, if the County plan delineates such boundaries, or on land already designated by the County for similar uses.
  - b. **Impact on Surrounding Lands.** The DEIS should discuss what the impacts of changing the County plan designation or extending the urban growth or rural community boundary would have on the surrounding lands. In particular, the DEIS should address how the proposed Rural District designation would impact neighboring agricultural activity on land in the Agricultural District. The DEIS should also discuss how rural and agricultural land use within and in proximity to the project will be maintained over the long-term.
  - c. **Significant Public Benefit.** The DEIS should discuss what, if any, public benefits are provided by the proposed project above that already required under existing approval and permitting requirements.
11. **Sustainability Analysis.** The adoption of sustainable building and development practices has long-term environmental, social, and economic benefits to Hawai'i residents and communities. OP appreciates the considerable attention to sustainability principles reflected in the conceptual Master Plan. The EIS process is extremely valuable as a means to identify and discuss the specific sustainable design and development practices, including green building practices, which will be incorporated in the proposed project. The Office of Environmental Quality Control's *Guidelines for Sustainable Building Design in Hawai'i* and the U.S. Green Building Council's (U.S. GBC) LEED programs for new construction and its pilot program for neighborhood development (LEED-ND) offer guidelines and checklists for this purpose.

The LEED-ND rating system, in particular, is especially useful in profiling how a project protects and enhances the overall health, natural environment, and quality of life of communities. The rating system provides a range of development features and strategies that promote efficient water, energy, and resource use, including waste reduction, as well as location and design elements to reduce transportation impacts.

OP recommends that the DEIS include an analysis of the project with respect to the LEED-ND system, and provide a discussion of the LEED elements that will or could be incorporated into the project. This information would greatly aid agencies, decision makers, and the public in reviewing the project application.

12. **Solid Waste Management.** The DEIS should quantify the volume of solid waste likely to be generated by the project, and describe the impact the project will have on the County's existing and planned capacity for managing solid waste as represented in the County's solid waste management plan. The DEIS should discuss any mitigation measures to be taken to reduce solid waste generation and ensure that recycling and reuse are incorporated in the project.
13. **Public Health.** If the project will have a potential to generate hazardous materials or result in the possible contamination of the air, soil, or water, please discuss how public health and safety will be protected.

The DEIS should identify and discuss any potential health and environmental threats that may be present due to contamination from past or current use of the site, including findings from Phase I or Phase II environmental site assessments conducted at the project site. OP recommends that an ASTM 1527-05 Phase I Environmental Site Assessment or equivalent be conducted for the Master Plan area, if one has not already been conducted. The Department of Health's Office of Hazard Evaluation and Emergency Response should be consulted as to issues to be addressed in the conduct of any site assessments for the project area.

14. **Development Timetable.** The EISPN noted that the proposed Master Plan will be developed over a 30-year time horizon. The State Land Use Commission (LUC) requires that projects seeking reclassification be substantially completed within ten years or seek incremental approvals. The DEIS should reference LUC rules (Section 15-15-50, Hawai'i Administrative Rules) and provide a schedule of development for each phase of the total project and a map showing the location and timing of each phase or increment of development. This development schedule will be critical for the review of the petition for the proposed district boundary amendment.
15. **Miscellaneous Comments**
  - a. **Section IV, Alternatives to the Proposed Action.** The section needs to evaluate distinct alternatives to the proposed action, such as a smaller footprint for the proposed new community or the potential for siting the proposed development package in another location/s on the island. As currently written, the alternatives discussed are design variants on the preferred alternative. Furthermore, the discussion of the Deferral of

Mr. Dan Davidson  
Ms. Coleen Suyama  
September 21, 2010  
Page 8

Action alternative needs to be evaluated separately from the No Action alternative, as it represents a later timeframe for development.

- b. **Section V, Summary.** This section needs to identify and discuss unavoidable impacts and irretrievable commitments for both the construction and operational (full buildout) phases of the proposed project.
- c. The list of permits/approvals should identify the type of permit/s that may be required, rather than stating "as appropriate."
- d. **Table 2, Master Plan Land Use Allocation Summary.** The land use category of 'Natural' should be changed to a more appropriate label, such as 'Open Space', as this category includes ball fields, active parks, and 'gathering facilities'.
- e. **Smart Code.** The DEIS should discuss how the proposed Smart Code would be implemented and integrated with existing County land use regulatory tools.
- f. The sustainable yield for the Olowalu Aquifer cited on pages 54 and 55 is not consistent.
- g. The "Wetland Assessment Report" cited as being included in the EISPN should be included in the DEIS.

OP looks forward to receiving the DEIS with the potential impacts and mitigation measures for the above issues addressed. If you have any questions, please call Ruby Edwards of the Land Use Division at (808) 587-2817.

Sincerely,



Abbey Seth Mayer  
Director



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

Jesse Souki, Director  
Office of Planning  
State of Hawaii  
P.O. Box 2359  
Honolulu, Hawaii 96804

SUBJECT: Environmental Impact Statement Preparation Notice (EISPN) for  
the Proposed Olowalu Town Master Plan Project at Olowalu, Maui,  
Hawaii

Dear Mr. Souki:

Thank you for your department's letter of September 21, 2010 providing comments on the proposed Olowalu Town Master Plan. On behalf of the applicants, Olowalu Town, LLC and Olowalu Ekolu, LLC (applicant), we offer the following information in response to your remarks, which have been organized in the same order as they appear in your letter:

**Groundwater and Surface Water Resources**

The average daily potable demand for the project is 672,300 gallons per day, which includes existing users, which will be provided by the privately-owned Olowalu Water Company, Inc. The potable demand of existing and future users are well below the 2.0 million gallon per day (MGD) sustainable yield established by the Commission on Water Resources Management (CWRM). Based on the water consultant's consultation with the U.S. Geological Survey (USGS), it estimated that the aquifer may have a sustainable yield of 7.0 MGD. The surface and groundwater in Olowalu has not been designated by the CWRM as a water management area.

The estimated water needs of the Olowalu Town Master Plan will be reduced through implementation of appropriate building and landscape efficiency measures recommended by the Leadership in Energy and Environmental Design for Neighborhood Development (LEED ND) included in the Draft Environmental Impact Statement (EIS). Further, the Olowalu Master Plan proposes to utilize the R-1 Recycled water from the wastewater treatment plant to reduce its dependency on surface and groundwater sources for irrigation.

A Water Resources Study has been prepared by Tom Nance which has been summarized and included in the Draft EIS. The study identifies the existing diversions and current water use from Olowalu Stream. Olowalu Stream is located within the Olowalu Cultural Reserve (OCR) and agricultural uses are proposed adjacent to the OCR and stream to minimize the impacts associated with urban development.

### **Agricultural Lands**

The Olowalu Town Master Plan proposes to redistrict approximately 460 acres of agricultural lands which comprises approximately 0.02 percent of the agricultural lands in Maui. We acknowledge the project area includes important agricultural lands, however, these lands are limited to 19 percent of the 636 acres of agricultural lands in the Olowalu Town Master Plan. Thirty-nine (39) percent are considered "Other Important" agricultural lands while the remaining 42 percent are unclassified.

The agricultural impact assessment to be included in the Draft EIS includes documentation of existing agricultural activity within the Master Plan area, and discusses the impact of the proposed development and loss of agricultural lands.

Approximately 15 to 20 agricultural lots will be created along Olowalu Stream which will be used as small farmsteads for diversified agriculture as well as provide a physical separation between the two (2) country town centers. If desired, the existing agricultural uses can be relocated to these farm lots. The applicants will work with the existing agricultural users in transitioning to the new farm lots. In addition, the OCR is continuing its efforts to re-establish the former lo'is for taro cultivation as well as planting native habitat.

### **Cultural, Archaeological, and Historic Resources**

Several archaeological inventory surveys have been prepared for the Olowalu lands. An archaeologist and cultural specialist have been contracted to prepare an Archaeological Literature Review and Cultural Impact Assessment for the Draft EIS. In addition, as requested, the project archaeologist will provide a status of monitoring and preservation plans approved for the Olowalu lands. Your comments have been forwarded to the consulting archaeologist and cultural specialist.

As requested, the Draft EIS includes a map that overlays the conceptual Master Plan with identified sites and resources. The Draft EIS also includes a description of the OCR which manages 74 acres within Olowalu.

**Coastal Zone Management (CZM) Concerns**

A portion of the Olowalu lands are located within the Special Management Area of the Island of Maui. As such, the land use regulatory section of the Draft EIS will address the CZM objectives and policies as established in Chapter 205A, Hawaii Revised Statutes, and the Special Management Area Rules of the Maui Planning Commission.

With regard to the specific issues noted in your letter, we provide the following information.

- The Draft EIS will include a map delineating the proposed 150-foot shoreline setback.
- Marine water quality and biological studies and their findings and proposed mitigation measures will be included in the Draft EIS to address your comments on coastal and ocean resources.
- The wastewater management plan for the Olowalu Town Master Plan does not require the use of injection wells and proposes to use the R-1 recycled water for irrigation. Excess recycled water will be handled by utilizing two (2) natural systems that depend primarily on natural components to dispose of the excess recycled water.
- A stormwater management plan will be included in the Draft EIS to address short-term and long-term measures to manage runoff from the Olowalu Town Master Plan.
- Coastal and other hazards, such as flooding, tsunami and wildfires, will be included in the Draft EIS. To address climate change and the potential for sea level rise, the Olowalu Town Master Plan proposes to maintain a 150-foot shoreline setback and limit uses to public access, open space and recreational uses within the setback. The conceptual Master Plan proposes the country town centers and residential uses to be developed landward of the 150-foot shoreline setback area.
- The Olowalu Town Master Plan includes a conceptual green space plan which identifies the provision of approximately 223 acres of parks and open space along the shoreline to maintain public access to the ocean as well as provide enhanced recreational use of the shoreline. The creation of green spaces makai of Honoapi'ilani Highway will enhance public views to the shoreline from the State highway.

### **Affordable Housing**

The Draft EIS will discuss housing affordability requirements, including applicable provisions of Chapter 2.96, Maui County Code, as amended, relating to the County of Maui's Workforce Housing Policy.

### **Impact on State Facilities**

The Draft EIS will address the short- and long-term impacts of the project on State-funded facilities, such as but not limited to schools and transportation infrastructure, and proposed mitigation measures. Comments from State agencies and discussions held with these agencies will be included in the Draft EIS.

### **Energy Use and Impacts**

The intent of the Olowalu Town Master Plan is to develop a sustainable community. Sustainability measures will be discussed in the Draft EIS. As a proposed LEED ND design objectives, as well as the use of renewable energy systems will be incorporated within the project, which may include solar and hydroelectric systems, to help generate electricity for the Master Plan.

Maui Electric Company, Ltd. (MECO) has indicated that it may need to complete system upgrades along with securing a new substation site to accommodate the anticipated electrical load of Olowalu Town Master Plan. As the project progresses through the development process, the applicants will coordinate the project with MECO.

### **Biota**

A flora and fauna study, as well as an aquatic resources survey for the project have been completed. The findings and proposed mitigation measures will be included in the Draft EIS. According to the consulting biologist, the study was conducted during the dry season and if there were any species that bloomed during the wet season their remains would have been evident during the field survey. In addition, a marine water quality study has been completed which discusses marine communities and ecosystems, marine water quality, and the nearshore environment. This study as well, will be included in the Draft EIS. Regarding your comment on the Nature Conservancy of Hawai'i listing, as a non-regulatory body, their list is not readily available to the public. Efforts were made to obtain the list which were unsuccessful during the preparation of the Draft EIS, and has not been included in the biological studies.



Except for the upper reaches of Olowalu Stream mauka of Pu'u Kilea, the stream bed to the ocean outlet is dry except during episodic storm events. O'opu in the stream was not found in the Olowalu Town Master Plan area.

### **Conservation District**

Approximately 15 acres in the Master Plan area consisting of a portion of the shoreline area and mauka lands are located within the State Conservation District. However, the applicant is not requesting reclassification of Conservation District lands and, except for landscaping, the proposed Master Plan does not involve development within the Conservation District. As such, adverse impacts to Conservation District resources are not anticipated as a result of the project.

### **Conformance with County Plan Designation and Urban Growth or Rural Community Boundaries**

The Draft EIS will evaluate the project's consistency with County plans. The Olowalu Town Master Plan will require a community plan amendment and zoning change from the County of Maui. We note that the County of Maui is in the process of establishing urban and rural growth boundaries as part of the Maui Island Plan (MIP). To date, both the General Plan Advisory Committee (GPAC) and the Maui Planning Commission (MPC) have recommended inclusion of portions of the Olowalu Town Master Plan in the urban and rural growth boundaries for the West Maui region. Copies of the GPAC and MPC directed growth boundary maps will be included in the Draft EIS. The Olowalu Town Master Plan will be consistent with the maps adopted by the County in the MIP.

The Draft EIS will discuss the impact on surrounding land uses associated with implementation of the Master Plan. The proposed lower density rural lots along the relocated Honoapi'ilani Highway is intended to provide a transition zone between the country town centers and the mauka agricultural lots of the Olowalu Mauka Subdivision. The rural and agricultural designated lots would be retained over the long term since land use entitlements from the State Land Use Commission (SLUC) and County of Maui will be required in order to implement uses other than those allowed in the rural and agricultural districts. As requested, the Draft EIS will discuss the public benefits from the Olowalu Town Master Plan.

### **Sustainability Analysis**

As previously stated, the Olowalu Town Master Plan is intended to be developed as a sustainable community. The Master Plan is designed to meet the certification requirements of LEED ND. The Draft EIS will identify in more specificity, the sustainable design and development practices to be incorporated into the Olowalu Town Master Plan.

### **Solid Waste Management**

The Draft EIS will discuss solid waste to be generated by the project, its impacts and proposed mitigation measures. The intent is to develop a sustainable community and as such the Draft EIS will discuss measures to reduce the amount of solid waste generated within the project.

### **Public Health**

The previous landowner conducted a limited Phase 1 environmental site assessment in 1998 for the Master Plan area. At that time, consultation with the State Office of Hazard Evaluation and Emergency Response (HEER) was conducted. HEER commented that pesticides used by the sugar cane industry in recent times and their residuals should not pose a significant human health risk because of their rapid decomposition in soil. Sugar cane cultivation on the property ended 12 years ago in 1999. Also, monitoring of the potable water well by the Olowalu Water Company, Inc. has not detected contaminants associated with the cultivation of sugar cane. In keeping with these findings, further Phase 1 environmental site assessments are not anticipated.

### **Development Timetable**

Since the preparation of the EISPN, a market study has been completed for the Draft EIS which indicated the Olowalu Town Master Plan can be absorbed within eight (8) to 10 years. As such, once the land use entitlements are obtained, the Olowalu Town Master Plan can be substantially completed within the 10-year horizon established by the SLUC. As requested, the Draft EIS will reference the SLUC Rules (Section 15-15-50, Hawaii Administrative Rules) and will include a development schedule for the Master Plan.

**Miscellaneous Comments**

- a. **Section IV, Alternatives in the Proposed Action:** The Draft EIS will expand the alternatives beyond design variants of the preferred alternative, including identifying the "No Action" and "Deferred Action" as separate alternatives.

However, the smaller footprint alternative was not considered since the preferred alternative reflects a low rise country town character with larger residential and rural lots radiating outward from the country town centers while maintaining project density to make it economically feasible. Reducing the footprint will likely increase spatial densities by reducing lot sizes that will probably require the project to assume a more vertical design character to maintain the same units and associated uses to support the community.

Similarly, the alternative location scenario has not been considered since the applicants have pursued development of this site since 2006 and have placed significant efforts and resources to the eventual development of the property. In these efforts, the applicants have participated in the MIP process.

- b. **Section V, Summary:** The summary section of the Draft EIS will identify and discuss unavoidable impacts and irretrievable commitments for both the construction and operational (full buildout) phases of the proposed project.
- c. **List of Permits:** Until the development is reviewed by the agencies, during the construction phase, it is unclear what permits will be required. For this reason, some permits that may be required are identified "as appropriate".
- d. **Table 2, Master Plan Land Use Allocation Summary:** As recommended, the category "Natural" will be identified as "Open Space".
- e. **SmartCode:** The Draft EIS will discuss the SmartCode for the Olowalu Town Master Plan. During the County of Maui's review of land entitlements the Petitioners will request adoption of the proposed SmartCode as part of the Project District zoning to be established in the Maui County Code for Olowalu.
- f. **Sustainable Yield:** The Draft EIS will include the correct sustainable yield of 2.0 MGD, as identified in the State's Water Resources Protection Plan of 2008. The water consultant in consultation with the U.S.G.S. has indicated that the sustainable yield of the Olowalu Aquifer System may be 7.0 MGD higher which is presented in the Water Resources Protection Plan of 2008 based on another established calculation methodology. Nevertheless, the projected future

Jesse Souki  
December 21, 2011  
Page 8

groundwater use of existing users and the Olowalu Town Master Plan would still be substantially below the 2.0 MGD sustainable yield. A report addressing the groundwater and surface water resources in the Olowalu area will be included in the Draft EIS.

- g. **Wetland Assessment:** The "Wetland Assessment Report" cited in the EISPN was conducted for a project proposed for Parcel 124 which has since been abandoned. As such, the report is not included in the Draft EIS. Instead the biological consultant has prepared an aquatic resources study that includes an assessment of wetland resources and will be included in the Draft EIS.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your department's letter shall be included in the Draft EIS. A copy of the Draft EIS will be forwarded to your office for review and comment.

If additional information or clarification is required, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:lh

Cc: Dan Davidson, Land Use Commission  
Bill Frampton, Olowalu Town, LLC  
Tom Nance, Tom Nance Water Resource Engineering

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AUG 06 2010

LINDA LINGLE  
GOVERNOR

MAJOR GENERAL ROBERT G. F. LEE  
DIRECTOR OF CIVIL DEFENSE

EDWARD T. TEIXEIRA  
VICE DIRECTOR OF CIVIL DEFENSE



PHONE (808) 733-4300  
FAX (808) 733-4287

**STATE OF HAWAII**  
**DEPARTMENT OF DEFENSE**  
**OFFICE OF THE DIRECTOR OF CIVIL DEFENSE**  
3949 DIAMOND HEAD ROAD  
HONOLULU, HAWAII 96816-4495

August 4, 2010

Ms. Colleen Suyama  
Project Manager  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Suyama:


Environmental Assessment/Environmental Impact Statement Preparatory Notice  
Proposed Olowalu Town Master Plan, Olowalu, Maui, Hawaii

Thank you for the opportunity to comment on this development. After careful review of the project description and the accompanying maps and diagrams, we have several comments to make.

We feel that there is a need for a more extensive discussion of natural hazard mitigation. The area has a history of wildfires, in addition to being near the shoreline and therefore susceptible to coastal inundation from tsunamis and tropical cyclones. In addition, planned community locations along streams and in high risk flood zones raise concerns about flooding. We recommend that, since all Hawaiian Islands remain susceptible to these natural hazards, potential damage from these events are mitigated by strict compliance with all applicable building codes. We also suggest that public facilities be constructed to meet public shelter specifications.

We do concur with the inclusion of the referenced Cultural and Archaeological Inventory Surveys to safeguard these types of resources. We anticipate reviewing the Draft Environmental Impact Statement when it is completed and will make any further comments at that time. If you have any questions, please call Mr. Richard Stercho, Assistant Public Relations Officer, at (808) 733-4300, extension 583.

Sincerely,

  
EDWARD T. TEIXEIRA  
Vice Director of Civil Defense

c: Orlando "Dan" Davidson, Land Use Commission



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

Edward T. Teixeira, Vice Director of Civil Defense  
Department of Defense  
Office of the Director of Civil Defense  
3949 Diamond Head Road  
Honolulu, Hawaii 96816-4495

SUBJECT: Comments on the Environmental Impact Statement Preparation  
Notice (EISPN) for the Proposed Olowalu Town Master Plan at  
Olowalu, Maui, Hawaii

Dear Mr. Texeira:

Thank you for your letter of August 4, 2010 providing comments on the proposed Olowalu Town Master Plan. As requested, the Draft Environmental Impact Statement (EIS) will provide an expanded discussion on natural hazards mitigation.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Draft EIS. Further, a copy of the Draft EIS will be forwarded to your office for review and comment.

If additional information or clarification is required, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,

Colleen Suyama  
Senior Associate

CS:tn

cc: Dan Davidson, Land Use Commission  
Bill Frampton, Olowalu Town, LLC

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

JUL 27 2010

XXXXXX  
XXXXXX  
XXXXXX

KATHRYN S. MATAYOSHI  
INTERIM SUPERINTENDENT

OFFICE OF THE SUPERINTENDENT

July 26, 2010

Ms. Colleen Suyama, Project Manager  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Suyama:

Subject: Environmental Impact Statement Preparation Notice for Proposed Olowalu  
Town Project, TMK (2) 4-8-003:84, 98-118, and 124, Olowalu, Maui

The Department of Education (DOE) has reviewed the Environmental Impact Statement Preparation Notice for the proposed Olowalu Town Project.

The DOE expects that this project will have a significant impact on its facilities. Additional students generated from this project would severely tax the DOE's resources in West Maui.

The DOE is in the process of implementing school impact fee districts. Should this project fall within a future school impact fee district, it will be subject to the district's impact fees.

Thank you for the opportunity to provide comments. If you have any questions, please call Jeremy Kwock of the Facilities Development Branch at (808) 377-8301.

Very truly yours,

A handwritten signature in black ink, appearing to read "Kathryn S. Matayoshi".

Kathryn S. Matayoshi  
Interim Superintendent

KSM:jmb

c: Randolph Moore, Assistant Superintendent, OSFSS  
Orlando Davidson, Land Use Commission, Executive Director  
Lindsay Ball, CAS, Hana/Lahainaluna/Lanai/Molokai Complex Areas



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

Kathryn S. Matayoshi, Superintendent  
Department of Education  
P.O. Box 2360  
Honolulu, Hawaii 96804

SUBJECT: Comments on the Environmental Impact Statement Preparation  
Notice (EISPN) for the Proposed Olowalu Town Master Plan at  
Olowalu, Maui, Hawaii

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Dear Ms. Matayoshi:

Thank you for your letter of July 26, 2010 providing comments on the proposed Olowalu Town Master Plan. We understand that the Department of Education (DOE) has implemented a school impact fee for the West Maui District and the Olowalu Town Master Plan may be subject to such fees. To ensure continued and effective communication on the proposed project, our office will contact the DOE to arrange a future meeting to discuss school-related issues.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Draft Environmental Impact Statement (EIS). Further, a copy of the Draft EIS will be forwarded to your office for review and comment.

If additional information or clarification is required, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,

Colleen Suyama  
Senior Associate

CS:tn

cc: Dan Davidson, Land Use Commission  
Bill Frampton, Olowalu Town, LLC

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AUG 06 2010

LINDA LINGLE  
GOVERNOR OF HAWAII



CHIYOME L. FUKINO, M. D.  
DIRECTOR OF HEALTH

LORRIN W. PANG, M. D., M. P. H.  
DISTRICT HEALTH OFFICER

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
MAUI DISTRICT HEALTH OFFICE  
54 HIGH STREET  
WAILUKU, MAUI, HAWAII 96793-2102

August 5, 2010

Ms. Colleen Suyama  
Project Manager  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Suyama:

Subject: Environmental Impact Statement Preparation Notice for Proposed  
Olowalu Town Project  
TMK: (2) 4-8-003:84, 98 through 118 and 124

Thank you for the opportunity to comment on this project. We have the following comments:

1. National Pollutant Discharge Elimination System (NPDES) permit coverage maybe required for this project. The Clean Water Branch should be contacted at 808 586-4309.
2. The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules (HAR), Chapter 11-46, "Community Noise Control." A noise permit may be required and should be obtained before the commencement of work.
3. All requirements of HAR, Chapter 11-62, "Wastewater Systems" must be complied with. Plan review and approval of all new wastewater disposal systems are required prior to construction of the systems. If you have any questions, please contact Roland Tejano, Environmental Engineer at 808 984-8232.

Ms. Colleen Suyama  
August 5, 2010  
Page 2

It is strongly recommended that the Standard Comments found at the Department's website: <http://hawaii.gov/health/environmental/env-planning/landuse/landuse.html> be reviewed, and any comments specifically applicable to this project should be adhered to.

Should you have any questions, please call me at 808 984-8230.

Sincerely,

A handwritten signature in cursive script that reads "Patti Kitkowski".

Patti Kitkowski  
Acting District Environmental Health Program Chief

c EPO  
Orlando Davidson



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

Patti Kitkowski, District Environmental  
Health Program Chief  
Department of Health  
Maui District Health Office  
54 High Street  
Wailuku, Hawaii 96793-2102

SUBJECT: Comments on the Environmental Impact Statement Preparation  
Notice (EISPN) for the Proposed Olowalu Town Master Plan at  
Olowalu, Maui, Hawaii

Dear Ms. Kitkowski:

Thank you for your letter of August 5, 2010 providing comments on the proposed Olowalu Town Master Plan. In response to your comments, we acknowledge a National Pollutant Discharge Elimination System (NPDES) permit may be required for the project, as well as other requirements relating to noise and wastewater systems.

As recommended, we have reviewed the standard comments found at your department's website and have the following response:

**Waterbody type and class**

1. The aquatic resources study prepared by Robert Hobdy, Environmental Consultant, identified the waterbodies in the Master Plan area which will be included in the Draft Environmental Impact Statement (EIS).

**Existing water quality management actions**

2. Once the project has obtained its entitlements and continues towards development, the applicants consultants will submit a list of all permits issued in the Master Plan area as well as identifying additional permits that may be required prior to construction activities.

3. As previously stated, once the project has obtained its entitlements and continues towards development, the applicants' consultants will provide any planning documents, groups and projects that include specific prescriptions for water quality management within the Master Plan area.

**Pending water quality management actions**

4. Olowalu Beach at Mile Post 14 is listed on the List of Impaired Waters in Hawaii with a Low Priority rating which identified turbidity as the pollutant. Olowalu Stream is not listed.
5. To improve water quality in the Olowalu area, the Master Plan proposes to construct a drainage system that will contain 100 percent of the increased stormwater runoff as well as a portion of the existing runoff. Also, the Master Plan will implement a stormwater management program. Both the Preliminary Engineering Report and Stormwater Quality Enhancement Study will be included in the Draft EIS.

Please note that the Master Plan proposes to follow the Leadership in Energy and Environmental Design for Neighborhood Developments (LEED ND) and incorporate the smart growth and sustainability measures of New Urbanism in the project to reduce environmental impacts that may result from the proposed development.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Draft Environmental Impact Statement (EIS). Further, a copy of the Draft EIS will be forwarded to your office for review and comment.

Patti Kitkowski, District Environmental  
Health Program Chief  
December 21, 2011  
Page 3

If additional information or clarification is required, please do not hesitate to contact me at 244-2015.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:tn

cc: Dan Davidson, Land Use Commission  
Bill Frampton, Olowalu Town, LLC  
Stacy Otomo, Otomo Engineering, Inc.  
Ray Matasci, Brown & Caldwell

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AUG 16 2010

LINDA LINGLE  
GOVERNOR OF HAWAII



CHRYOME L. FUKINO, M.D.  
DIRECTOR OF HEALTH

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

In reply, please refer to:  
DOH/CWB

08019PSW.10

August 11, 2010

Mr. Orlando "Dan" Davidson  
Executive Director  
Land Use Commission  
PO Box 2359  
Honolulu, Hawaii 96804

Dear Mr. Davidson:

**SUBJECT: Environmental Impact Statement Preparation Notice for Proposed  
Olowalu Town Project at TMK (2)-4-8-003:84, 98 through 118, and 124  
Olowalu, Maui, Hawaii**

The Department of Health, Clean Water Branch (CWB), has reviewed the document and CD received July 8, 2010 regarding the subject project and offers these comments. Please note that our review is based solely on the document for the subject project and its compliance with Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at

<http://hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf>

1. Any project and its potential impacts to State waters must meet the following criteria:
  - a. Anti-degradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.
  - b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.
  - c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).
2. You are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for NPDES general permit coverage by submitting a Notice of Intent (NOI) form:

- a. Storm water associated with construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. This includes areas used for a construction base yard and the storage of any construction related equipment, material, and waste products. An NPDES permit is required before the start of the construction activities.
- b. Hydrotesting water,
- c. Construction dewatering effluent.

You must submit a separate NOI form for each type of discharge at least 30 calendar days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI forms may be picked up at our office or downloaded from our website at

<http://hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html>

3. For other types of wastewater not listed in Item No. 2 above or wastewater discharging into Class 2 or Class AA waters, an NPDES individual permit will need to be obtained. An application for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. The NPDES application forms may be picked up at our office or downloaded from our website at  
<http://hawaii.gov/health/environmental/water/cleanwater/forms/environmental/water/cleanwater/forms/indiv-index.html>
4. Please call the Army Corps of Engineers at (808) 438-9258 to determine which Department of the Army (DA) permit(s) shall be required for the subject project. Permits may be required for work performed in, over, and under navigable waters of the United States. Projects requiring a DA permit also require a Section 401 Water Quality Certification (WQC) from our office.
5. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of \$25,000 per day per violation.

Mr. Orlando "Dan" Davidson  
August 11, 2010  
Page 3

08019PSW.10

If you have any questions, please visit our website at  
<http://hawaii.gov/health/environmental/water/cleanwater/index.html>, or contact the Engineering  
Section, CWB, at 586-4309.

Sincerely,



ALEC WONG, P.E. CHIEF  
Clean Water Branch

SW:ml

c: DOH-EPO #I-3247 [via email only]  
Ms. Colleen Suyama, Munekiyo and Hiraga, Inc.





MICHAEL T. MUNEKIYO  
GWEN GHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

Alec Wong, P.E., Chief  
Clean Water Branch  
Department of Health  
P.O. Box 3378  
Honolulu, Hawaii 96801-3378

SUBJECT: Comments on the Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Olowalu Town Master Plan at Olowalu, Maui, Hawaii

Dear Mr. Wong:

Thank you for your letter of August 11, 2010 providing comments on the proposed Olowalu Town Master Plan. We acknowledge receipt of the Department of Health's standard comments and regulatory requirements.

The project will obtain all required permits, including those pertaining to the National Pollutant Discharge Elimination System (NPDES) permitting requirements, Hawaii Administrative Rules (HAR) Section 11-54-1.1, and Section 401 Water Quality Certification (WQC), as may be applicable to the project.

As requested, we have reviewed the Clean Water Branch Standard Comments dated August 22, 2008 and provide the following responses:

### **Permit Issuance**

As previously stated, as the project continues through the development process all required permits will be obtained. As recommended, continuing coordination with the Army Corps of Engineers will be conducted to determine whether a Department of Army (DA) permit will be required. If required, the DA permit and Section 401 WQC will be obtained.

### **Monitoring**

We acknowledge effluent discharge and/or receiving water monitoring may be required as conditions of a Section 401 WQC and NPDES permits.

**Enforcement**

We acknowledge that noncompliance with water quality requirements may be subject to penalties.

**Polluted Runoff Control Projects**

We understand federal grants may be available for projects addressing activities related to polluted runoff control as outlined in the State's Coastal Nonpoint Pollution Control Management Plan and/or Hawaii's Implementation Plan for Polluted Runoff Control.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes (HRS) review process. A copy of your letter will be included in the Draft Environmental Impact Statement (EIS). Further, a copy of the Draft EIS will be forwarded to your office for review and comment.

If additional information or clarification is required, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:tn

cc: Dan Davidson, Land Use Commission  
Bill Frampton, Olowalu Town, LLC  
Stacy Otomo, Otomo Engineering  
Craig Lekuen, Brown & Caldwell

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LINDA LINGLE  
GOVERNOR



AUG 11 2010

LILLIAN B. KOLLER, ESQ.  
DIRECTOR

HENRY OLIVA  
DEPUTY DIRECTOR

STATE OF HAWAII  
DEPARTMENT OF HUMAN SERVICES  
Benefit, Employment and Support Services Division  
820 Millilani Street, Suite 606  
Honolulu, Hawaii 96813-2936

August 2, 2010

Refer to: 10:0518

Ms. Colleen Suyama, Project Manager  
Munekioy & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, HI 96793

RE: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE FOR  
PROPOSED OLOWALU TOWN PROJECT AT TMK (2) 4-8-003:84,98  
THROUGH 118, AND 124, OLOWALU, MAUI, HAWAII

Dear Ms. Suyama:

Thank you for your letter dated July 2, 2010, requesting a review of an environmental impact statement preparation notice for the Olowalu Town Project. The Director of the Department of Human Services (DHS) has forwarded her letter to me for a response.

After a review the proposed project environmental impact statement, we do not have any comments or recommendations to offer at this time.

Please feel free to contact Ms. Linda Fukunaga, Maui Section Administrator at 243-5878 should you have any questions.

Sincerely,

*Pankaj Bhanot*

Pankaj Bhanot  
Division Administrator

c: Lillian B. Koller, Director, Department of Human Services  
Orlando "Dan" Davidson, Land Use Commission



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

Pankaj Bhanot, Administrator  
Department of Human Services  
Benefit, Employment and Support Services Division  
820 Mililani Street, Suite 606  
Honolulu, Hawaii 96813-2936

SUBJECT: Comments on the Environmental Impact Statement Preparation  
Notice (EISPN) for the Proposed Olowalu Town Master Plan at  
Olowalu, Maui, Hawaii

Dear Mr. Bhanot:

Thank you for your letter of August 2, 2010 on the proposed Olowalu Town Master Plan. We appreciate your review of the Environmental Impact Statement Preparation Notice (EISPN) and your conveying confirmation that the department has no comments at this time.

Thank you again for your participation in the Chapter 343, HRS, review process. A copy of your letter will be included in the Draft Environmental Impact Statement (EIS). Further, a copy of the Draft EIS will be forwarded to your office for review and comment.

If additional information or clarification is required, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,

Colleen Suyama  
Senior Associate

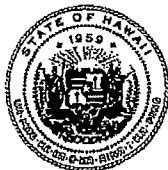
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cc: Dan Davidson, Land Use Commission  
Bill Frampton, Olowalu Town, LLC

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AUG 06 2010

LINDA LINGLE  
GOVERNOR



PEARL IMADA IBOSHI  
DIRECTOR

COLLEEN Y. LaCLAIR  
DEPUTY DIRECTOR

**STATE OF HAWAII  
DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS**

830 PUNCHBOWL STREET, ROOM 321  
HONOLULU, HAWAII 96813  
[www.hawaii.gov/labor](http://www.hawaii.gov/labor)  
Phone: (808) 586-8844 / Fax: (808) 586-9099  
Email: [dilir.director@hawaii.gov](mailto:dilir.director@hawaii.gov)

August 4, 2010

Ms. Colleen Suyama  
Project Manager  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Suyama:

This is in response to your request for comments on the environmental impact statement preparation notice for the proposed Olowalu Town project in Olowalu, Maui. The Department of Labor and Industrial Relations does not have any comments.

Should you have any questions, please call me at (808) 586-8844, or Mr. Patrick Fukuki, our Business Management Officer, at (808) 586-8888.

Sincerely,

*Colleen Y. LaClair*  
for PEARL IMADA IBOSHI  
Director

c: Land Use Commission



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

Dwight Takamine, Director  
Department of Labor and  
Industrial Relations  
830 Punchbowl Street, Room 321  
Honolulu, Hawaii 96813

SUBJECT: Comments on the Environmental Impact Statement Preparation  
Notice (EISPN) for the Proposed Olowalu Town Master Plan at  
Olowalu, Maui, Hawaii

Dear Mr. Takamine:

Thank you for your department's letter of August 4, 2010 on the proposed Olowalu Town Master Plan. We appreciate your department's review of the Environmental Impact Statement Preparation Notice (EISPN) and your conveying confirmation that the department has no comments at this time.

Thank you again for your participation in the Chapter 343, HRS, review process. A copy of your department's letter will be included in the Draft Environmental Impact Statement (EIS). Further, a copy of the Draft EIS will be forwarded to your office for review and comment.

If additional information or clarification is required, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,

Colleen Suyama  
Senior Associate

CS:tn

Cc: Dan Davidson, Land Use Commission  
Bill Frampton, Olowalu Town, LLC

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LINDA LINGLE  
GOVERNOR OF HAWAII



AUG 06 2010  
LAURA H. THIELEN  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

August 5, 2010

Munekiyo & Hiraga, Inc.  
305 High Street Suite 104  
Wailuku, Hawaii 96793

Attention: Ms. Colleen Suyama, Project Manager


Ladies and Gentlemen:

Subject: Environmental Impact Statement Preparation Notice for Proposed  
Olowalu Town Project

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR), Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comment.

Other than the comments from Division of Boating & Ocean Recreation, Commission on Water Resource Management, Office of Conservation & Coastal Lands, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

  
Morris M. Atta  
Acting Administrator

Cc: State Land Use Commission

LINDA LINGLE  
GOVERNOR OF HAWAII



LAURA H. THIELEN  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

July 12, 2010

MEMORANDUM

TO:

DLNR Agencies:

- ☒ Div. of Aquatic Resources
- ☒ Div. of Boating & Ocean Recreation
- ☒ Engineering Division
- ☒ Div. of Forestry & Wildlife
- ☐ Div. of State Parks
- ☒ Commission on Water Resource Management
- ☒ Office of Conservation & Coastal Lands
- ☒ Land Division - Maui District
- ☒ Historic Preservation

DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

2010 JUL 22 A 10:09

RECEIVED  
LAND DIVISION

FROM:

Charlene Unoki, Assistant Administrator

SUBJECT:

Environmental Impact Statement Preparation Notice for Proposed Olowalu Town Project

LOCATION: Island of Maui

APPLICANT: Munekiyo & Hiraga, Inc.

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by August 6, 2010.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

- ☐ We have no objections.
- ☒ We have no comments.
- ☐ Comments are attached.

Signed:

Date:

7/20/10



LINDA LINGLE  
GOVERNOR OF HAWAII



RECEIVED  
LAND DIVISION

LAURA H. THIELEN  
CHAIRPERSON  
WILLIAM D. BALFOUR, JR.  
SUMNER ERDMAN  
NEAL S. FUJIMURA  
CHIYOME L. FUKINO, M.D.  
DONNA FAY K. KIYOSAKI, P.E.  
LAWRENCE H. MIKE, M.D., J.D.

LENORE N. OHYE  
ACTING DEPUTY DIRECTOR

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
P.O. BOX 621  
HONOLULU, HAWAII 96809

July 20, 2010

2010 JUL 22 A 10:08  
DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

TO: Morris Atta, Administrator  
Land Division

FROM: Lenore N. Ohye, Acting Deputy Director *Lenore N. Ohye*  
Commission on Water Resource Management

SUBJECT: Olowalu Town EISPN

FILE NO.: N/A

TMK NO.: (2) 4-8-003:various

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore, all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at <http://www.hawaii.gov/dlnr/cwrn>.

Our comments related to water resources are checked off below.

- ☒ 1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.
- ☐ 2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.
- ☐ 3. We recommend coordination with the Hawaii Department of Agriculture (HDOA) to incorporate the reclassification of agricultural zoned land and the redistribution of agricultural resources into the State's Agricultural Water Use and Development Plan (AWUDP). Please contact the HDOA for more information.
- ☒ 4. We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the development to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at <http://www.usgbc.org/leed>. A listing of fixtures certified by the EPA as having high water efficiency can be found at <http://www.epa.gov/watersense/pp/index.htm>.
- ☒ 5. We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at <http://hawaii.gov/dbed/czm/initiative/lid.php>.

- ☒ 6. We recommend the use of alternative water sources, wherever practicable.
- ☐ 7. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.

Permits required by CWRM:

Additional information and forms are available at [http://hawaii.gov/dlnr/cwr/resources\\_permits.htm](http://hawaii.gov/dlnr/cwr/resources_permits.htm).

- ☐ 8. The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit is required prior to use of water.
- ☐ 9. A Well Construction Permit(s) is (are) required any well construction work begins.
- ☐ 10. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.
- ☐ 11. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.
- ☐ 12. Ground water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.
- ☐ 13. A Stream Channel Alteration Permit(s) is (are) required before any alteration(s) can be made to the bed and/or banks of a stream channel.
- ☐ 14. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is (are) constructed or altered.
- ☐ 15. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.
- ☐ 16. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.
- ☒ OTHER:

The ground water source for this project is Well No. 4936-01, which has been pumping an average of about 43,000 gpd over the first months of this year. The document states that the adopted sustainable yield for the aquifer tapped by this well is 3 mgd, although this number was revised to 2 mgd in the 2008 Water Resource Protection Plan. The surface water portion for the project draws from Olowalu Stream, which is stated to have yielded in excess of 4 mgd, without qualifying this number; we believe this suggests it is a high number. The diversions are subject to a DLNR lease, also to any competing user petitioning for allocations of this public trust asset or for restoration. Estimated water demand is based upon use on 22 agricultural lots on 636 acres, but the maps provided do not show this. Estimates should reflect County standards, at minimum, and identify reasonable beneficial use in more detail.

If there are any questions, please contact Charley Ice at 587-0218.

LINDA LINGLE  
GOVERNOR OF HAWAII



RECEIVED  
LAND DIVISION

200 AUG 2 10 38  
STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
OFFICE OF CONSERVATION AND COASTAL LANDS  
POST OFFICE BOX 621  
HONOLULU, HAWAII 96809  
DEPT. OF LAND AND NATURAL RESOURCES  
NATURAL RESOURCES  
STATE OF HAWAII

LAURA H. THIELEN  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUJI  
ACTING FIRST DEPUTY

LENORE N. OHYE  
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

REF:OCCL:AB

Correspondence: MA-11-6

**MEMORANDUM**

TO: Charlene Unoki, Assistant Administrator  
Land Division

FROM: Samuel J. Lemmo, Administrator  
Office of Conservation and Coastal Lands

SUBJECT: Olowalu Town Project EISPN  
LOCATION: Olowalu, Maui, TMKs: various  
APPLICANT: Munekiyo & Hiraga, Inc.

AUG - 2 2010

The Department of Land and Natural Resources (DLNR) Office of Conservation and Coastal Lands (OCCL) has reviewed the information provided regarding the Olowalu Town Project Environmental Impact Statement Preparation Notice (EISPN).

The OCCL notes that there are four project parcels that appear to be located in the Conservation District: TMKs: (2) 4-8-003:084, 108, 118, and 124.

According to the applicant, no development is planned for the Conservation District land within the project area. The OCCL has no comments at this time regarding the Town plan as provided in the EISPN. However, should the applicant propose any land use<sup>1</sup> in the Conservation District, the OCCL should be contacted to determine what type of authorization may be required for this action.

Should you have any questions, contact Audrey Barker of our office at (808) 587-0316 or [audrey.t.barker@hawaii.gov](mailto:audrey.t.barker@hawaii.gov).

<sup>1</sup> As defined in HAR §13-5-2 Definitions, "land use" means: (1) The placement or erection of any solid material on land if that material remains on the land more than fourteen days, or which cause a permanent change in the land area on which it occurs; (2) The grading, removing, harvesting, dredging, mining or extraction of any material or natural resource on land; (3) The subdivision of land; or (4) The construction, reconstruction, demolition, or alteration of any structure, building, or facility on land.



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

Russell Y. Tsuji, Administrator  
State of Hawaii  
Department of Land and Natural Resources  
Land Division  
Post Office Box 621  
Honolulu, Hawaii 96809

SUBJECT: Comments on the Environmental Impact Statement Preparation  
Notice (EISPN) for the Proposed Olowalu Town Master Plan at  
Olowalu, Maui, Hawaii

Dear Mr. Tsuji:

Thank you for your department's letter of August 5, 2010 providing comments on the proposed Olowalu Town Master Plan. On behalf of the applicants, Olowalu Town, LLC and Olowalu Ekolu, LLC, we offer the following information in response to comments from the Commission on Water Resource Management (CWRM) and the Office of Conservation and Coastal Lands (OCCL):

**Response to CWRM Comments:**

1. Coordination with the County Department of Water Supply (DWS) is being undertaken through the Chapter 343, HRS process. In addition, both the County Planning Department and DWS will be commenting agencies in the State Land Use District Boundary Amendment process.
2. As the project proceeds through the land use entitlement processes, design guidelines and standards for the proposed project will be developed to include water efficient fixtures. As a proposed Leadership in Energy and Environmental Design for Neighborhood Development (LEED ND) project, to the extent practicable, water efficient practices will be implemented throughout the development. Water conservation and drought planning measures, including the use of native plants, will be implemented to reduce overall water demands. To further reduce demand for freshwater resources, wastewater effluent will be treated to R-1 quality for irrigation reuse.

3. In the interest of minimizing impacts on the area's hydrology and coastal ecosystems, Best Management Practices (BMPs) for stormwater management will be implemented, both during construction and in designing the project's drainage system. Retention and detention systems will be employed to accommodate the incremental increase in runoff attributed to the development of the proposed master plan. Notably, these drainage systems will be designed to meet and exceed County drainage standards. A Preliminary Engineering Report (PER), of which will include a preliminary drainage analysis, is being prepared for the proposed project. The results of the PER will be discussed in the Draft EIS. Also, a stormwater management plan is being prepared for the Olowalu Town Master Plan.
4. The use of alternative water sources for the proposed project will be pursued, to the extent practicable. As discussed above, wastewater effluent treated to R-1 quality will be utilized for irrigation purposes, thereby reducing demands on freshwater sources.
5. As noted previously, a PER is being prepared that will analyze the project's domestic water demand requirements, including fire flow, storage, and transmission system components. The project's water resource engineering consultant is preparing a report addressing groundwater and surface water resources in the Olowalu area, including potential impacts and mitigation measures. The results of the PER and water resource study will be presented and discussed in detail in the Draft EIS.

**Response to OCCL Comments:**

The applicants acknowledge Parcels 84, 108, 118 and 124 are located in the Conservation District and confirm that no land use, as defined by Section 13-5-2, Hawaii Administrative Rules, is planned for the Conservation District lands within the Master Plan area.

Russell Y. Tsuji, Administrator  
December 21, 2011  
Page 3

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Draft EIS. Further, copies of the Draft EIS will be forwarded to your office for review and comment.

If additional information or clarification is required, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:tn

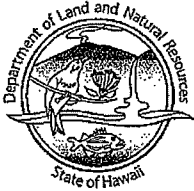
cc: Orlando "Dan" Davidson, State Land Use Commission  
Bill Frampton, Olowalu Town, LLC  
Tom Nance, Tom Nance Water Resource Engineering  
Stacy Otomo, Otomo Engineering, Inc.

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LINDA LINGLE  
GOVERNOR OF HAWAII



OCT 01 2010  
LAURA H. THIELEN  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

September 30, 2010

Munekyo & Hiraga, Inc.  
305 High Street Suite 104  
Wailuku, Hawaii 96793

Attention: Ms. Colleen Suyama, Project Manager

Ladies and Gentlemen:

Subject: Environmental Impact Statement Preparation Notice for Proposed  
Olowalu Town Project

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR), Land Division distributed or made available a copy of your report pertaining to the subject matter to Historic Preservation for their review and comment.

The Department of Land and Natural Resources has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Charlene Unoki".

Charlene Unoki  
Assistant Administrator

LINDA LINGLE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION  
601 KAMOKILA BOULEVARD, ROOM 555  
KAPOLEI, HAWAII 96707

LAURA H. THIELEN  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUJI  
FIRST DEPUTY

LENORE N. OHYE  
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

September 23, 2010

LOG NO: 2010.2734  
DOC NO: 1009MD19  
Archaeology  
Culture & History

TO: Charlene Unoki, Assistant Administrator  
DLNR Land Division  
PO Box 621  
Honolulu, HI 96809

FROM: Theresa K. Donham, Acting Archaeology Branch Chief  
State Historic Preservation Division

SUBJECT: Chapter 6E-8 Historic Preservation Review –  
Environmental Impact Statement Preparation Notice for Proposed  
Olowalu Town Project  
Olowalu Ahupua'a, Lāhainā District, Island of Maui  
TMK: (2) 4-8-003:084, 098-118 & 124

DEPT OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

2009 SEP 29 A 11:24

RECEIVED  
LAND DIVISION

Thank you for the opportunity to comment on the aforementioned project, which we received on July 15, 2010. We apologize for the delay in our reply.

The proposed Olowalu Town Master Plan will impact an area with extensive historic properties. A proposed 110-acre preservation site is being considered, and will be detailed in the upcoming draft EIS and cultural impact statement. An initial archaeological inventory survey was conducted between 1999-2000 by Xamanek Researches, and a supplemental survey following a fire was conducted in 2007 by Scientific Consultant Services, Inc. We look forward to reviewing the DEIS.

If you have questions about this letter please contact Morgan Davis at (808) 243-5196 or via email to: [Morgan.E.Davis@hawaii.gov](mailto:Morgan.E.Davis@hawaii.gov).





MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

Russell Y. Tsuji, Administrator  
Department of Land and Natural Resources  
Land Division  
P.O. Box 621  
Honolulu, Hawaii 96809

SUBJECT: Comments on the Environmental Impact Statement Preparation  
Notice (EISPN) for the Proposed Olowalu Town Master Plan at  
Olowalu, Maui, Hawaii

Dear Mr. Tsuji:

On behalf of the applicants, Olowalu Town LLC and Olowalu Ekolu LLC, thank you for the letter from the State Historic Preservation Division (SHPD) dated September 23, 2010 providing comments on the proposed Olowalu Town Master Plan. The Draft Environmental Impact Statement (EIS) will include a thorough analysis of the previous archaeological inventory surveys conducted on the property cited in the SHPD's memorandum and any additional information that may be warranted. Tanya Lee-Greig of Cultural Surveys Hawai'i, Inc. is the archaeological consultant for the project and will coordinate the work necessary for the project with the SHPD.

Thank you again for your department's participation in the Chapter 343, HRS review process. A copy of SHPD's letter will be included in the Draft EIS. Further, copies of the Draft EIS will be forwarded to your office and SHPD for review and comment.

Russell Y. Tsuji, Administrator  
December 21, 2011  
Page 2

If additional information or clarification is required, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:tn

cc: Dan Davidson, Land Use Commission  
Bill Frampton, Olowalu Town, LLC  
Pua Aiu, Ph.D., SHPD Administrator  
Morgan Davis, Maui Archaeologist  
Tanya Lee-Greig, Cultural Surveys Hawaii, Inc.

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LINDA LINGLE  
GOVERNOR



**STATE OF HAWAII**  
**DEPARTMENT OF TRANSPORTATION**  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

**SEP 21 2010**

**BRENNON T. MORIOKA**  
DIRECTOR

Deputy Directors  
**MICHAEL D. FORMBY**  
**FRANCIS PAUL KEENO**  
**JIRO A. SUMADA**

IN REPLY REFER TO:

**HWY-PS**  
**2.6554**

September 20, 2010

Mr. Orlando "Dan" Davidson  
Executive Director  
Land Use Commission  
P.O. Box 2359  
Honolulu, Hawaii 96804

Dear Mr. Davidson:

Subject: Environmental Impact Statement Preparation Notice (EISPN) for Proposed  
Olowalu Town Master Plan  
Olowalu, Maui – TMK(2) 4-8-003:84, 98 through 118, and 124

Thank you for the opportunity to review the subject EISPN. We apologize for the delay in response and would like to provide the following comments:

1. Honoapiilani Highway is currently an access controlled State facility and is functionally classified as a Principal Arterial roadway. The proposed realignment of Honoapiilani Highway shall continue the classification as a Principal Arterial roadway and shall require the facility to be designed to meet the specified classification standards, as well as remain an access controlled facility.
2. A Traffic Impact Analysis Report (TIAR) for the subject development area is to be developed and is to address all mitigation corresponding to the number of units built in each of the phases. The TIAR is to be provided to the department for review and approval.

If you have any questions, please contact Ken Tatsuguchi, Head Planning Engineer, Highways Division, at 587-1830.

Very truly yours,

A handwritten signature in black ink, appearing to be "BM", is written over a horizontal line.

**BRENNON T. MORIOKA, Ph.D., P.E.**  
Director of Transportation



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

Glenn T. Okimoto, Director  
Department of Transportation  
State of Hawaii  
869 Punchbowl Street  
Honolulu, Hawaii 96813-5097

SUBJECT: Comments on the Environmental Impact Statement Preparation  
Notice (EISPN) for the Proposed Olowalu Town Master Plan at  
Olowalu, Maui, Hawaii

Dear Mr. Okimoto:

Thank you for your department's letter of September 20, 2010 providing comments on the proposed Olowalu Town Master Plan. We acknowledge Honoapiʻilani Highway is a State facility classified as a Principal Arterial roadway and any realignment of the highway will be designed to meet specified classification standards, as well as remain an access controlled facility. Transportation Consultant Roger Dyar has prepared a Preliminary Traffic Impact Analysis Report (TIAR) identifying impacts and mitigation measures which will be included in the Draft Environmental Impact Statement (EIS). A Final TIAR will be prepared to incorporate and address comments received during the Draft EIS process. The Final TIAR will be included in the Final EIS for the proposed project.

We anticipate ongoing discussions with your department regarding the relocation of Honoapiʻilani Highway further inland of the shoreline in conjunction with the Realignment/Widening of Honoapiʻilani Highway from Māʻalaʻea to Launiupoko Study.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your department's letter will be included in the Draft EIS. Further, copies of the Draft EIS will be forwarded to your office for review and comment.

Glenn T. Okimoto, Director  
December 21, 2011  
Page 2

If additional information or clarification is required, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:lh

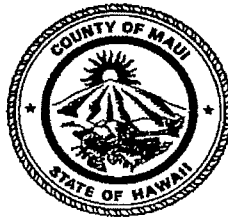
Cc: Dan Davidson, Land Use Commission  
Bill Frampton, Olowalu Town, LLC  
Roger Dyar  
Stacy Otomo, Otomo Engineering, Inc.

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CHARMAINE TAVARES  
Mayor

CHERYL K. OKUMA, Esq.  
Director

GREGG KRESGE  
Deputy Director



AUG 17 2010  
TRACY TAKAMINE, P.E.  
Solid Waste Division  
DAVID TAYLOR, P.E.  
Wastewater Reclamation  
Division

**COUNTY OF MAUI  
DEPARTMENT OF  
ENVIRONMENTAL MANAGEMENT**  
2200 MAIN STREET, SUITE 100  
WAILUKU, MAUI, HAWAII 96793

August 12, 2010

Ms. Colleen Suyama  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Suyama:

**SUBJECT: OLOWALU TOWN PROJECT  
EIS PREPARATION NOTICE  
TMK (2) 4-8-003:084, 098 - 118, AND 124, OLOWALU**

We reviewed the subject application and have the following comments:

1. Solid Waste Division comments:
  - a. None.
2. Wastewater Reclamation Division (WWRD) comments:
  - a. None. There is no County wastewater system in the area of the subject project.

If you have any questions regarding this memorandum, please contact Gregg Kresge at 270-8230.

Sincerely,

A handwritten signature in black ink, appearing to read "Cheryl K. Okuma".

CHERYL K. OKUMA  
Director of Environmental Management

xc: Mr. Orlando "Dan" Davidson, Executive Director  
Land Use Commission  
P.O. Box 2359  
Honolulu, Hawaii 96804



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

Kyle Ginoza, Director  
Department of Environmental Management  
One Main Plaza, Suite 100  
2200 Main Street  
Wailuku, Hawaii 96793

SUBJECT: Comments on the Environmental Impact Statement Preparation  
Notice (EISPN) for the Proposed Olowalu Town Master Plan at  
Olowalu, Maui, Hawaii

Dear Mr. Ginoza:

Thank you for your department's letter of August 12, 2010 on the proposed Olowalu Town Master Plan. We appreciate your department's review of the Environmental Impact Statement Preparation Notice (EISPN) and your conveying confirmation that the department has no comments at this time.

Thank you again for your participation in the Chapter 343, HRS, review process. A copy of your letter will be included in the Draft Environmental Impact Statement (EIS). Further, a copy of the Draft EIS will be forwarded to your office for review and comment.

If additional information or clarification is required, please do not hesitate to contact me at 244-2015.

Very truly yours,

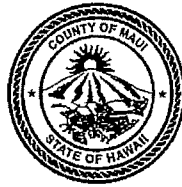
Colleen Suyama  
Senior Associate

CS:tn

Cc: Dan Davidson, Land Use Commission  
Bill Frampton, Olowalu Town, LLC  
Craig Lekuen, Brown and Caldwell

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CHARMAINE TAVARES  
MAYOR



SEP 14 2010  
JEFFREY A. MURRAY  
CHIEF  
ROBERT M. SHIMADA  
DEPUTY CHIEF

**COUNTY OF MAUI**  
DEPARTMENT OF FIRE AND PUBLIC SAFETY  
FIRE PREVENTION BUREAU

313 MANEA PLACE • WAILUKU, HAWAII 96793  
(808) 244-9161 • FAX (808) 244-1363

September 10, 2010

Colleen Suyama, Project Manager  
Munekiyo & Hiraga, Inc.  
305 High St.  
Wailuku, HI 96793

Re : EISPN for proposed Olowalu Town Project  
(2) 4-8-003: 84,98-118, and 124  
Olowalu, Maui, HI

Dear Ms. Suyama,

Thank you for the opportunity to comment on EISPN for the proposed Olowalu Town Project. At this time, our office has the following general comments to provide as information in your on-going design process.

Fire department access roads:

- All roads shall be a minimum of 20 feet in clear width. Cul-de-sacs shall be a minimum of 32 feet in clear width. Dead ends in excess of 150 feet in length shall be provided with a turn-around with a minimum outside-turning-radius of 41 feet. The maximum grade for residential subdivisions is 14% and agricultural subdivisions is 18%.

Water supply for fire protection:

- A minimum of 2000 gpm with maximum hydrant spacing shall be provided for business/commercial areas. Apartment and townhouse areas shall be provided with a minimum of 1500 gpm at a maximum hydrant spacing of 250 feet. Single-family areas shall be provided with 1000 gpm at a maximum hydrant spacing of 350 feet.

If these two points are addressed, our office will not have any objection to this change of location.

A more detailed look at roads and water supply for fire protection will be done during the subdivision process, however this information should be valuable in your design.



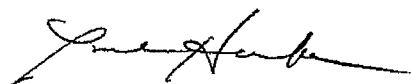
**Re : EISPN for proposed Olowalu Town Project**

**Page 2**

Although Lahaina Fire station is only 7.5 miles away, the impact of 1500 more homes on emergency services will be felt. The inclusion of a future facility for fire/police/medic is a great idea. Extension and inclusion of these services into this town will help to lessen the impact and compliment the protection provided on the Lahaina side of the tunnel.

If there are any questions or comments, please feel free to contact me by phone at 244-9161 ext. 23 or by mail.

Sincerely,



Paul Haake  
Captain, Fire Prevention Bureau  
313 Manea Place  
Wailuku, HI 96793

cc: Orlando "Dan" Davidson, Executive Director, Land Use Commission



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

Paul Haake, Captain  
County of Maui  
Department of Fire and Public Safety  
313 Manea Place  
Wailuku, Hawaii 96793

SUBJECT: Comments on the Environmental Impact Statement Preparation  
Notice for the Proposed Olowalu Town Master Plan at Olowalu,  
Maui, Hawaii

Dear Captain Haake,

Thank you for your letter of September 10, 2010 providing comments on the proposed Olowalu Town Master Plan. On behalf of the applicants, Olowalu Town, LLC and Olowalu Ekolu, LLC, we offer the following information in response to your remarks:

1. The applicants will work with the Department of Fire and Public Safety to ensure all roadways, cul-de-sacs, dead ends and alleyways are designed and constructed to meet public health and safety requirements. The existing topography or slope of the property ranges from five (5) percent to 15 percent and the grades for residential subdivisions will not exceed 14 percent and agricultural subdivisions will not exceed 18 percent.
2. In accordance with Section 16.04B.140, MCC, within Olowalu Town, minimum fire flow and hydrant spacing will comply with the requirements of 2,000 gallons per minute (gpm), 250 feet apart for business/commercial areas; 1,500 gpm, 250 feet apart for apartment and townhouse areas; and 1,000 gpm, 350 feet apart for single-family residential areas.
3. The applicants acknowledge that the Fire Prevention Bureau will review access roads and water supply for fire protection in greater detail during the subdivision process.

4. It is recognized that the build-out of 1,500 homes 7.5 miles south of the Lahaina Fire Station will have an impact on emergency response service limits. In the interest of mitigating impacts on emergency response services and ensuring the safety of future residents, the proposed Olowalu Town master plan includes areas along the future Honoapi'ilani Highway Bypass which can be used for a future facility for fire and medical emergency response teams. The applicants have had several informal discussions with fire department individuals to better understand how Olowalu Town can have a positive impact towards enhanced fire protection in Olowalu and West Maui. We look forward to additional meetings with your department in regards to how Olowalu Town can help the County provide enhanced services for fire protection.

Thank you again for your participation in the Chapter 343, HRS, review process. A copy of your letter will be included in the Draft Environmental Impact Statement (EIS). Further, a copy of the Draft EIS will be forwarded to your office for review and comment.

If additional information or clarification is required, please do not hesitate to contact me at 244-2015.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:tn

cc: Orlando "Dan" Davidson, State Land Use Commission  
Bill Frampton, Olowalu Town, LLC  
Stacy Otomo, Otomo Engineering, Inc.

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DEPARTMENT OF  
**HOUSING AND HUMAN CONCERNS**  
HOUSING DIVISION  
COUNTY OF MAUI

**AUG 04 2010**  
CHARMAINE TAVARES  
Mayor  
LORI TSUHAKE  
Director

JO-ANN T. RIDAO  
Deputy Director

35 LUNALILO STREET, SUITE 102 • WAILUKU, HAWAII 96793 • PHONE (808) 270-7351 • FAX (808) 270-6284

July 30, 2010

Ms. Colleen Suyama  
Project Manager  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Suyama:

**Subject: Environmental Impact Statement Preparation Notice For  
Proposed Olowalu Town Project at Olowalu, Maui, Hawaii,  
TMK (2) 4-8-003: 84, 98 through 118 and 124**

Thank you for the opportunity to review the above subject Environmental Impact Statement Preparation Notice. The Department would like to offer the following comments:

1. Applicant has indicated workforce housing will be provided in keeping with the requirements of Chapter 2.96, Maui County Code.
2. Applicant has also indicated that the Draft EIS will detail the anticipated workforce housing allocations by income categories. We would like to reserve our opportunity to provide additional comments at the time of our review of the Draft EIS.

Please call Mr. Buddy Almeida of our Housing Division at 270-7355 if you have any questions.

Sincerely,

WAYDE T. OSHIRO  
Housing Administrator

cc: Director of Housing and Human Concerns  
Orlando "Dan" Davidson



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

Wade T. Oshiro, Housing Administrator  
Department of Housing and Human Concerns  
35 Lunalilo Street, Suite 102  
Wailuku, Hawaii 96793

SUBJECT: Comments on the Environmental Impact Statement Preparation Notice (EISPN) for the Proposed Olowalu Town Master Plan at Olowalu, Maui, Hawaii

Dear Mr. Oshiro:

Thank you for your letter of July 30, 2010 providing comments on the proposed Olowalu Town Master Plan. As stated in the Environmental Impact Statement Preparation Notice (EISPN), the Olowalu Town Master Plan will comply with the workforce housing requirements of Chapter 2.96, Maui County Code. As noted, the Draft Environmental Impact Statement (EIS) will detail the anticipated workforce housing allocations by income categories.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Draft EIS. Further, a copy of the Draft EIS will be forwarded to your office for review and comment.

If additional information or clarification is required, please do not hesitate to contact me at 244-2015.

Very truly yours,

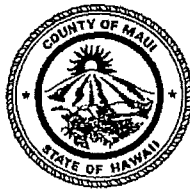
Colleen Suyama  
Senior Associate

CS:tn

cc: Dan Davidson, Land Use Commission  
Bill Frampton, Olowalu Town, LLC

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CHARMAINE TAVARES  
Mayor



**DEPARTMENT OF PARKS & RECREATION**  
700 Hali'a Nakoa Street, Unit 2, Wailuku, Hawaii 96793

**JUL 26 2010**  
TAMARA HORCAJO  
Director  
  
ZACHARY Z. HELM  
Deputy Director  
  
(808) 270-7230  
FAX (808) 270-7934

July 20, 2010

Colleen Suyama, Project Manager  
**Munekiyo & Hiraga, Inc.**  
305 High Street, Suite 104  
Wailuku, HI 96793

**SUBJECT: Environmental Impact Statement Preparation Notice for  
Proposed Olowalu Town Project  
TMK: (2) 4-8-003:084, 98 thru 118, and 124  
Olowalu, Maui, Hawai'i**

Dear Ms. Suyama:

Thank you for the opportunity to review and comment on the subject project.

The department is concerned that adequate land be set aside for development of active recreational park facilities for the residents as well as the surrounding communities. This amount is significantly greater than the 500 square feet per unit required by Section 18.16 of the Maui County Code (park dedication requirements). The project will be required to go through several land use entitlement processes. We would like to continue discussions with the applicant on the size and location of the proposed park lands.

Please feel free to contact me or Mr. Patrick Matsui, Chief of Parks Planning & Development, at (808) 270-7931 should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Tamara Horcajo", is written over the word "Sincerely,".

TAMARA HORCAJO  
Director of Parks & Recreation

xc: Orlando "Dan" Davidson, Executive Director, Land Use Commission  
Patrick Matsui, Chief of Parks Planning and Development

TH:PTM:ca  
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MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

Glenn Correa, Director  
Department of Parks and Recreation  
700 Hali'a Nakoa Stret, Unit 2  
Wailuku, Hawaii 96793

SUBJECT: Comments on the Environmental Impact Statement Preparation  
Notice (EISPN) for the Proposed Olowalu Town Master Plan at  
Olowalu, Maui, Hawaii

Dear Mr. Correa:

Thank you for your department's letter of July 20, 2010 providing comments on the proposed Olowalu Town Master Plan. We acknowledge that the Olowalu Town Master Plan will be subject to the requirements of Section 18.16 of the Maui County Code relating to park dedication. We note that the project will provide park space that exceeds the minimum park dedication requirements set forth by the County. Approximately 140 acres of park and open space will be included in the Master Plan. As development of the Olowalu Town Master Plan progresses through the various land use entitlements, we will continue to coordinate the park requirements for the project with the Department of Parks and Recreation.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your department's letter will be included in the Draft Environmental Impact Statement (EIS). Further, a copy of the Draft EIS will be forwarded to your office for review and comment.

Glenn Correa, Director  
December 21, 2011  
Page 2

If additional information or clarification is required, please do not hesitate to contact me at 244-2015.

Very truly yours,



Colleen Suyama  
Senior Associate

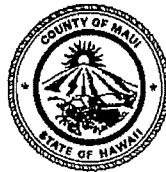
CS:tn

cc: Dan Davidson, Land Use Commission  
Bill Frampton, Olowalu Town, LLC

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CHARMAINE TAVARES  
Mayor  
KATHLEEN ROSS AOKI  
Director  
ANN T. CUA  
Deputy Director



JUN 15 2010

COUNTY OF MAUI  
**DEPARTMENT OF PLANNING**

June 7, 2010

Ms. Colleen Suyama  
Munekiyo and Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Suyama:

**SUBJECT: COMMENTS REGARDING THE EISPN FOR THE PROPOSED  
OLOWALU TOWN MASTER PLAN, TMK'S (2) 4-8-003: 084, 098-  
118, and 124, OLOWALU, MAUI, HAWAII (EAC 2010/0009)**

The Department of Planning (Department) has the following comments regarding the Environmental Assessment/Environmental Impact Statement Preparation Notice (EISPN) received by the Department on May 13, 2010.

The Department understands the proposed action includes the following:

- A State district boundary amendment (DBA) from Agriculture to Urban and Rural for approximately 320 acres of land;
- The amendment will provide for the development of the Olowalu Town project on approximately 636 acres to be phased over a period of 30 years;
- The Olowalu Town project will involve approximately 1,500 residential units, commercial and civic uses, parks and recreation sites, a cultural preserve, agricultural uses, a private domestic water system, a private wastewater system, and the relocation of Honoapi'ilani Highway.

Based on the foregoing, the Department provides the following comments on the EISPN:

1. All maps need to be drawn to scale, especially the Master Plan, Figure 4 as it forms the basis for the DBA.
2. On Figure 4 - Master Plan, expand the legend to include excluded lands and agricultural lands. Also, the Rural designation in the legend should be colored blue to coincide with the color on the map. Identify in the legend what the color beige designates.
3. On page 13 -- Project Need:
  - a. Update the figures for projected housing needs, based on the most recent Census updates.
  - b. Include a reference to the Department's Long Range Division that estimates the need for housing in West Maui to be only 3,456 additional units by the year 2030, beyond those lands already entitled;
  - c. Include a reference to the number of units that would be provided for per the Department's recommended growth areas in the draft Maui Island Plan;

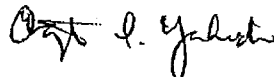
4. Many maps should have the term "Existing" added to their specific title to clarify existing from proposed. For example, Figure 5 could be misinterpreted to be identifying proposed State land use designations.
5. On page 15, West Maui Community Plan Amendment: It appears that some of the land has a Single Family (SF) designation in the Community Plan. This should be confirmed and this paragraph revised accordingly.
6. On page 15 – Change in Zoning:
  - a. It appears some of the land has a Hotel District zoning. This should be confirmed and this paragraph revised accordingly.
  - b. Clarify whether the "SmartCode" zoning will be a standard template crafted by Andres Duany or will be customized for Maui.
7. Obtain a Zoning Confirmation Form for all parcels within the entire Olowalu Town project. Then include a table indicating all existing and proposed State land use designations, community plan designations and zoning districts.
8. On Figure 6, Community Plan map: Revise the map to use colored lines to distinguish the designations easier.
9. On page 17 – Special Management Area Use Permit: Because a portion of the project is within the SMA, the entire project will be subject to the SMA regulations. The text needs to be revised to indicate this.
10. Figure 7 – Special Management Area Boundary Map: This map is inconsistent with the County Kiva SMA map. Update the map to be consistent with the County Kiva map or provide the basis for the boundaries of Figure 7.
11. On page 19, provide a population for the historic Olowalu plantation town.
12. On page 30, Flood and Tsunami Hazards:
  - a. Provide a map indicating the tsunami inundation zone.
  - b. Explain how development within the tsunami and flood hazard areas will be mitigated; and
  - c. Explain why density should be created in tsunami and flood hazard areas.
13. Figure 12 – Flood Insurance Rate Map: Revise the map so it is more legible, such as using greater detail and darker colors to designate the flood hazard areas.
14. On page 42 – Shoreline Access:
  - a. Indicate whether the 3 proposed parks will be open to the public.
  - b. Include a map indicating how public access will be provided to the shoreline, including parking and pedestrian paths.
15. On page 46, include a market study that will indicate the extent that residents will have to commute away from the Olowalu Town for employment and other needs.
16. On page 46 – Housing: Provide a pro forma that indicates how affordable housing can be provided when the proposal will incur the costs of providing infrastructure including the relocated highway, wastewater treatment plants, medical, educational, police and fire facilities.
17. On page 48, Medical Facilities: Indicate the conditions under which medical facilities "may be implemented as part of the Master Plan".
18. On page 48 – Police and Fire Protection: Indicate under what conditions additional facilities will be generated by the Olowalu Town; and whether land and facilities will be provided by the Olowalu Town developers or will have to be provided by the County.
19. On page 53, Roadways:
  - a. Include in the Traffic Impact Analysis Report (TIAR) an analysis of the Olowalu Town's impacts on the Honoapi'ilani Highway traffic flow between Ma'alaea and Lahaina due to:

- i. Construction to re-align the highway; and
    - ii. The increase in traffic generated from each phase of the build-out of the Olowalu Town.
  - b. Explain how the commuting generated by adding 1,500 new residential units - incorporating the market analysis regarding the extent that residents will have to commute away from the Olowalu Town for employment and other needs - will impact tourists and workers using the highway to reach Ma'alaea or Lahaina.
  - c. Provide an analysis of the economic effects that would result from such impacts to tourists and workers.
20. On page 56 – Wastewater Systems: Include a cost-estimate of the initial construction and on-going maintenance of the wastewater systems and who will pay such costs.
21. On pages 59-63 – State Land Use District Criteria:
- a. Compare the amount of trading and employment that the proposal will generate on-site, with the amount of trading and employment that residents of the proposal will need to find off-site.
  - b. Clarify which basic services the proposal will definitely provide, which may be provided, and which will definitely not be provided.
  - c. Provide an analysis of the acreage proposed in the draft Maui Island Plan that would serve as reserve areas for foreseeable urban growth, including specific numbers for West Maui.
  - d. Explain how the project's proposal to increase densities to urban and rural levels in tsunami and floodplain zones, is consistent with State DBA criteria.
  - e. Provide an explanation as to how the project complies with State DBA criteria that says land contiguous with an existing urban designation shall be given more consideration than non-contiguous land.
  - f. Explain why the proposed State DBA should not wait until the adoption of urban growth boundaries per the Maui Island Plan.
  - g. Explain how the project complies with criteria that says a State DBA to urban may include lands which do not conform to such criteria, "when surrounded by or adjacent to existing urban development".
  - h. Explain how the project complies with criteria that says a State DBA will not include land, the urbanization of which will contribute toward scattered spot urban development, necessitating unreasonable investment in public infrastructure or support services.
  - i. Explain how the proposed Rural designated lands comply with State DBA criteria that says such lands may include land not surrounded by or contiguous to Rural lands if they are not suited for farm or agricultural uses.
22. On page 80, explain how the proposal complies with the following objectives/policies of the Countywide Policy Plan:
- a. "Direct growth in a way that makes efficient use of existing infrastructure and to areas where there is available infrastructure capacity."
  - b. "Planning for new towns should only be considered if a region's growth is too large to be directed into infill and adjacent growth areas."
  - c. "Promote land use patterns that can be provided with infrastructure and public facilities in a cost-effective manner."
  - d. "Direct new development in and around communities with existing infrastructure and service capacity, and protect natural, scenic, shoreline, and cultural resources."
23. On page 84 – Maui Island Plan: Explain why the proposed DBA should be reviewed prior to the final adoption of the urban and rural growth boundaries in the draft Maui Island Plan that is currently under review by the County Council.

Ms. Colleen Suyama  
June 7, 2010  
Page 4

If you require further clarification, please contact Senior Planner Jeff Hunt at [jeff.hunt@mauicounty.gov](mailto:jeff.hunt@mauicounty.gov) or phone (808) 270-7821.

Sincerely,



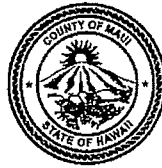
CLAYTON I. YOSHIDA, AICP  
Planning Program Administrator

for KATHLEEN ROSS AOKI  
Planning Director

xc: Jeffrey S. Hunt, AICP, Senior Planner  
Milton Arakawa, Director, Department of Public Works  
EAC File  
General File  
KRA:CIY:JSH  
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AUG 06 2010

CHARMAINE TAVARES  
Mayor  
KATHLEEN ROSS AOKI  
Director  
ANN T. CUA  
Deputy Director



COUNTY OF MAUI  
**DEPARTMENT OF PLANNING**  
August 6, 2010

Ms. Colleen Suyama  
Munekiyo and Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Suyama:

**SUBJECT: COMMENTS REGARDING THE EISPN FOR THE PROPOSED OLOWALU TOWN MASTER PLAN; TMK'S: (2) 4-8-003: 084, 098-118, and 124, OLOWALU, MAUI, HAWAII (EAC 2010/0009)**

The Department of Planning (Department) has the following comments in regard to the letter dated July 2, 2010 requesting comments on the Environmental Assessment/Environmental Impact Statement Preparation Notice (EISPN). This letter supersedes the Department's previous letter dated June 7, 2010, regarding this EISPN.

The Department understands the proposed action includes the following:

- A State District Boundary Amendment (DBA) from Agriculture to Urban and Rural for approximately 320 acres of land;
- The amendment would provide for the development of the Olowalu Town project on approximately 636 acres to be phased over a period of 30 years; and
- The Olowalu Town project would involve approximately 1,500 residential units, commercial and civic uses, parks and recreation sites, a cultural preserve, agricultural uses, a private domestic water system, a private wastewater system, and the relocation of Honoapi'ilani Highway.

Based on the foregoing, the Department provides the following comments on the EISPN:

1. If the Maui Island Plan is adopted prior to the submittal of the Final Environmental Impact Statement (EIS), then include in the Final EIS an analysis of how the proposed project complies with the Maui Island Plan;
2. All maps need to be to drawn to scale, especially the Master Plan, Figure 4 as it forms the basis for the DBA;
3. On Figure 4 - Master Plan, provide a complete legend to include excluded lands and agricultural lands. Also, the Rural designation in the legend should be colored blue to coincide with the color on the master plan. Identify in the legend what the colors black and beige designate. The master plan should indicate the boundary of the cultural reserve;
4. On page 13 - Project Need:
  - a. Update the figures for projected housing needs, based on the most recent Census updates.

- b. Include a reference to the Department's Long Range Division that estimates the need for housing in West Maui to be only 3,456 additional units by the year 2030, beyond those lands already entitled;
  - c. If the Maui Island Plan is adopted prior to the submission of the Final EIS and the project area is not included in the Urban Growth Boundaries please explain why the housing units are needed outside the approved Urban Growth Boundaries; and
  - d. Provide an analysis as to why another 1,500 housing units are needed in addition to the Department's recommended 3,651 units.
5. Many maps should have the term "Existing" added to their specific title to clarify existing from proposed. For example, Figure 5 could be misinterpreted to be identifying proposed State land use designations.
6. On page 15, West Maui Community Plan Amendment: It appears that some of the land has a Single-Family (SF) designation in the Community Plan. This should be confirmed and this paragraph revised accordingly.
7. On page 15 – Change in Zoning:
  - a. It appears some of the land has a Hotel District zoning. This should be confirmed and this paragraph revised accordingly; and
  - b. Clarify whether the "SmartCode" zoning will be a standard template crafted by Andres Duany or will be customized for Maui.
8. Obtain a Zoning Confirmation Form for all parcels within the entire Olowalu Town project. Then include a table indicating all existing and proposed State land use designations, community plan designations and zoning districts.
9. On Figure 6, Community Plan map: Revise the map to use colored lines to distinguish the designations easier.
10. On page 17 – Special Management Area Use Permit: Because a portion of the project is within the SMA, parcels located within the SMA including those in which a portion is within the SMA will be subject to the SMA regulations. The text needs to be revised to indicate this.
11. Figure 7 – Special Management Area Boundary Map: This map is inconsistent with the County Kiva SMA map. Update the map to be consistent with the County Kiva map or provide the basis for the boundaries of Figure 7.
12. On page 19, provide a population for the historic Olowalu plantation town and how the proposed Olowalu Town compares to the historic plantation town in terms of residents, stores, community facilities, etc.
13. On page 29, provide a justification for converting prime agricultural land into non-agricultural uses.
14. On page 30, Flood and Tsunami Hazards:
  - a. Provide a map indicating the tsunami inundation zone;
  - b. Provide information and maps indicating where the tsunami and floodplain zones will be in one hundred years based on anticipated sea level rise;
  - c. Explain how development within the existing and anticipated tsunami and flood hazard areas will be mitigated;
  - d. Explain why density should be created in tsunami and flood hazard areas; and

- e. Add a section addressing wildland fire hazards existing conditions and impacts and mitigation including fire breaks, landscaping, building design and an evacuation plan; and explain why density should be created in an area that has been prone to wildfires.
- 15. Figure 12 – Flood Insurance Rate Map: Revise the map so it is more legible, such as using greater detail and darker colors to designate the flood hazard areas.
- 16. On page 38 - Archaeological Investigations: Include a map of archeological sites that are within and adjacent to the project site.
- 17. On page 42 - Scenic and Open Space Resources: Provide photos of existing views of the area, and computer generated photos of the area with the proposed development.
- 18. On page 42 – Shoreline Access:
  - a. Indicate whether the three (3) proposed parks will be open to the public; and
  - b. Include a map indicating how public access will be provided to the shoreline, including parking and pedestrian paths.
- 19. On page 45 – Economy: Include a market study that indicates the type of employment that would occur within the project for its residents; and the extent that residents will have to commute away from the Olowalu Town for employment and other needs.
- 20. On page 46 – Housing:
  - a. Provide data on the range, type, sizes, income level, and demographic group regarding the affordable housing;
  - b. Explain how affordable housing can be provided when the proposal will incur the costs of providing infrastructure including the relocated highway, wastewater treatment plants, medical, educational, police and fire facilities;
  - c. Describe how it will be assured that the housing units will be purchased and used by residents, as opposed to visitors and/or second home-owners; and
  - d. Indicate how the affordable housing units will initially be affordable and then remain affordable.
- 21. On pages 47-58, facilities and infrastructure are discussed. Include information that clearly indicates what land and/or facilities/infrastructure will be provided and/or maintained by the Olowalu Town developers or will have to be acquired and/or provided and/or maintained by the County or State; a schedule of when the facilities/infrastructure will need to be established; and what short-term and long-term fiscal impacts to the County or State would result.
- 22. On page 47 – Solid Waste: Indicate the distance the transfer station is from the proposed project.
- 23. On page 48 - Medical Facilities: Indicate the conditions under which medical facilities "may be implemented as part of the Master Plan".
- 24. On page 48 – Police and Fire Protection: Indicate under what conditions additional facilities will be generated by the Olowalu Town.
- 25. On page 49 – Educational Facilities: Include an analysis of the anticipated demographics of the proposal and whether the demographics will generate the need for any new facilities within the project.
- 26. On page 50 – Recreational Facilities: Include a site plan indicating the location of all recreational facilities, including parks, greenways, parking, and bicycle and pedestrian paths. Indicate whether the public will have access to such facilities.
- 27. On page 53 - Roadways:

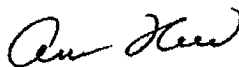
- a. Include in the Traffic Impact Analysis Report (TIAR) an analysis of the Olowalu Town's impacts on the Honoapi'ilani Highway traffic flow between Ma'alaea and Lahaina due to:
    - i. Construction to re-align the highway; and
    - ii. The increase in traffic generated from each phase of the build-out of the Olowalu Town.
  - b. Explain how the commuting generated by adding 1,500 new residential units - incorporating the market analysis regarding the extent that residents will have to commute away from the Olowalu Town for employment and other needs - will impact tourists and workers using the highway to reach Ma'alaea or Lahaina;
  - c. Provide an analysis of the economic effects that would result from such impacts to businesses that are dependent upon such tourists and workers; and
  - d. Provide more details on the innovative design standards to be used in conjunction with the relocated highway.
28. On page 54 – Water:
- a. Provide the reference for the statement that the Olowalu aquifer has an estimated sustainable yield of 2.0 mgd; and
  - b. Provide an engineering report with calculations regarding demand generated by the proposal and a plan for the development of any additional water sources.
29. On page 56 – Wastewater Systems:
- a. Provide an engineering report regarding the anticipated capacity of the treatment system, what methodology it will use, and whether injections wells will be used. Include a map of the entire system.
30. On page 56 – Drainage:
- a. Provide a report on the quality of the nearby marine resources, especially the coral reefs. Provide an engineering report on the proposed drainage system, the best management practices for its construction, and the anticipated impacts to the marine resources from the drainage system.
31. On pages 59-63 – State Land Use District Criteria:
- a. Compare the amount of trading and employment that the proposal will generate on-site, with the amount of trading and employment that residents of the proposal will need to find off-site;
  - b. Clarify which basic services the proposal will definitely provide, which may be provided, and which will definitely not be provided;
  - c. Explain how the project's proposal to increase densities to urban and rural levels in tsunami and floodplain zones, is consistent with State DBA criteria;
  - d. Provide an explanation as to how the project complies with State DBA criteria that says land contiguous with an existing urban designation shall be given more consideration than non-contiguous land;
  - e. Explain why the proposed State DBA should not wait until the adoption of urban growth boundaries per the Maui Island Plan;
  - f. Explain how the project complies with criteria that say a State DBA to urban may include lands which do not conform to urban criteria, "when surrounded by or adjacent to existing urban development;"



- g. Explain how the project complies with criteria that say a State DBA will not include land, the urbanization of which will contribute toward scattered spot urban development, necessitating unreasonable investment in public infrastructure or support services; and
  - h. Explain how the proposed Rural designated lands comply with State DBA criteria that say such lands may include land not surrounded by or contiguous to Rural lands if they are not suited for farm or agricultural uses.
32. On page 80, explain how the proposal complies with the following objectives/policies of the Countywide Policy Plan:
- a. "Reduce the affordable housing deficit for residents."
  - b. "Ensure that basic infrastructure needs can be met during a disaster."
  - c. "Require new developments to contribute their pro rata share of local and regional infrastructure costs."
  - d. "Ensure that infrastructure is built concurrent with or prior to development."
  - e. "Capitalize on existing infrastructure capacity as a priority over infrastructure expansion."
  - f. "Perpetuate the authentic character and historic integrity of rural communities and small towns."
  - g. "Direct urban and rural growth to designated areas."
  - h. "Encourage redevelopment and infill in existing communities on lands intended for urban use to protect productive farm land and open-space resources."
  - i. "Discourage new entitlements for residential, resort, or commercial development along the shoreline."
  - j. "Restrict development in areas that are prone to natural hazards, disasters, or sea-level rise."
  - k. "Direct new development in and around communities with existing infrastructure and service capacity, and protect natural, scenic, shoreline, and cultural resources."
  - l. "Direct growth in a way that makes efficient use of existing infrastructure and to areas where there is available infrastructure capacity."
  - m. "Planning for new towns should only be considered if a region's growth is too large to be directed into infill and adjacent growth areas."
  - n. "Promote land use patterns that can be provided with infrastructure and public facilities in a cost-effective manner."
33. On page 84 – Maui Island Plan: Explain why the proposed DBA should be reviewed prior to the final adoption of the urban and rural growth boundaries in the draft Maui Island Plan that is currently under review by the County Council.

Thank you for the opportunity to comment. If you require further clarification, please contact Senior Planner Jeffrey Hunt by email at [jeff.hunt@mauicounty.gov](mailto:jeff.hunt@mauicounty.gov) or by phone at 270-7821.

Sincerely,



 KATHLEEN ROSS AOKI  
Planning Director

Ms. Colleen Suyama  
August 6, 2010  
Page 6

xc: Clayton I. Yoshida, AICP, Planning Program Administrator  
Jeffrey S. Hunt, AICP, Senior Planner  
Milton Arakawa, Director, Department of Public Works  
Orlando "Dan" Davidson, Executive Director, State Land Use Commission  
EAC File  
General File

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MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRABA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

William Spence, Director  
Planning Department  
250 S. High Street  
Wailuku, Hawaii 96793

SUBJECT: Comments on the Environmental Impact Statement Preparation  
Notice (EISPN) for the Proposed Olowalu Town Master Plan at  
Olowalu, Maui, Hawaii

Dear Mr. Spence:

Thank you for your Department's letters of June 7, 2010 and August 6, 2010, providing comments on the proposed Olowalu Town Master Plan. It is understood that the comments provided in the letter dated August 6, 2010 supersede the comments provided in the Department's previous letter dated June 7, 2010. On behalf of the applicants, Olowalu Town LLC and Olowalu Ekolu, LLC, the following information is offered in response to comments provided on August 6, 2010. (The numbered responses below correspond to the comments as presented in your letter.)

1. The Maui Island Plan (MIP) process has been underway for a number of years and the draft MIP document is currently being reviewed by the Maui County Council. Should the MIP be adopted prior to the submittal of the Final Environmental Impact Statement (EIS), the Final EIS will address the project's compliance with the MIP goals, objectives, and policies.
2. The master plan map and state land use district maps will be scaled and refined to address the Department's comments. To the extent possible, other figures in the Draft EIS will also be scaled. However, some figures that are provided for informational purposes may not be scaled.
3. The Master Plan figure in the Draft EIS will be revised to address the Department's comments.

4. The Draft EIS will provide an updated discussion of projected housing needs, relative to the figures provided by the most recent census. Please note that the project is expected to be completed over the course of 10 years within the 2030 horizon for the Department's projections. A market study will be prepared for the project addressing housing needs. A copy of the market study will be included and discussed in the Draft EIS.

As noted in our response to Comment No. 1, should the MIP be adopted prior to submission of the Final EIS, the Final EIS will discuss the project's provision of housing in relation to the MIP's Urban and Rural Growth Boundaries and recommendations for housing.

5. Where applicable, figures provided in the Draft EIS will be revised to distinguish existing conditions from proposed conditions.
6. The portions of land designated SF, Single Family by the West Maui Community Plan are owned by others and are not part of the Master Plan area. Because the proposed Community Plan Amendment does not seek to re-designate these areas, they were not included in the discussion on Page 15.
7. Prior to submitting the Draft EIS, confirmation of the land use designations will be obtained from the Department and the zoning section of the Draft EIS revised accordingly. The Project will utilize Andres Duany's "SmartCode", however, it will be calibrated to be consistent with the character of Maui's small towns.
8. Zoning confirmation forms will be obtained for each of the parcels in the Olowalu Town Master Plan. The existing land use designations for each parcel will be identified in a table in the Draft EIS. The Master Plan crosses parcel boundaries, as such we are unable to include a similar table for the proposed land use designations by specific parcels. However, a table will be included in the draft EIS identifying the proposed land use designations.
9. The Community Plan land use map provided in the Draft EIS is the available map in the West Maui Community Plan but it will be revised to be clearer to the reader.

10. We would like to further discuss the Department's determination that when a portion of the parcel is located within the Special Management Area (SMA), the entire parcel will be subject to the SMA Rules of the Maui Planning Commission (MPC). In this regard, the applicant looks forward to working with the Department to comply with applicable requirements of the SMA rules.
11. The SMA boundary map provided in the Draft EIS was prepared from the State of Hawaii Geographic Information System data files which are based on the County Special Management Area maps.
12. The Draft EIS will include a discussion of the population of the proposed Olowalu Town project as it relates to the historic Olowalu plantation town.
13. The Draft EIS will incorporate an agricultural assessment including a discussion of the project's proposed use of "Prime" agricultural lands for non-agricultural uses.
14. The tsunami inundation zone is indicated by Flood Zone VE on the Flood Insurance Rate Map which will be included in the Draft EIS. It is noted that the proposed Master Plan does not propose any development within the portion of the Master Plan area that is within Zone VE. Apart from this, construction within flood hazard areas will be in compliance with Section 19.62.060, Maui County Code (MCC), relating to standards for development within flood hazard areas. A discussion on natural hazards (including flooding, sea level rise and wildfires), and where applicable, proposed mitigation will be included in the Draft EIS.
15. The FIRM figure in the Draft EIS will be revised to be clearer to the reader.
16. The Draft EIS will include an Archaeological Literature Review which will include a more thorough discussion of the results of archaeological inventory surveys conducted within the Master Plan area. A map depicting locations of archaeological sites within the Master Plan area will accompany this discussion.
17. Photos of existing views from Honoapiilani Highway and the future bypass in the Master Plan area and photos with the proposed development from the proposed bypass highway will be incorporated into the Draft EIS.
18. The preservation and enhancement of public access to shoreline resources is an integral element of the proposed Olowalu Town Master Plan. The Draft

EIS will include a discussion of public access to beach reserves and shoreline resources.

19. An economic and fiscal impact study for the proposed Olowalu Master Plan is currently being prepared. The economic and fiscal impact study will examine the type of employment that will be generated by the project to reduce the number of commuters to jobs outside of Olowalu.
20. The Draft EIS will provide further detail on the range of housing types, sizes and income groups in relation to the provisions of Chapter 2.96 MCC relating to the Residential Workforce Housing Ordinance. An economic and fiscal impact analysis will be included in the Draft EIS to address the anticipated costs to construct the Olowalu Town Master Plan and the cost to State and County governments for public services.

The applicants will coordinate the sales of the required affordable housing units with the Department of Housing and Human Concerns (DHHC) to ensure the units are in compliance with Chapter 2.96 MCC and are sold or rented at affordable rates and remain affordable. The intent of the applicant is to provide affordable housing to residents of Maui.

21. Depending on the progress of ongoing discussions with the agencies we will provide any available information on which infrastructure and facilities will be dedicated to the County and which will be privately maintained. Preliminarily, it is anticipated that infrastructure design and construction will occur over 10 years, beginning in 2015. Fiscal impacts resulting from the installation of the project's facilities and infrastructural components will be addressed in the Draft EIS through the preparation of a Fiscal/Economic Impact Assessment Report.
22. The Olowalu transfer station is located immediately north of the Master Plan area. This information will be incorporated into the Draft EIS.
23. The proposed Master Plan will provide lands for fire department and emergency medical facilities which can provide medical and first responder services to the region. These services currently do not exist in the region and would serve as an improvement over existing conditions. Also, the town centers have ample business and commercial designated lands where medical clinics, doctor offices, and urgent care services can be established to help meet the needs of the community and greater West Maui region.

Ongoing coordination with medical service providers will be carried out as the project proceeds through the entitlement process.

24. The proposed Master Plan includes an area for a future facility for emergency response teams. In relation to this, the EA/EISPN was provided to the Maui Police Department (MPD) and the Department of Fire and Public Safety (DFPS) for review and comment. Any input provided by the MPD and DFPS will be discussed in the Draft EIS.
25. Consultation with the Department of Education (DOE) has been ongoing to determine educational impacts resulting from the proposed Master Plan. This coordination will continue throughout the land use entitlements process. From the onset of the planning and design of Olowalu Town, the applicants have acknowledged and recognized the importance of including lands within the Master Plan for educational facilities and learning centers. Preliminary discussions regarding possible type, size, and style of education facilities have been ongoing since early on in the process. These discussions have occurred at the Olowalu Talk Story sessions, during community presentations, as well as at meetings with the DOE and other elected officials. The applicants will continue to work with the DOE, the community and the elected officials to address school impact requirements for the project.
26. A conceptual site plan illustrating the parks and open space will be included in the Draft EIS. As with the beach reserves and shoreline resources, public access to recreational facilities is an integral planning component of Olowalu Town. Consultation with the Department of Parks and Recreation has been ongoing to determine appropriate park assessment requirements for the proposed project and will continue throughout the land use entitlements process.
27. The Preliminary Traffic Impact Analysis Report (TIAR) will address traffic impacts associated with the project on the existing Honoapiilani Highway and future construction of the Honoapiilani Highway realignment. Also examined by the TIAR will be the anticipated trips to be generated by the proposed 1,500 residential units. The TIAR, its results, and recommendations will be discussed in the Draft EIS. Additionally, innovative design standards for the relocated highway will be discussed.

It is anticipated that the employment centers proposed within the Olowalu Town Master Plan will reduce the number of commuters to other employment centers outside of the Master Plan area. It is also envisioned that existing

commuters to the West Maui region will purchase homes in Olowalu to reduce their commute distance and time. The Master Plan has been designed to include the existing Olowalu General Store into the town center so new customers residing in the housing units, as well as recreational users of the parks and open space areas, will shop at the existing businesses further reducing the need to commute outside of Olowalu.

28. A hydrology study for the Master Plan is currently being prepared. The results of this study, which will address available water resources, will be discussed in the Draft EIS. In addition, a Preliminary Engineering Report (PER) will be included in the Draft EIS to evaluate the Master Plan's projected water demands and water source development. The results of the PER will be incorporated into the Draft EIS. A reference for the sustainable yield of Olowalu aquifer will be provided in the Draft EIS.
29. A Wastewater Management Plan will be prepared to examine and define the Master Plan's wastewater system infrastructure requirements. The Master Plan envisions a wastewater treatment system which will be utilized to treat effluent to R-1 quality. The R-1 water will be utilized for irrigation in order to eliminate the need for injection wells. The report and related conceptual wastewater system plans will be included and discussed in the Draft EIS.
30. In recognition of the nearshore marine resources of the Olowalu area, a Marine Water Chemistry and Biotic Community Study will be included in the Draft EIS to document existing resources and evaluate the potential drainage-related impacts of the project. The results of this report will be included in the Draft EIS. In the interest of minimizing impacts on the area's hydrology, Best Management Practices (BMPs) for stormwater management will be implemented, both during construction and in designing the project's drainage system. Retention and detention systems will be designed to accommodate the incremental increase in runoff attributed to the development of the proposed master plan. Notably, these drainage systems will be designed to meet and exceed County drainage standards. The above-mentioned PER being prepared will include a drainage assessment section. The results of the PER will be discussed in the Draft EIS. In addition, a stormwater management plan is being prepared and will be included in the Draft EIS.
31. An evaluation of the project's compliance with the State Land Use District Criteria for the reclassification of land from the Agricultural to the Urban and Rural Districts will be provided in the Draft EIS.



The State District Boundary Amendment (DBA) is being processed concurrent with review of the Draft MIP, a comprehensive plan update process that has been ongoing for a number of years. Should the draft MIP be adopted in law prior to completion of the Chapter 343, HRS process for this project, an analysis of the project's compliance with the goals, objectives, policies, and actions of the new MIP will be provided in the Final EIS.

32. The project's compliance with the objectives and policies of the Countywide Policy Plan will be discussed in the Draft EIS, to include the objectives and policies cited in the Department's letter.
33. The applicants have actively participated in the MIP review process, through the General Plan Advisory Committee (GPAC) and MPC review periods, and now during the County Council's review of this important comprehensive planning document. The relationship between the State Land Use Commission's review of the DBA petition and the County Council's review of the MIP will be addressed in the Draft EIS. The State Land Use Commission's review of the DBA will occur following completion of the Chapter 343, HRS EIS process, the latter of which is expected to occur concurrently with the Maui County Council's review of the draft MIP.

William Spence, Director  
December 21, 2011  
Page 8

Thank you again for the Department's participation in the EIS preparation process. A copy of the Department's letters will be included in the Draft EIS. Further, a copy of the Draft EIS will be forwarded to your office for review and comment. If additional information or clarification is required, please do not hesitate to contact me at 244-2015.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:tn

cc: Dan Davidson, Land Use Commission  
Bill Frampton, Olowalu Town, LLC  
Stacy Otomo, Otomo Engineering Inc.  
Tom Nance, Tom Nance Water Resource Engineering  
Steven Dollar, PhD, Marine Research Consultants, Inc.  
George Rixey, Architect, Artel Inc.  
Roger Dyar, Consulting Transportation Engineer  
Craig Lekuen, Brown and Caldwell

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CHARMAINE TAVARES  
Mayor

MILTON M. ARAKAWA, A.I.C.P.  
Director

MICHAEL M. MIYAMOTO  
Deputy Director

Telephone: (808) 270-7845  
Fax: (808) 270-7955



COUNTY OF MAUI  
**DEPARTMENT OF PUBLIC WORKS**  
200 SOUTH HIGH STREET, ROOM NO. 434  
WAILUKU, MAUI, HAWAII 96793

July 20, 2010

JUL 23 2010

RALPH NAGAMINE, L.S., P.E.  
Development Services Administration

CARY YAMASHITA, P.E.  
Engineering Division

BRIAN HASHIRO, P.E.  
Highways Division

Ms. Colleen Suyama, Project Manager  
MUNEKIYO & HIRAGA, INC.  
305 High Street, Suite 104  
Wailuku, Maui, Hawaii 96793

Dear Ms. Suyama:

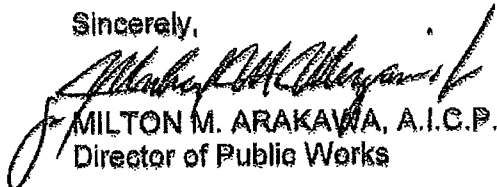
**SUBJECT: ENVIRONMENTAL IMPACT STATEMENT PREPARATION  
NOTICE FOR THE PROPOSED OLOWALU TOWN  
PROJECT; TMK: (2) 4-8-003:084, 98 THRU 118, 124**

We reviewed the subject application and have the following comments:

1. The applicant shall be responsible for all required improvements as required by Hawaii Revised Statutes, Maui county Code and rules and regulations.
2. As applicable, construction plans shall be designed in conformance with Hawaii Standard Specifications for Road and Bridge Construction dated 2005 and Standard Details for Public Works Construction, 1984, as amended.
3. As applicable, worksite traffic-control plans/devices shall conform to Manual on Uniform Traffic Control Devices for Streets and Highways, 2003.

Please call Michael Miyamoto at 270-7845 if you have any questions regarding this letter.

Sincerely,

  
MILTON M. ARAKAWA, A.I.C.P.  
Director of Public Works

MMA:MMM:ls

cc: Highways Division  
Engineering Division

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MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

David Goode, Director  
County of Maui  
Department of Public Works  
200 South High Street, Room 434  
Wailuku, Hawaii 96793

SUBJECT: Comments on the Environmental Impact Statement Preparation  
Notice for the Proposed Olowalu Town Master Plan at Olowalu,  
Maui, Hawaii

Dear Mr. Goode:

Thank you for your department's letter of July 20, 2010 providing comments on the proposed Olowalu Town Master Plan. On behalf of the applicants, Olowalu Town, LLC and Olowalu Ekeolu, LLC (applicant), we offer the following information in response to your remarks:

1. The proposed project will be carried out in compliance with all applicable rules and regulations set forth by the Hawaii Revised Statutes (HRS) and the Maui County Code (MCC).
2. You have the applicant's assurances that project construction plans will be designed in conformance with applicable specifications and standards for road, bridge, and public works construction.
3. You have the applicant's assurances that, as applicable, worksite traffic control plans/devices will be in conformance with the 2003 Manual on Uniform Traffic Control Devices for Streets and Highways.

David Goode, Director  
December 21, 2011  
Page 2

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your department's letter will be included in the Draft Environmental Impact Statement (EIS). Further, copies of the Draft EIS will be forwarded to your office for review and comment.

If additional information or clarification is required, please do not hesitate to contact me at 244-2015.

Very truly yours,



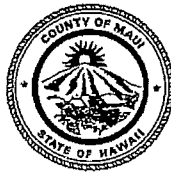
Colleen Suyama  
Senior Associate

CS:lh

cc: Orlando "Dan" Davidson, State Land Use Commission  
Bill Frampton, Olowalu Town, LLC  
Stacy Otomo, Otomo Engineering, Inc.

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CHARMAINE TAVARES  
MAYOR



**JUL 15 2010**

DON A. MEDEIROS  
Director  
WAYNE A. BOTEILHO  
Deputy Director  
Telephone (808) 270-7511  
Facsimile (808) 270-7505

**DEPARTMENT OF TRANSPORTATION**

COUNTY OF MAUI  
200 South High Street  
Wailuku, Hawaii, USA 96793-2155

July 12, 2010

Ms. Colleen Suyama  
Munekiyo & Hiraga Inc.  
305 High Street, Suite 104  
Wailuku, Maui, Hawaii 96793

Subject: EIS for Proposed Olowalu Town Project

Dear Ms. Suyama,

Thank you for the opportunity to comment on this project. We would like you to incorporate a bus stop and shelter into this development. The location will be determined after more detail is provided about the development.

Please feel free to contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Don Medeiros", is written over a horizontal line.

Don Medeiros  
Director



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN FUKUDA

MARK ALEXANDER ROY

December 21, 2011

JoAnne Johnson-Winer, Director  
Department of Transportation  
County of Maui  
200 South High Street  
Wailuku, Hawaii 96793

SUBJECT: Comments on the Environmental Impact Statement Preparation  
Notice (EISPN) for the Proposed Olowalu Town Master Plan at  
Olowalu, Maui, Hawaii

Dear Ms. Johnson-Winer:

Thank you for your department's letter of July 12, 2010 providing comments on the proposed Olowalu Town Master Plan. In response, we note that the Olowalu Town Master Plan is envisioned to be a sustainable community encouraging pedestrian, bicycle, and multi-modal transportation systems. As development of the Olowalu Town Master Plan progresses, we will work with the County of Maui Department of Transportation to identify an appropriate location for a bus stop and shelter within the project.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your department's letter will be included in the Draft EIS. Further, a copy of the Draft Environmental Impact Statement (EIS) will be forwarded to your office for review and comment.

JoAnne Johnson-Winer, Director  
December 21, 2011  
Page 2

If additional information or clarification is required, please do not hesitate to contact me at 244-2015.

Very truly yours,



Colleen Suyama  
Senior Associate

CS:tn

cc: Dan Davidson, Land Use Commission  
Bill Frampton, Olowalu Town, LLC

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CHARMAINE TAVARES  
Mayor



AUG 18 2010

JEFFREY K. ENG  
Director

**DEPARTMENT OF WATER SUPPLY  
COUNTY OF MAUI**

200 SOUTH HIGH STREET  
WAILUKU, MAUI, HAWAII 96793-2155  
www.mauiwater.org

August 5, 2010

Ms. Colleen Suyama  
Munekiyo & Hiraga  
305 High St., Ste 104  
Wailuku, HI 96793

Re: TMK: (2) 4-8-003:084, 098-118 & 124  
Project Name: Proposed Olowalu Town Master Plan  
Environmental Impact Statement Prep Notice (EISPN)

Dear Ms. Suyama:

Thank you for the opportunity to comment on the Environmental Impact Statement Prep Notice. The proposed development involves the construction of approximately 1,500 residential dwellings as well as appropriate infrastructure in phases spread over a period of approximately 30 years.

**Source Availability, System Infrastructure and Consumption**

The EISPN states that the project site will be served by the Olowalu Water Company, LLC, a private water utility company regulated by the Public Utilities Commission. Irrigation water will be provided by small, privately owned and operated treatment plants which will yield R-1 quality water. In addition, the document states that anticipated potable demand would be about 750,000 gallons per day (gpd). Absent detailed information, anticipated demand would be between approximately 900,000 and a little more than 2 million gpd, according to system standards. Please note that as of 2008, the sustainable yield set by the Commission on Water Resource Management for the Olowalu aquifer is 2 million gallons per day (mgd).

DWS does not review or set requirements on private water systems for domestic and fire protection purposes. However, fire protection should be a requirement in this fire prone area. We recommend that the water systems be built in accordance with the Statewide Water System Standards including appropriate backflow preventers, and that the DEIS reflect this.

We also note that the Planning Department included Olowalu within a planned protected area of the draft Maui Island Plan.

**Conservation**

To alleviate demand on the Olowalu system, please find attached a conservation checklist for the home and yard, condominiums and our planting brochure. We recommend that the following

*"By Water All Things Find Life"*

conservation measures be included in the project design and noted in the draft EIS:

- Use Non-potable Water: Use brackish water for landscaping, dust control and other non-potable purposes where feasible.
- Use Climate-adapted Plants: Consider using climate-adapted native plants for all landscaping. The project is located in the "Maui County Planting Plan" - Plant Zone 3. Native plants adapted to the area conserve water and protect the watershed from degradation due to invasive alien species.
- Eliminate Single-Pass Cooling: Single-pass, water-cooled systems should be eliminated per Maui County Code Subsection 14.21.20. Although prohibited by code, single-pass water cooling is still manufactured into some models of air conditioners, freezers, and commercial refrigerators. Such models should be avoided.
- Maintain Fixtures to Prevent Leaks: A simple, regular program of repair and maintenance can prevent the loss of hundreds or even thousands of gallons a day. Regular maintenance programs should be established.
- Utilize Low-Flow Fixtures and Devices: Maui County Code Subsection 16.20A.680 requires the use of low-flow water fixtures and devices in faucets, showerheads, water closets, and hose bibs.
- Prevent Over-Watering By Automated Systems: Provide rain shut offs and smart controllers on all automated irrigation systems. Any controllers which do not provide for soil moisture or evapotranspiration based response should be checked and reset at least once a month to reflect the monthly changes in evapo-transpiration rates at the site. As an alternative, provide the more automated, soil-moisture sensors on controllers.
- Limit Irrigated Turf: Limit irrigated turf to 25% or less of total landscaped area. Low-water use shrubs and ground covers can be equally attractive and require substantially less water than turf.
- Look for Opportunities to Conserve Water: A few examples of these are as follows: When clearing driveways, etc. of debris, use a broom instead of a hose. When washing cars, use a hand-operated spray nozzle instead of an open hose. Additionally, check for leaks in faucets and toilet tanks.

### **Pollution Prevention**

We note that a portion of the master plan is only a few feet away from the shoreline. Cumulative impacts of increasing density this close to the shoreline should be considered. To address concerns regarding impacts to near shore waters as well as groundwater protection, the mitigation measures listed below should be implemented during construction:

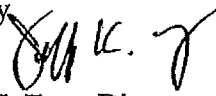
- Prevent cement products, oil, fuel and other toxic substances from falling or leaching into the ground.
- Staging and storage of construction machinery and storage of debris should not take place on any sandy beach areas.
- Properly install and maintain erosion control barriers such as silt fencing or straw bales.
- Disturb the smallest area possible.
- Keep run-off on site.
- No construction or toxic materials or debris should be placed where it may enter the ocean

- or discharged into coastal waters. Debris shall be disposed of outside the coastal zone.  
Construction debris and sediment should be removed from construction areas each day that construction occurs to prevent the accumulation of sediment and other debris which may be discharged into coastal waters.

We have attached Best Management Practices (BMPs) for stabilizing shoreline to prevent erosion as well as EPA's Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters for reference.

Should you have any questions, please contact our Water Resources and Planning Division at 808-244-8550.

Sincerely,

  
Jeffrey K. Eng, Director

mlb

cc: applicant, Executive Director Land Use Commission, engineering division

Attachments: Plant Brochure: "Saving Water in the Yard"; Checklist of Water Conservation Ideas for Home and Yard and Condominiums", BMPs for stabilizing shoreline

## Best Management Practices Shoreland Stabilizing your Shoreline to Prevent Erosion

Erosion is a natural process and, therefore, some sediment does end up in surface water. Clearing shoreland vegetation and beach rocks, and increasing runoff to the shore will accelerate shoreline erosion.

Increased runoff is especially detrimental to high bluffs (Figure 1). Slumping of waterfront bluffs results from unstable soil, usually because surface and groundwater is reaching the bluff. On lakes, waves can erode supporting soil at the bottom of the bluff and cause slumping. Along river bluffs, river currents may erode the supporting soil.

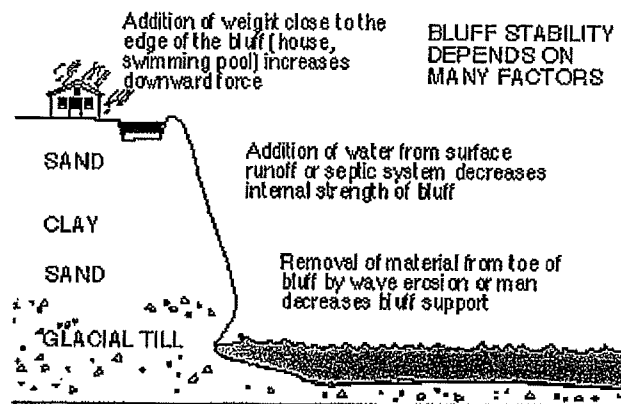
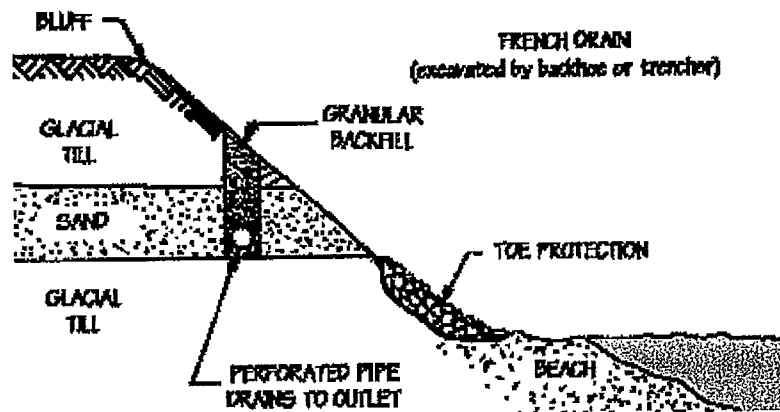


Figure 1 - Factors that can make bluffs unstable

Erosion of higher shoreline bluff areas can be prevented by:

- retaining moisture absorbing vegetation on the bluff
- outletting rain gutters and diverting surface runoff away from the bluff
- reducing runoff rate toward the bluff
- minimizing paved areas that increase runoff
- limiting groundwater flow toward the bluff
- installing septic systems and drainfields away from the bluff
- avoiding additional weight on the bluff edge, such as pools, buildings, or storage sheds

On property with steep slopes or bluffs, reducing the amount of water reaching the bluff will help with the stabilization. If diverting water away from the bluff is impractical, it should be routed through a non-perforated plastic drain pipe that outlets at the very bottom of the bluff. Rock should be placed around outlet to prevent erosion at the bottom of the drain. Surface water and some ground water can be intercepted before it reaches the bluff by installing a "French drain" (Figure 2).

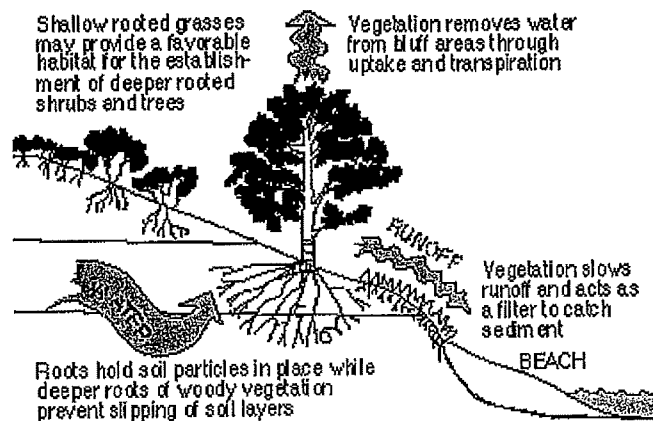


*Figure 2 - French drains intercept surface water and increase soil stability. Deeper drains will intercept more ground water, but shallower drains are effective also and may cause less disturbance on the bluff. The maximum depth for French drains is 15 to 20 feet.*

A French drain is a narrow trench set back from, but parallel to the top of the bluff and filled with free-draining sand or gravel. A perforated, corrugated plastic pipe at the bottom collects water and should drain away from the bluff. The entire perforated length of pipe must be wrapped with fabric or a filter sock. Installing deeper drains will intercept more ground water and provide better protection for the bluff.

No additional weight such as building, garage slab, or vehicle should be placed near the top of the bluff. Septic systems and swimming pools are especially inappropriate near the top of a bluff because they add weight and water.

For most property that slopes toward water, leaving the natural shoreland undisturbed is often the best and least inexpensive protection against erosion. A filter strip of thriving vegetation on and near the shore binds the soil and minimizes soil loss from surface runoff and waves, and from use by people (Figure 3). Existing vegetation can be enhanced by planting woody or aquatic plants.



*Figure 3 - Well-established vegetation on the shore stabilizes the soil and helps remove water*

Regardless of the natural protection on your shore, the right combination of conditions (such as high ocean level and wind direction) can result in a severe wave pounding, and shoreland soil may need additional protection.

Placement of large rock, usually refers to as rip-rap, is the preferred and most common form of shore protection (Figure 4).

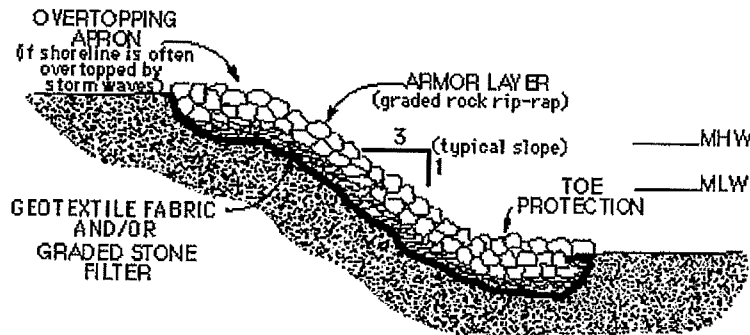


Figure 4 - Proper rip-rap placement ( MHW = mean high water, MLW = mean low water)

If rip-rap is used, crushed or blasted rock locks together better than rounded boulders, but can be very expensive unless it is already available.

Geotextile fabric is usually place beneath the rock rip-rap to prevent soil loss through rip-rap openings. It is easy to place and provides an excellent filter barrier (Figure 4). In order to prevent punctures, plenty of slack should be provided over protruding objects that cannot be removed. A layer of sand or fina gravel can be placed on the fabric for extra protection against puncture. Enough fabric should be laid out so that the rip-rap periphery can be "wrapped" by bringing the fabric up and back down into the rip-rap. This will help hold the rip-rap together as one structural unit. Keep in mind that sunlight will degrade exposed fabric. As an alternative to the fabric, a graded filter layer can be used beneath rip-rap to prevent soil loss through the rip-rap openings. Sufficient rock must be placed at the base of the rip-rap for toe protection.

Source: University of Minnesota Extension - WW-06946

County of Maui  
Department of Water Supply

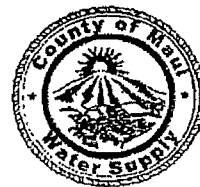


*By Water All Things Find Life*



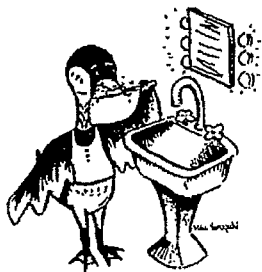


## A Checklist of Conservation Ideas for the Home

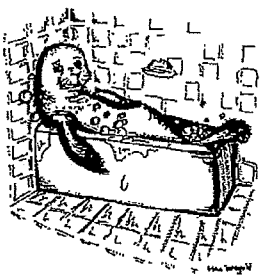


### **Shaving & Brushing Teeth:**

Stopper the sink and fill the basin half way when you shave, and you use just  $\frac{1}{2}$  a gallon! Turn off the water while brushing your teeth. Replace your faucet aerator and save over 500 gallons per year, they are free from the Department of Water Supply (244-8550).



**Bathing & Showering:** Make a habit of showering quickly or using a partially filled tub. Or try the "navy shower." Turn on the water to get wet, turn it off to soap up, and turn it back on to rinse off. It's a great conservation technique, especially in drought emergencies. Use a bucket to catch the water as it warms up, then water your plants with the water.



**House Plants & Fish Tanks:** If you have a fish tank, you probably clean it regularly. Use the dirty water to water your house plants. It saves using the same water twice, and the plants love the water, which is rich in nitrogen and phosphorous!

**Food Prep:** If you like to rinse off vegetables and fruits, stopper the sink or use a tub instead of using running water. And when you're finished, turn on the garbage disposal as you pull the plug or water your plants with the water.



**Doing Dishes:** It is more water efficient to wash full loads. If you do wash dishes by hand, stopper the sink and run the disposal as you pull the plug.

**Washing Machines:** A water-efficient washing machine can save up to 20 gallons per load. With the average household washing 6 loads per week, that's a lot of water! Statistics on energy savings potential indicate that highly efficient washing machines save from 35% to 65% on energy used for washing!

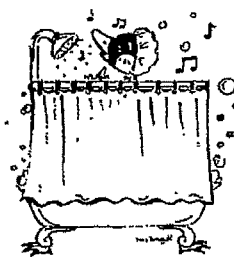
**For a Cold Glass of Water:** Keep a pitcher of cool water in the refrigerator. Running the water until it turns cool can waste a gallon for each glass. Letting the water sit in the fridge can also allow any chlorine to dissipate, and improve the taste.

**Toilets:** Some people toss and flush away tissues, cigarettes or bits of trash in the toilet. Use a wastebasket instead. If everyone in the U.S. flushed just once less per day, we could save a sea full of water a mile wide, a mile long, and four feet deep, every day!

Installing a water conserving or dual flush toilet can save more than 17 gallons per person per day. Even a low cost installing a toilet flapper can save more than 5 gallons per person per day.

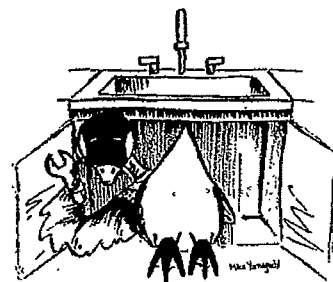


**Showerheads:** Replacing your old showerhead with a low flow one can save as much as 7.2 gallons per person per day. You can also receive these free from the Department of Water Supply.



**Faucets:** Replacing your old faucets with more efficient models can save 4 gallons per person per day. Faucet aerators or spray taps can also help, by mixing air with water. This cuts the flow and reduces splashing, while leaving enough pressure to cut the soap and grease.

**Check For Leaks:** Leaking faucets cost you money! Even a slow drip wastes 15 gallons per day. A  $\frac{1}{8}$ " stream can waste 400 gallons per day. Unfortunately, the average non-conserving home loses more than 10% of the water it pays for to leaks! Check for leaks regularly. Try putting 10 drops of food coloring in your toilet tank. Don't flush, just wait 15 minutes. If colored water shows up in the bowl, your tank is leaking. Check your water meter while no water is running in your house. If the meter is registering, you have a leak. Check your faucets twice a year. If any drip after you've turned them off firmly, turn off the supply line, take the faucet apart, and replace the washer. And don't forget the faucets outside of the house.



**Pipes Break - Be Prepared:** If a pipe breaks in your home, you could experience flooding and property damage as well as huge water waste unless you quickly shut your valve. Locate your valve and mark it for quick, easy identification. Learn how to shut it properly, and teach your family to do so as well.

*"By Water All Things Find Life"*



## A Checklist of Conservation Ideas for the Yard



**Xeriscaping:** This is a landscaping technique which utilizes native drought tolerant plants. Most of these plants only require water to become established. They are adapted to thrive on available nutrients. A handbook on this technique will be available soon from the Department of Water Supply (244-8550).

**Limit Lawn Size:** Most turf grasses require 30-50% more water than shrubs and ground covers. Limit the use of grass and lawns to active picnicking and play areas. Shade in these areas will reduce moisture loss and make a cool area for children to play. If you mow the grass too short, root shock will cause your grass to turn yellow despite your watering!



**Soils & Mulch:** Soils are not all alike. Sandy soils require more frequent watering than clay soils. You can have your soils tested. Call the Ag Extension Service at MCC for advice (244-3242). Compost or other organic material will also help soils hold moisture and support heartier, more drought-tolerant plants. Try leaves, grass clippings, manure, aged sawdust, wood chips, or humic acid. Mulching is an excellent way to hold moisture, keep the ground from overheating, and discourage weeds. You should also loosen the soil by rototilling or spading while you add the organic matter.



**Designing for Irrigation Zones:** Zone your plants so that each area has similar water needs. This will enable you to water more efficiently, and keep the plants healthier. Limit thirsty plants to small decorative borders around the house itself or in specific viewing areas or shady areas.

**Irrigation Systems:** Drip irrigation is designed to get water slowly and directly to the roots of plants. Use sprinklers with low, flat spray patterns and larger drops of water. Check timers on irrigation controllers and adjust them monthly to water appropriately for the season. If you use a hose, set a kitchen timer or buy a timer attachment that hooks on between the faucet and hose. This will help remind you not to over-water one area. Use a soaker hose on slopes to reduce run-off.

### **Choosing Native Plants -- A Hawaiian Sense of**

**Place:** Plant shrubs and trees that nature designed to look green and full here on Maui without a lot of water. Once they are grown in, you can cut back or stop watering, depending upon your location.

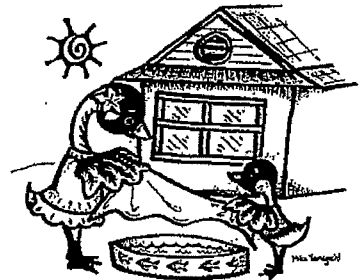


**Watering:** If you do have a lawn, water only when it needs it. A good deep soaking is better than a light sprinkling. A good way to see if your lawn needs watering is to step on the grass. If it springs back up when you move, it doesn't need water. If it stays flat, it could use a bit. The best time of day to water is early in the morning before the sun and wind.

**Watching the Weather:** never water while it's raining! Install rain-shutoffs or soil moisture sensors on automated systems. Teach your family to turn off your irrigation in the rain. Sunny, exposed areas and slopes need to be watered more frequently than shady areas. Place your plants appropriately.

### **Cover Pools and**

**Jacuzzis:** They're fun, but they can waste a lot of water! An average sized pool loses about 1,000 gallons of water per month to evaporation. A pool cover can cut these losses by 90%!



**Washing the Car:** Do you wash your car at home? Use a bucket, or a hose with a trigger nozzle to avoid wasting water. Wet the car thoroughly, and then turn off the hose while you wash the car! Swab the car with soapy water from a bucket. You can use the hose again for a final rinse. Better still, take your car to a car wash. Most of the car washes on Maui are fitted with recirculating water.

**A Clean Sweep:** Did you know that 5 minutes of unnecessary hosing will waste 25 gallons of water? Try sweeping sidewalks and driveways.

**Find and Repair Leaks:** Your garden hose and irrigation lines can carry thousands of gallons per day, so you can imagine a leak outdoors wastes a lot of water! Check and repair all of your outdoor fixtures regularly.



*"By Water All Things Find Life"*



# A Checklist of Water Conservation Ideas for Condominiums

## COOLING

### Cooling Towers

Cooling Towers are used to reject heat from air conditioning systems. In a cooling tower, a circulating stream of warm water contacts an air flow, causing evaporation of a portion of the water. When this water evaporates, the water which remains behind is cooled. The cooled water then circulates through a cooling system, warms and then returns to the tower.

- ☞ Understand Your System: Prepare an inventory of each cooling tower you have, its cooling capacity, and the equipment or processes that it serves.
- ☞ If you purchase chemicals for the treatment of the recirculating cooling tower water, have the chemical vendor explain the purpose and action of each chemical.
- ☞ Have your chemical vendor provide a written report of each service call, and be sure that the vendor explains the meaning of each analysis performed as well as the test results.
- ☞ Tell your chemical vendor that water conservation is a priority, and ask about alternatives that may reduce the amount of water bled-off from the towers.
- ☞ Have vendors bid for your facility's water cooling tower water treatment. Require a predetermined minimum level of water efficiency. Have them provide figures showing projected annual water and chemical consumption and costs.
- ☞ Consider incorporating sulfuric acid to reduce carbonate scale and achieve significantly higher cycles of concentration. If you use sulfuric acid, be sure to observe appropriate safety precautions.
- ☞ Ozone is another alternative that can help remove dissolved minerals and act as a biocide. Again, observe the appropriate safety precautions.
- ☞ If available, use reclaimed water as a source of cooling tower-make-up water.
- ☞ Blow-down water is the release of some of the circulating water to remove suspended and dissolved solids left behind as pure water evaporates from the system. Re-use blow down where possible for non-potable uses.

### Evaporative Coolers

Evaporative coolers lower air temperature by increasing the humidity of incoming air being drawn into a building. The air's ambient or "dry bulb" temperature is lowered when the air absorbs water vapor. After a short period of operation, the recirculating air in the cooler reaches wet bulb temperature, which is theoretically the lowest temperature to which the entering air may be cooled. Some evaporative coolers have recirculation pumps.

All evaporative coolers require either a small amount of bleed-off or regular cleaning to maintain and prevent damage to the coolers pads. The principle opportunity for conservation in evaporative cooling is to reduce the amount of water bled-off, and to reuse that water wherever possible.

- ☞ Be sure your coolers have pumps to recirculate the water. This decreases water consumption and increases cooling efficiency.
- ☞ Check to make sure you are not bleeding off an excessive amount of water. For a typical small cooler, anything more than a few gallons per hour may be excessive.
- ☞ Pipe the bleed-off water from your coolers to help water a landscaped area!

### Eliminate Once Through Cooling!

Some coolers pass water through the equipment only once, and then discard it. "Single pass" technology is not good for two reasons. First, these single pass coolers use too much water! Secondly, they do not cool as effectively, because the water does not cool to wet bulb temperature. This type of cooling is illegal under Maui County Codes! Make sure your air conditioners, ice makers and other cooling systems are not single pass models!

- ☞ Replace single-pass cooling models with air-cooled or recirculating models
- ☞ Connect to a recirculating cooling water loop. Or retrofit models to be recirculating.

If a piece of equipment can not be replaced immediately, remember, it is illegal to dump single pass cooling water into the sewer system. Re-use this water for landscaping or other non-potable uses.



# A Checklist of Water Conservation Ideas for Condominiums

## PLUMBING MEASURES FOR EACH UNIT

- ☞ Replace toilets with Ultra Low Flush Models, or retrofit with low flow flappers. Contact the Maui County Board of Water Supply at 243-7199 or the Wastewater Division at 243-7417 for more information.
- ☞ Retrofit faucets with aerators, or consider alternative faucet types such as self closing or, automatic sensor controlled faucets.
- ☞ Replace showerheads with low flow models. Contact the Maui County Board of Water Supply at 243-7199, or the Public Works Wastewater Division at 243-7417 to find out how you can get these!
- ☞ Check for leaks! Check for leaks! Check for leaks! Do dye tablet or food coloring tests in toilets to check for hidden leaks. Check for dripping faucets indoors and out!

## COMMON LAUNDRY AREAS

- ☞ Efficient washing machines can save up to 20 gallons per load. These also save on energy. If you are replacing laundry facilities don't even consider anything but the new horizontal axis models. These not only save up to 40% of water used, but deliver even more substantial energy savings - up to 65%!
- ☞ Water boilers also require blow-down, or bleed-off, just like air conditioners. Monitor total dissolved solids, and blow down only when necessary!
- ☞ Avoid excessive filter or softener back flush. Back flush only when needed.

## NON-LANDSCAPED AREAS OUTDOORS

- ☞ Never hose your sidewalks and driveways. This is a complete waste of water, and a hose can use 25 gallons in just 5 minutes. Remember: A broom is best.
- ☞ Check for leaks! Note the number of outdoor faucets on the outsides of buildings. Make a list and check every one regularly.

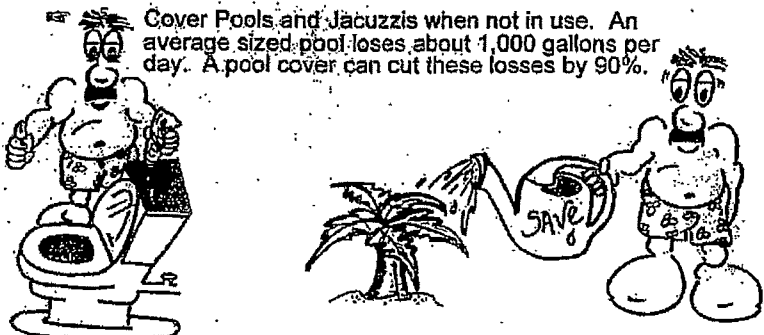
Cover Pools and Jacuzzis when not in use. An average sized pool loses about 1,000 gallons per day. A pool cover can cut these losses by 90%.

## EDUCATION

- ☞ Knowledge is power. Educate people about how they can help to save water at your building or facility. You may be surprised at how willing people are to chip in, once they know what to do!

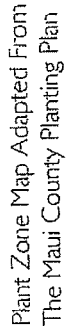
## LANDSCAPES

- ☞ Understand your system: Develop a schematic of all water entry points. Know where your faucets, time clocks, solenoids, booster pumps, sprinklers, bubblers, valves, pipes and etc. are located.
- ☞ Make a checklist of system elements and check each one regularly for leaks! Finding and repairing leaks can lead to big savings, especially in irrigation systems!
- ☞ Use turf only where actually necessary. Avoid turf except in picnic or active play areas.
- ☞ Choose the right plants. Native plants appropriate for your region are best. These save water, because they are adapted to survive on the natural rainfall of the area. Besides saving water, they also help to avoid the spread of invasive alien plant species which can destroy native ecosystems. And they contribute to the true Hawaiian sense of place.
- ☞ Avoid over-watering! Use soil moisture over-rides and rain-shutoffs on all automated systems. Reset controllers at least once per month to account for changing evapotranspiration.
- ☞ Zone your plants. This means that plants with similar water needs should be grouped together. This avoids wasting water, overwatering some plants and under-watering others.
- ☞ Never water during the heat of the day. The best time to water is just around sunrise. Evenings are also acceptable. Once the sun comes up, the evapotranspiration rate soars, and much of your water is wasted.
- ☞ Having your soil tested also helps you to learn what type of watering is needed. Clay soils take from 1/4 to 1/2" of water per hour before water starts running off and being wasted. Sandy soils require somewhat more frequent, shorter watering.
- ☞ Mulch, compost or other organic material will help soils hold moisture, keep the ground from overheating and discourage weeds. Loosening the soil while you add the organic matter will also help keep your lawn healthier.
- ☞ Root feeder or water aerator probes around trees and bushes will help to direct water where it is needed. You can also build a watering basin in the soil around the base of your plants to help the water soak in deeply.



For More Information, Contact the Maui County Board of Water Supply - Water Resources & Planning Division @ 243-7199

# What and How to Plant in Your Area



*By Water All Things Find Life*

- Wet Windward Areas
- Cool Dry Upper Elevations
- Warm to Hot Low Elevations
- Wetter Low Areas Near Mountains
- Windward Coastal Salt Spray Zones

# Zone-specific Native and Polynesian plants for Maui County

# Zone 1

TYPE:									F Fern	G Grass	Gr Ground Cover	Sh Shrub	P Palm	S Sedge	Tr Tree	V Vine
Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.										
F	<i>Psilotum nudum</i>	moa, moa kula	1'	1'	sea to 3,000'	Dry to Wet										
F	<i>Sadleria cyatheoides</i>	'ama'u, ama'uma'u														
Gr - Sh	<i>Lipochaeta succulenta</i>	nehe	2'	5'	sea to 1,000'	Dry to Wet										
P	<i>Cocos nucifera</i>	coconut, niu	100'	30'	sea to 1,000'	Dry to Wet										
P	<i>Pritchardia arecina</i>	lo'ulu, hawane	40'	10'	1,000' to 3,000'	Dry to Wet										
P	<i>Pritchardia forbesiana</i>	lo'ulu	15'													
P	<i>Pritchardia hillebrandii</i>	lo'ulu, fan palm	25'	15'	sea to 1,000'	Dry to Wet										
S	<i>Mariscus javanicus</i>	marsh cypress, 'ahu'awa	0.5'	0.5'	sea to 1,000'	Dry to Medium										
Sh	<i>Bidens hillebrandiana</i> ssp. <i>hillebrandiana</i>	ko'oko'olau	1'	2'	sea to 1,000'	Dry to Wet										
Sh	<i>Cordyline fruticosa</i>	ti, ki	6'													
Sh	<i>Hedyotis</i> spp.	au, pilo	3'	2'	1,000' to 3,000'	Dry to Wet										
Sh - Tr	<i>Broussonetia papyrifera</i>	wauke, paper mulberry	8'	6'	sea to 1,000'	Dry to Medium										
Tr	<i>Acacia koa</i>	koa	50' - 100'	40' - 80'	1,500' to 4,000'	Dry to Medium										
Tr	<i>Aleurites moluccana</i>	candlenut, kukui	50'	50'	sea to 3,000'	Medium to Wet										
Tr	<i>Calophyllum inophyllum</i>	kamani, alexandrian laurel	60'	40'	sea to 3,000'	Medium to Wet										
Tr	<i>Charpentiera obovata</i>		15'													
Tr	<i>Cordia subcordata</i>	kou	30'	25'	sea to 1,000'	Dry to Wet										
Tr	<i>Hibiscus furcellatus</i>	'akiohala, hau-hele	8'													
Tr	<i>Metrosideros polymorpha</i> var. <i>macrophylla</i>	ohi'a lehua	25'	25'	sea to 1,000'	Dry to Wet										
Tr	<i>Morinda citrifolia</i>	indian mulberry, noni	20'	15'	sea to 1,000'	Dry to Wet										
Tr	<i>Pandanus tectorius</i>	hala, puhala (HALELIST)	35'	25'	sea to 1,000'	Dry to Wet										
V	<i>Alyxia oliviformis</i>	maile	Vine		sea to 6,000'	Medium to Wet										

# Zone-specific Native and Polynesian plants for Maui County

## Zone 2

TYPE:

F Fern

G Grass

Gr Ground Cover

Sh Shrub

P Palm

S Sedge

Tr Tree

V Vine

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
F	Psittacium nudum	moa, moa kula	1'	1'	sea to 3,000'	Dry to Wet
F	Sadleria cyatheoides	'ama'u, ama'uma'u				
G	Eragrostis monticola	kalamalo	1'	2'	sea to 3,000'	Dry to Medium
Gr	Ipomoea tuboides	Hawaiian moon flower, 'uala	1'	10'	sea to 3,000'	Dry to Medium
Gr	Peperomia leptostachya	'ala'ala-wai-nui	1'	1'	sea to 3,000'	Dry to Medium
Gr	Plumbago zeylanica	'lile'e	1'			
Gr - Sh	Hibiscus calyphyllus	ma'o hau hele, Rock's hibiscus	3'	2'	sea to 3,000'	Dry to Medium
Gr - Sh	Lipochaeta rockii	nehe	2'	2'	sea to 3,000'	Dry to Medium
Sh	Argemone glauca var. decipiens	pua kala	3'	2'	sea to 3,000'	Dry to Medium
Sh	Artemisia mauiensis var. diffusa	Maui wormwood, 'ahinahina	2'	3'	1,000' to higher	Dry to Medium
Sh	Chenopodium oahuense	'aheahea, 'aweoweo	6'		sea to higher	Dry to Medium
Sh	Dianella sandwicensis	'uki	2'	2'	1,000' to higher	Dry to Medium
Sh	Lipochaeta lavarum	nehe	3'	3'	sea to 3,000'	Dry to Medium
Sh	Osteomeles anthyllifolia	'ulei, eluehe	4'	6'	sea to 3,000'	Dry to Medium
Sh	Senna gaudichaudii	kolomana	5'	5'	sea to 3,000'	Dry to Medium
Sh	Styphelia tameiameia	pukiawe	6'	6'	1,000' to higher	Dry to Medium
Sh	Vitex rotundifolia	pohinahina	3'	4'	sea to 1,000'	Dry to Medium
Sh - Tr	Myoporum sandwicense	nalo, false sandalwood	10'	10'	sea to higher	Dry to Medium
Sh - Tr	Nototrichum sandwicense	kulu'i	8'	8'	sea to 3,000'	Dry to Medium
Sh - Tr	Dodonaea viscosa	'a'ali'i	6'	8'	sea to higher	Dry to Medium
Tr	Acacia koa	koa	50' - 100'	40' - 80'	1,500' to 4,000'	Dry to Medium
Tr	Charpentiera obovata		15'			
Tr	Erythrina sandwicensis	wilwili	20'	20'	sea to 1,000'	Dry
Tr	Metrosideros polymorpha var. macrophylla	ohi'a lehua	25'	25'	sea to 1,000'	Dry to Wet

## Zone-specific Native and Polynesian plants for Maui County

# Zone 2

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Tr	Nestegis sandwicensis	olopua	15'	15'	1,000' to 3,000'	Dry to Medium
Tr	Pleomele auwahiensis	halapepe	20'			
Tr	Rauvolfia sandwicensis	hao	20'	15'	sea to 3,000'	Dry to Medium
Tr	Santalum ellipticum	coastal sandalwood, 'ili-ahi	8'	8'	sea to 3,000'	Dry to Medium
Tr	Sophora chrysophylla	mamane	15'	15'	1,000' to 3,000'	Medium
V	Alyxia oliviformis	maile	Vine		sea to 6,000'	Medium to Wet

# Zone-specific Native and Polynesian plants for Maui County

## Zone 3

TYPE: F Fern G Grass G Ground Cover Sh Shrub P Palm S Sedge Tr Tree V Vine

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
F	<i>Psilotum nudum</i>	moa, moa kula	1'	1'	sea to 3,000'	Dry to Wet
G	<i>Colubrina asiatica</i>	'anapanapa	3'	10'	sea to 1,000'	Dry to Wet
G	<i>Eragrostis monticola</i>	kalamalo	1'	2'	sea to 3,000'	Dry to Medium
G	<i>Eragrostis variabilis</i>	'emo-loa	1'	2'	sea to 3,000'	Dry to Medium
G	<i>Fimbristylis cymosa</i> ssp. <i>spathacea</i>	mau'u'aki'aki fimbriatylis	0.5'	1'	sea to 1,000'	Dry to Medium
Gr	<i>Boerhavia repens</i>	alena	0.5'	4'	sea to 1,000'	Dry to Medium
Gr	<i>Chamaesyce celastroides</i> var. <i>laehiensis</i>	'akoko	2'	3'	sea to 1,000'	Dry to Medium
Gr	<i>Cressa truxillensis</i>	cressa	0.5'	1'	sea to 1,000'	Dry to Medium
Gr	<i>Heliotropium anomalum</i> var. <i>argenteum</i>	hinahina ku kahakai	1'	2'	sea to 1,000'	Dry to Medium
Gr	<i>Ipomoea tuboides</i>	Hawaiian moon flower, uala	1'	10'	sea to 3,000'	Dry to Medium
Gr	<i>Jacquemontia ovalifolia</i> ssp. <i>sandwicensis</i>	pa'u o hi'iaka	0.5'	6'	sea to 1,000'	Dry to Medium
Gr	<i>Lipochaeta integrifolia</i>	nehe	1'	5'	sea to 1,00'	Dry to Medium
Gr	<i>Peperomia leptostachya</i>	'ala'ala-wai-nui	1'	1'	sea to 3,000'	Dry to Medium
Gr	<i>Plumbago zeylanica</i>	'ilie'e	1'			
Gr	<i>Sesuvium portulacastrum</i>	'akulikuli, sea-purslane	0.5'	2'	sea to 1,000'	Dry to Wet
Gr	<i>Sida fallax</i>	'ilima	0.5'	3'	sea to 1,000'	Dry to Medium
Gr	<i>Tephrosia purpurea</i> var. <i>purpurea</i>	'auhuu	2'	2'	sea to 1,000'	Dry to Medium
Gr - Sh	<i>Hibiscus calyphyllus</i>	ma'o hau hele, Rock's hibiscus	3'	2'	sea to 3,000'	Dry to Medium
Gr - Sh	<i>Lipochaeta rockii</i>	nehe	2'	2'	sea to 3,000'	Dry to Medium
Gr - Sh	<i>Lipochaeta succulenta</i>	nehe	2'	5'	sea to 1,000'	Dry to Wet
Gr - Sh	<i>Lycium sandwicense</i>	'ohelo-kai, 'ae'ae	2'	2'	sea to 1,000'	Dry to Medium
P	<i>Cocos nucifera</i>	coconut, niu	100'	30'	sea to 1,000'	Dry to Wet
P	<i>Pritchardia hillebrandii</i>	'o'ulu, fan palm	25'	15'	sea to 1,000'	Dry to Wet
S	<i>Mariscus javanicus</i>	marsh cypress, 'ahu'awa	0.5'	0.5'	sea to 1,000'	Dry to Medium

# Zone 3

## Zone-specific Native and Polynesian plants for Maui County

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Sh	Argemone glauca var. decipiens	pua kala	3'	2'	sea to 3,000'	Dry to Medium
Sh	Bidens mauritensis	ko'oko'olau	1'	3'	sea to 1,000'	Dry to Medium
Sh	Bidens menziesii ssp. menziesii	ko'oko'olau	1'	3'		
Sh	Bidens micrantha ssp. micrantha	ko'oko'olau	1'	3'		
Sh	Chenopodium oahuense	'aheahea, 'aweoweo	6'		sea to higher	Dry to Medium
Sh	Dianella sandwicensis	'uki	2'	2'	1,000' to higher	Dry to Medium
Sh	Gossypium tomentosum	mao, Hawaiian cotton	5'	8'	sea to 1,000'	Dry to Medium
Sh	Hedyotis spp.	au, pilo	3'	2'	1,000' to 3,000'	Dry to Wet
Sh	Lipochaeta lamarum	nehe	3'	3'	sea to 3,000'	Dry to Medium
Sh	Osteomeles anthyllifolia	'ulei, eluehe	4'	6'	sea to 3,000'	Dry to Medium
Sh	Scaevola sericea	naupaka, naupaka-kahakai	6'	8'	sea to 1,000'	Dry to Medium
Sh	Senna gaudichaudii	kolomana	5'	5'	sea to 3,000'	Dry to Medium
Sh	Solanum nelsonii	'akia, beach solanum	3'	3'	sea to 1,00'	Dry to Medium
Sh	Styphelia tameiameia	pukiawe	6'	6'	1,000' to higher	Dry to Medium
Sh	Vitex rotundifolia	pohinahina	3'	4'	sea to 1,000'	Dry to Medium
Sh	Wikstroemia uva-ursi kauaiensis kauaiensis	'akia, Molokai osmanthus				
Sh - Tr	Broussonetia papyrifera	wauke, paper mulberry	8'	6'	sea to 1,000'	Dry to Medium
Sh - Tr	Myoporum sandwicense	nato, false sandalwood	10'	10'	sea to higher	Dry to Medium
Sh - Tr	Nototrichium sandwicense	kulu'i	8'	8'	sea to 3,000'	Dry to Medium
Sh-Tr	Dodonaea viscosa	'a'ai'i	6'	8'	sea to higher	Dry to Medium
Tr	Aleurites moluccana	candlenut, kukui	50'	50'	sea to 3,000'	Medium to Wet
Tr	Calophyllum inophyllum	kamani, alexandrian laurel	60'	40'	sea to 3,000'	Medium to Wet
Tr	Canthium odoratum	'Alahe'e, 'oh'e'e, walahe'e	12'	8'	sea to 3,000'	Dry to Medium
Tr	Cordia subcordata	kou	30'	25'	sea to 1,000'	Dry to Wet
Tr	Diospyros sandwicensis	'lama	12'	15'	sea to 3,000'	Dry to Medium
Tr	Erythrina sandwicensis	wiliwili	20'	20'	sea to 1,000'	Dry
Tr	Metrosideros polymorpha var. macrophylla	ohi'a lehua	25'	25'	sea to 1,000'	Dry to Wet



# Zone 3

## Zone-specific Native and Polynesian plants for Maui County

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Tr	Morinda citrifolia	indian mulberry, noni	20'	15'	sea to 1,000'	Dry to Wet
Tr	Nesoluma polynesicum	keahi	15'	15'	sea to 3,00'	Dry
Tr	Nestegis sandwicensis	plopua	15'	15'	1,000' to 3,000'	Dry to Medium
Tr	Pandanus tectorius	hala, puhala (HALELIST)	35'	25'	sea to 1,000'	Dry to Wet
Tr	Pleomele auwahiensis	halapepe	20'			
Tr	Rauvolfia sandwicensis	hao	20'	15'	sea to 3,000'	Dry to Medium
Tr	Reynoldsia sandwicensis	'ohu makai	20'	20'	1,000' to 3,000'	Dry
Tr	Santalum ellipticum	coastal sandalwood, 'ili-ahi	8'	8'	sea to 3,000'	Dry to Medium
Tr	Thespesia populnea	milo	30'	30'	sea to 3,000'	Dry to Wet

# Zone-specific Native and Polynesian plants for Maui County

## Zone 4

TYPE F Fern G Grass Gr Ground Cover Sh Shrub P Palm S Sedge Tr Tree V Vine

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
F	<i>Psilotum nudum</i>	mōa, mōa'kula	1'	1'	sea to 3,000'	Dry to Wet
F	<i>Sadleria cyathoides</i>	ama'u, ama'uma'u				
G	<i>Colubrina asiatica</i>	anapanapa	3'	10'	sea to 1,000'	Dry to Wet
G	<i>Eragrostis monticola</i>	kalamalo	1'	2'	sea to 3,000'	Dry to Medium
G	<i>Eragrostis variabilis</i>	temo-foa	1'	2'	sea to 3,000'	Dry to Medium
G	<i>Fimbristylis cymosa</i> ssp. <i>spathacea</i>	mauiakiaki fimbriatilis	0.5'	1'	sea to 1,000'	Dry to Medium
Gr	<i>Chamaesyce celastroides</i> var. <i>laevis</i>	takoko	2'	3'	sea to 1,000'	Dry to Medium
Gr	<i>Pomoea tuboides</i>	Hawaiian moon flower, 'u'ala	1'	10'	sea to 3,000'	Dry to Medium
Gr	<i>Jacquemontia ovalifolia</i> ssp. <i>sandwicensis</i>	pa'u o'hihaka	0.5'	6'	sea to 1,000'	Dry to Medium
Gr	<i>Lipochaeta integrifolia</i>	nehe	1'	5'	sea to 1,00'	Dry to Medium
Gr	<i>Peperomia leptostachya</i>	'ala'ala-wai-nui	1'	1'	sea to 3,000'	Dry to Medium
Gr	<i>Plumbago zeylanica</i>	'ile'e	1'			
Gr	<i>Sida fallax</i>	'ilima	0.5'	3'	sea to 1,000'	Dry to Medium
Gr	<i>Tephrosia purpurea</i> var. <i>purpurea</i>	'auhuhu	2'	2'	sea to 1,000'	Dry to Medium
Gr - Sh	<i>Hibiscus calyphyllus</i>	ma'ohau hale, Rock's hibiscus	3'	2'	sea to 3,000'	Dry to Medium
Gr - Sh	<i>Lipochaeta rockii</i>	nehe	2'	2'	sea to 3,000'	Dry to Medium
Gr - Sh	<i>Lipochaeta succulenta</i>	nehe	2'	5'	sea to 1,000'	Dry to Wet
P	<i>Cocos nucifera</i>	coconut, niu	100'	30'	sea to 1,000'	Dry to Wet
P	<i>Pritchardia arecina</i>	lo'ulu, hawane	40'	10'	1,000' to 3,000'	Dry to Wet
P	<i>Pritchardia forbesiana</i>	lo'ulu	15'			
P	<i>Pritchardia hillebrandii</i>	lo'ulu, fan palm	25'	15'	sea to 1,000'	Dry to Wet
S	<i>Mariscus javanicus</i>	marsh cypress, 'ahu'awa	0.5'	0.5'	sea to 1,000'	Dry to Medium
Sh	<i>Argemone glauca</i> var. <i>decipiens</i>	pua'kala	3'	2'	sea to 3,000'	Dry to Medium
Sh	<i>Artemisia australis</i>	abinahina	2'	3'	sea to 3,000'	Dry to Medium