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GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
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DEPUTY DIRECTOR

STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

November 18, 2009
Honolulu, Oahu

Terry and Pamela Harris
APPLICATION FOR A WATER USE PERMIT
Papohaku-Harris Well (Well No. 0915-02), TMK 5-1-007:068, WUP No. 878
Future Agricultural Use for 0.008 mgd
Kaluakoi Ground Water Management Area, Maui

APPLICANT:

Terry and Pamela Harris
P. O. Box 237
Maunaloa, HI 96770

LANDOWNER:

Same

SUMMARY OF REQUEST:

The applicant requests that the Commission approve a water use permit for an allocation of **0.008** million gallons per day (mgd) of **non-potable basal** ground water from a **new** well to supply nearly **6 acres of agriculture and landscape irrigation** demand.

LOCATION MAP: See Exhibit 1

BACKGROUND:

On July 27, 2009, a completed water use permit application was received from Terry and Pamela Harris by the Commission on Water Resource Management (Commission). Additional information regarding the source, use, notification, objections, and field investigation(s) is provided in Attachment A.

ANALYSIS/ISSUES:

Section 174C-49(a) of the State Water Code establishes seven (7) criteria that must be met to obtain a water use permit. An analysis of the proposed permit in relation to these criteria follows:

Approved by Commission on
Water Resource Management
at the meeting held on

ITEM C1

(1) Water availability

Through the Hawaii Water Plan, the Commission has adopted 2 mgd as the sustainable yield for the Kaluako'i Aquifer System. The chlorides in the freshwater portion of this aquifer are too elevated to meet the secondary EPA guideline for potability. Individual existing water use permits in this aquifer system are shown in Exhibit 2. A summary of the current ground water conditions in the aquifer is provided in Table 1:

Table 1. Kaluako'i Aquifer System Area

<u>ITEM</u>	Kaluako'i Aquifer System (mgd)
Sustainable Yield	2
Less: Other Existing Water Use Permits (shown in Exhibit 2)	0.008
Reservation to DHHL	0
Subtotal (Current Available Allocation)	1.992
Less: Other Completed Applications	0
Less: This Application	0.008
Subtotal (Potential Available Allocation/Allocation Deficit)	1.984

All basal water in this aquifer system is brackish. The applicant will be desalting it using a solar-powered mechanism. Therefore, the resource availability can accommodate this application request.

(2) Reasonable-beneficial

Section 174C-3 HRS defines "reasonable-beneficial use" is

"...the use of water in such a quantity as is necessary for economic and efficient utilization, for a purpose, and in a manner which is both reasonable and consistent with the state and county land use plans and the public interest".

I. Purpose of Use

The applicant is requesting the use of brackish, non-potable ground water to irrigate citrus trees, vegetables, flowers, windbreak trees, lawn, and landscaping trees. These are considered agricultural and other irrigation uses of water. The Declaration of Policy

section, §174C-2(c) HRS, states that the Water Code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for various purposes including industrial and irrigation uses.

II. Quantity Justification

The applicant is requesting an average daily use total of **0.008 Mgd** (or 8,000 gallons per day) for a variety of trees, vegetables, shrubs and flowers, and lawn. The total irrigation plan covers about 6 acres. The applicant justifies the amount based on historical data and past metered usage through their existing water service from Molokai Public Utilities.

Staff uses the Commission’s Irrigation Water Requirement Estimation Decision Support System (IWREDSS) model, designed for the Commission by the College of Tropical Agriculture and Human Resources, University of Hawaii, as a guide in estimating irrigation quantity requirements based on soils, evaporation, rainfall, crop type, and irrigation method based on information provided in the application. This quantity was estimated by this model is summarized under the following efficiency of use section.

III. Efficiency of Use

The applicant has identified a variety of delivery methods to irrigate each separate type of planting, suited to those plants’ irrigation needs and to conserve as much as possible. They also plan moisture sensors and daily monitoring to optimize the use of irrigation water and minimize the cost of desalting. Table 2 summarizes the estimated effect of these efficiency measures through the IWREDDSS model assuming the 80% percentile or (1 in 5 year drought) as recommended by the model guideline.

Table 2. Estimated IWREDSS 12-Month Moving Average Water Demand

Crop	Acres	Irrigation Method	IWREDSS 80 % gpd/acre	Average Daily Use gpd
Citrus Trees	0.25	trickle spray	6,071	1,518
Vegetable Garden	0.25	trickle drip	5,639	1,410
Flower Garden	0.25	trickle drip	7,439	1,860
Lawn	0.50	multi sprinklers	8,452	4,226
Wind Breaks	0.25	trickle drip	7,439	1,860
Landscape Trees	0.50	multi sprinklers	8,452	4,226
Kiawi Trees and Grassland	3.00	multi sprinklers	8,452	25,356
Street side Landscape	0.50	trickle drip and multi sprinklers	8,452	4,226
Flower Gardens around house	0.50	multi sprinklers	7,439	3,720
TOTAL	6.00			48,401

The IWREDSS model estimates average daily use to meet for the applicant's needs for a 1 in 5 year drought would be approximately 48,000 gallons per day, or 8,000 gpd/acre, which would not seem unreasonable for the arid west end of Molokai.

IV. Analysis of Practical Alternatives

The applicant has responded to the Commission's list of potential alternatives to the proposed use of brackish water. A review of each of the alternatives is as follows:

1. municipal – not available. *Staff note:* there is very limited use of a privately-owned public water system designed to supply potable household uses. A lack of a long-term commitment by any proprietor to maintain this system and a high-fee rate discourage reliance on this source for general non-household use. (See Well 17 under other issues section of this submittal)
2. Wastewater – septic tank.
3. Ditch system – not available.
4. Desalting – this is the chosen option.
5. Surface water – not available.
6. Conservation measures – drip irrigation system, monitored moisture sensors, daily inspections of pressure gages, use of mulch.
7. Other – rainwater catchment.

The 2000 Legislature amended the Water Code to include a new section, §174C-51.5 HRS that provides the Commission with the authority to require dual line (potable and non-potable) water supply systems in new industrial and commercial developments located in designated water management areas. In this case, the applicant has limited potable water service and is proposing to install only a single non-potable system. Therefore, this provision does not need to be invoked.

Additionally, the applicant's request to reduce the current water supply from Well 17, which is potable water, is actually a beneficial alternative to using potable water currently supplied from Well 17 from Kualapuu Aquifer System Area. This is a matching the non-potable needs with local non-potable ground water supply and reducing stress on the potable Kualapuu Aquifer System Area.

Therefore, the proposed use is reasonable and beneficial.

(3) Interference with other existing legal uses

There is one other well within 1 mile of this source, which is unused. There is no interference with an existing legal use.

(4) Public interest

Public interest is defined under §174C-2 - Declaration of policy, as follows:

“(c) The state water code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for purposes such as domestic uses, aquaculture uses, irrigation and other agricultural uses, power development, and commercial and industrial uses. However, adequate provision shall be made for the protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of waters of the State for municipal uses, public recreation, public water supply, agriculture, and navigation. Such objectives are declared to be in the public interest.”

Additionally, there have been Public comments to this application (other than state & county general plans and land use designation comments noted in criteria (5)), which are attached in Exhibits 3 through 6 summarized as follows:

1. There may be cumulative adverse environmental effects if this approach to brackish water withdrawal becomes repeated by all the landowners in this area. There is concern about the discharge of saline effluent to the environment.

While the desalting of brackish water for irrigation is an innovative use of an alternative resource in an area difficult to serve by more conventional means, the disposal of the wastewater brine is of concern. The Department of Health (DOH) has indicated to staff that disposal of brine is normally accomplished by reinjection wells through their Underground Injection Control (UIC) program. However, it is also possible to obtain a National Pollutant Discharge Elimination System (NPDES) permit from DOH though this is not common for brine disposal. Like the previous WUP (869 to Papohaku-Zappacosta) approved by the Commission on February 18, 2009, staff is recommending adding the special condition for the applicant to consult with the DOH for proper brine disposal.

2. Concerns regarding the socio-economic impacts to Molokai. A water use and development plan is being prepared by Maui County; its purpose is to identify connections between development and water resource protection. In lieu of the adoption of that document for Commission guidance, there is a Water Working Group Report, which makes the following relevant recommendations:
 - a. Water Use Applications should also include available consumption data. *Staff note:* the application states on Table 1 that data presented are based on historical information and past on-site use of the available public system.
 - b. Ground water must be reserved first to fulfill domestic, public health, safety, and welfare needs. *Staff note:* proposed use is domestic agriculture and landscaping.
 - c. All future water sources should first be sought in the Sector for which it shall be used. *Staff note:* well withdrawals are all to be used on-site.

- d. Determine existing user needs with adequate backup for emergency situations. *Staff note:* the proposed uses are in lieu of, or as backup to, the existing limited public system.
- e. Observe priorities associated with the Community Plan. *Staff note:* (See 6: County Land Use Plans and Policies) below.

(5) State & county general plans and land use designations

The proposed uses are in the State **Agriculture** District, and the county zoning is **Agriculture**. Therefore, the proposed use is consistent with these land use designations.

Normal agency review includes:

- 1) The State’s Department of Land and Natural Resources (DLNR) and its State Parks, Aquatic Resources, Historic Preservation, and Land Divisions; the Department of Health (DOH) with its Clean Water, Safe Drinking Water, and Wastewater Branches; the Department of Hawaiian Home Lands (DDHL), and Land Use Commission (LUC); and the Office of Hawaiian Affairs (OHA).
- 2) The County’s County Council, Department of Planning and Permitting, and the Department of Water Supply;

Responses were received from most of these reviewers, all stating “No comments or objections”. These proposed uses are consistent with the state and county general plans and land use designations.

Therefore, this application meets the state & county general plans and land use designations.

(6) County land use plans and policies

Normal County review includes County Council, Department of Planning and Permitting, and the Department of Water Supply. These departments responded respectively, confirming that the well is not in the Special Management Area, and with standard well construction permit comments.

The Molokai Community Plan offers the following:

“10. Maintain population levels and density at the West End in balance with the remainder of the island.” *Staff note:* “in balance” is not defined. The subdivision in question is composed of large lots amenable to further subdivision, which would, by right, allow additional residents to construct homes and use available water. Some of these lots have been subdivided, we are told, and there is concern that multiplied residences could upset the expected amounts of water thought to have implied reliance on existing water resources pumped from Well 17 in the Kualapuu Aquifer. (See additional notes on Well 17 WUP No. 617, below)

“11. Promote and support the use of land in the State Agricultural District for productive agricultural purposes through implementing beneficial policies and education.” *Staff note:* proposed uses in this agriculture zone are agricultural and landscaping.

“23. Any new proposed land uses at Kaluakoi should go through the community plan amendment process to allow for community review.” *Staff note:* this project has been reviewed and approved by the Molokai Planning Commission, but there is an appeal. We have been unable to learn the specifics of the issues discussed. The Community Plan refers to this area as residential and agriculture; it is not clear that this proposed activity would be considered new land use, nor that it would require a plan amendment.

Therefore, despite some questions raised by the community, we believe this application is consistent with county land use plans and policies.

(7) Interference with Hawaiian home lands rights

All permits are subject to the prior rights of Hawaiian home lands. The Department of Hawaiian Home Lands (DHHL) and the Office of Hawaiian Affairs have reviewed this application and made no comments or objections. Further, standard water use permit conditions 3.g., 6., and 9.f. notify all water use permittees that their permits are subject to and cannot interfere with Hawaiian home land rights.

Therefore, this application will not interfere with Hawaiian home lands rights.

Other issues

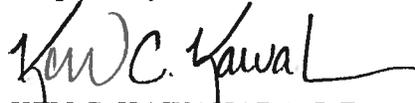
“Well 17” (Well No. 0901-01) Water Use Permit No. 617: Well 17 provides the current needs of this applicant; however, the status of this source is in limbo. At the close of Contested Case Hearing CCH MO97-1, the Commission approved a Decision and Order for Kukui (Molokai), Inc., then the owner of the Molokai Public Utility serving this area, allocating 1.018 mgd for multiple uses, including residential, hotel, and golf course uses. This WUP has been appealed to the Supreme Court, which opined that the water use application should have been treated as a new use and that the applicant should file a new use application. During the long period prior to Supreme Court review, the permit was transferred to new land owner Molokai Ranch, dba Kaluakoi Water LLC and Molokai Properties, Ltd., which in turn has subsequently closed the hotel, golf course, and ranch operations, requesting the PUC to grant a new rate structure to maintain the Molokai Public Utility service to residents in this area. To date, no final ruling on this PUC request has been issued, and no new water use application has been filed. As of the present time, four years of water disuse have ensued, creating the circumstance in which the amounts of water allocated could be revoked, following a hearing. Without a clearly responsible party, the Commission is unable to proceed with a new permitting process to establish service to residential customers who have a reliance on this water for public trust domestic needs, and to clarify appropriate amounts to permit.

RECOMMENDATION:

Staff recommends that the Commission:

- A. Approve the issuance of water use permit no. 878 to Terry and Pamela Harris for the reasonable and beneficial use of 0.008 million gallons per day of Brackish basal water for Agricultural from the Papohaku-Harris Well (Well No. 0915-02), subject to the standard water use permit conditions listed in Attachment B and the following special conditions:
 - 1. The applicant shall obtain appropriate approval for the disposal of desalting waste stream brine from the Department of Health, and meet the Division of Aquatics approval for any described impacts on the nearshore environment, prior to using any water from a desalting process.
 - 2. In the event that the tax map key at the location of the water use is changed, the permittee shall notify the Commission in writing of the tax map key change within thirty (30) days after the permittee receives notice of the tax map key change.
- B. Approve the well construction and pump installation permits for the Papohaku-Harris Well, (Well No. 0915-02) subject to the standard conditions of Attachments C and D, and the following special condition:
 - 1. Prior to commencement of well construction, The applicant shall obtain appropriate approval for the disposal of desalting waste stream brine from the Department of Health, and meet the Division of Aquatics approval for any described impacts on the nearshore environment, prior to using any water from a desalting process.

Respectfully submitted,


 KEN C. KAWAHARA, P.E.
 Deputy Director

- Attachment(s):
- A (Water Use Permit Detailed Information)
 - B (Water Use Permit Standard Conditions)
 - C (Well Construction Permit Standard Conditions)
 - D (Pump Installation Permit Standard Conditions)

- Exhibit(s):
- 1 (Location Map)
 - 2 (Existing Water Use Permits and 12-Month Moving Average Withdrawal)
 - 3 (Glenn Teves email comments)
 - 4 (Lori Buchanan email comments)
 - 5 (Robert Granger email comments)
 - 6 (Maui Mayor Charmaine Tavares letter comments)

APPROVED FOR SUBMITTAL:

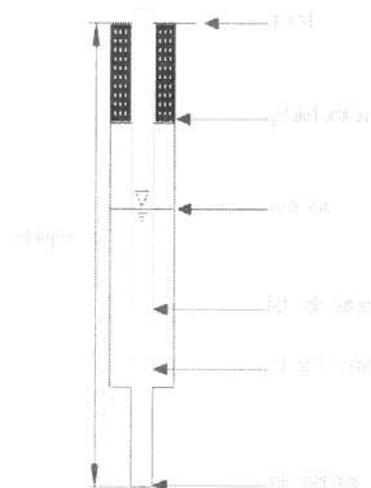

 LAURA H. THIELEN
 Chairperson

WATER USE PERMIT DETAILED INFORMATION

Source Information

AQUIFER: Kaluako'i System, West Sector, Molokai
 Sustainable Yield: 2 mgd
 Existing Water Use Permits: 0.008 mgd
 Available Allocation: 0.184 mgd
 Total other pending applications: 0 mgd
 This application: 0.008 mgd

WELL: Papohaku-Harris Well (Well No. 0915-02)
 Location: Kaluakoi Road, Molokai, Molokai, TMK: 5-1-007:068
 Year Drilled:
 Casing Diameter: 8 in.
Elevations (msl = 0 ft.)
 Water Level: 1 ft.
 Ground: 10 ft.
 Bottom of Solid Casing: 7 ft.
 Bottom of Perforated: 14 ft.
 Bottom of Open Hole: 14 ft.
 Total Depth: 14 ft.
 Grouted Annulus Depth: 6 ft.
 Pump Capacity 30 gpm



Use Information

Quantity Requested:	0.008 gallons per day.
Future Type of Water Use:	Agricultural
Place of Water Use:	TMK: same
Reported Water Usage:	gpd
Nearby Similar Water Usage:	gpd
Kaluako'i Aquifer System	
Current 12-Month Moving Average Withdrawal (See Exhibit 2):	mgd

Nearby Surrounding Wells and Other Registered Ground Water Use

There is one other well within a mile of the well (see Exhibit 1). This well is currently in use. Information from the registration program indicates there are possibly 6 existing wells in the Kaluako'i Aquifer System. These wells have not been initially field checked. They are not in use or are rights claims. From the limited field verification, 1987 estimated existing ground water use from the Kaluako'i Aquifer System is approximately 0 mgd. The 1992 Draft of the Molokai Water Use and Development Plan estimated that the existing withdrawals from the Kaluako'i Aquifer System was 0 mgd as of 1990. The Final Report of the Molokai Working Group Estimated the actual use from the Kaluako'i Aquifer System to be 0 mgd.

Public Notice

In accordance with HAR §13-171-17, a public notice was published in the Honolulu Advertiser on August 12, 2009 and August 12, 2009 and a copy of the notice was sent to the Mayor's office. Copies of the completed application were sent to the Department/Board of Water Supply, Planning Department, Department of Land Utilization (Oahu only), Department of Health, Department of Hawaiian Home Lands, Office of Hawaiian Affairs, the various divisions within the Department of Land and Natural Resources, and other interested parties for comments. Written comments and objections to the proposed permit were to be submitted to the Commission by September 3, 2009.

Objections

The public notice specifies that an objector meet the following requirements: (1) state property or other interest in the matter; (2) set forth questions of procedure, fact, law, or policy, to which objections are taken; (3) state all grounds for objections to the proposed permits, (4) provide a copy of the objection letter(s) to the applicant, and (5) submit objections meeting the previous requirements to the Commission by September 3, 2009.

Staff Submittal

November 18, 2009

To the best of staff's knowledge there are no objectors who have property interest within the Kaluako'i Aquifer System or who will be directly and immediately affected by the proposed water use.

Briefs in Support

Responses to objections, or briefs in support, regarding the application are required to be filed with the Commission ten (10) days after an objection is filed and, presumably, copies are served to the applicant. No briefs in support were filed with the Commission.

STANDARD WATER USE PERMIT CONDITIONS

1. The water described in this water use permit may only be taken from the location described and used for the reasonable beneficial use described at the location described above. Reasonable beneficial uses means "the use of water in such a quantity as is necessary for economic and efficient utilization which is both reasonable and consistent with State and County land use plans and the public interest." (HRS § 174C-3)
2. The right to use ground water is a shared use right.
3. The water use must at all times meet the requirements set forth in HRS § 174C-49(a), which means that it:
 - a. Can be accommodated with the available water source;
 - b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
 - c. Will not interfere with any existing legal use of water;
 - d. Is consistent with the public interest;
 - e. Is consistent with State and County general plans and land use designations;
 - f. Is consistent with County land use plans and policies; and
 - g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in section 221 of the Hawaiian Homes Commission Act and HRS § 174C-101(a).
4. The ground-water use here must not interfere with surface or other ground-water rights or reservations.
5. The ground-water use here must not interfere with interim or permanent instream flow standards. If it does, then:
 - a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
 - b. The interim or permanent instream flow standard, as applicable, must be amended.
6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.
7. The water use permit application and submittal, as amended, approved by the Commission at its November 18, 2009 meeting are incorporated into this permit by reference.
8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.
9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:
 - a. protect the water sources (quantity or quality);
 - b. meet other legal obligations including other correlative rights;
 - c. insure adequate conservation measures;

- d. require efficiency of water uses;
- e. reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
- f. meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
- g. carry out such other necessary and proper exercise of the State's and the Commission's police powers under law as may be required.

Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

- 10. An approved flowmeter(s) must be installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times must be kept and reported to the Commission on Water Resource Management on forms provided by the Commission on a yearly basis (attached).
- 11. This permit shall be subject to the Commission's periodic review of the Kaluako'i Aquifer System's sustainable yield. The amount of water authorized by this permit may be reduced by the Commission if the sustainable yield of the Kaluako'i Aquifer System, or relevant modified aquifer(s), is reduced.
- 12. A permit may be transferred, in whole or in part, from the permittee to another, if:
 - a. The conditions of use of the permit, including, but not limited to, place, quantity, and purpose of the use, remain the same; and
 - b. The Commission is informed of the transfer within ninety days.

Failure to inform the department of the transfer invalidates the transfer and constitutes a ground for revocation of the permit. A transfer which involves a change in any condition of the permit, including a change in use covered in HRS § 174C-57, is also invalid and constitutes a ground for revocation.

- 13. The use(s) authorized by law and by this permit do not constitute ownership rights.
- 14. The permittee shall request modification of the permit as necessary to comply with all applicable laws, rules, and ordinances which will affect the permittee's water use.
- 15. The permittee understands that under HRS § 174C-58(4), that partial or total nonuse, for reasons other than conservation, of the water allowed by this permit for a period of four (4) continuous years or more may result in a permanent revocation as to the amount of water not in use. The Commission and the permittee may enter into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year period. Any period of nonuse which is caused by a declaration of water shortage pursuant to section HRS § 174C-62 shall not apply towards the four-year period of forfeiture.

16. The permittee shall prepare and submit a water shortage plan within 30 days of the issuance of this permit as required by HAR § 13-171-42(c). The permittee's water shortage plan shall identify what the permittee is willing to do should the Commission declare a water shortage in the Kaluako'i Ground-Water Management Area.
17. The water use permit shall be subject to the Commission's establishment of instream standards and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.
18. Special conditions in the attached cover transmittal letter are incorporated herein by reference.
19. The permittee understands that any willful violation of any of the above conditions or any provisions of HRS § 174C or HAR § 13-171 may result in the suspension or revocation of this permit.

WELL CONSTRUCTION PERMIT
Papohaku-Harris Well, Well No. 0915-02

Note: This permit shall be prominently displayed at the construction site until the work is completed

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the construction and testing of **Aloha Well (Well No. 1234-56)** at **TMK 5-5-5: 55, Oahu**, subject to the Hawaii Well Construction & Pump Installation Standards (HWCPIS - February 2004) which include but are not limited to the following conditions:

1. The Chairperson of the Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work authorized by this permit commences and staff shall be allowed to inspect installation activities in accordance with §13-168-15, Hawaii Administrative Rules (HAR).
2. This permit shall be prominently displayed, or made available, at the site of construction work until work is completed.
3. The well construction permit shall be for construction and testing of the well only. The permittee shall coordinate with the Chairperson and conduct a pumping test in accordance with the HWCPIS (the latest pump test worksheet can be obtained by contacting Commission staff or at www.hawaii.gov/dlnr/cwrm/resources_permits.htm). The permittee shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson. No withdrawal of water shall be made for purposes other than testing without a Certificate of Pump Installation Completion. The permitted pump capacity described on the pump installation permit may be reduced in the event that the pump test does not support the capacity.
4. In basal ground water, the depth of the well may not exceed one-fourth (1/4) of the theoretical thickness (41 times initial head) of the basal ground water unless otherwise authorized by the Chairperson. If it can be shown that the well does not tap basal ground water then this condition may be waived after consultation with and acceptance by Commission staff. However, in no instance can the well be drilled deeper than one-half (1/2) of the theoretical thickness without Commission approval.
5. The permittee shall incorporate mitigation measures to prevent construction debris from entering the aquatic environment, to schedule work to avoid periods of high rainfall, and to revegetate any cleared areas as soon as possible.
6. In the event that historically significant remains such as artifacts, burials or concentrations of shells or charcoal are encountered during construction, the permittee shall stop work and immediately contact the Department of Land and Natural Resources' State Historic Preservation Division. Work may recommence only after written concurrence by the State Historic Preservation Division.
7. The proposed well construction shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. This permit or the authorization to construct the well shall not constitute a determination of correlative water rights.
8. The Well Completion Report Part I shall be submitted to the Chairperson within sixty (60) days after completion of work (please contact staff or visit www.hawaii.gov/dlnr/cwrm/resources_permits.htm for current form).
9. The permittee shall comply with all applicable laws, rules, and ordinances; non-compliance may be grounds for revocation of this permit.
10. The well construction permit application and, if relevant, any related staff submittal approved by the Commission are incorporated into this permit by reference.
11. If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.
12. Any variances from the HWCPIS shall be approved by the Chairperson prior to invoking the variance.
13. The work proposed in the well construction permit application shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Chairperson upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Chairperson no later than the date the permit expires.
14. If the well is not to be used it must be properly capped. If the well is to be abandoned during the course of the project then the permittee must apply for a well abandonment permit in accordance with §13-168-12(f), HAR, prior to any well sealing or plugging work.
15. The permittee, its successors, and assigns shall indemnify, defend, and hold the State of Hawaii harmless from and against any loss, liability, claim, or demand for property damage, personal injury, or death arising out of any act or omission of the applicant, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit.
16. This permit shall apply to the location shown on the application only. If the well is to be relocated, the permittee shall apply for a new well construction/pump installation permit in accordance with §13-168-12(f), HAR.
17. Special conditions in the attached cover transmittal letter are incorporated herein by reference.

Date of Approval: **October 24, 2009**
Expiration Date: **October 24, 2011**

LAURA H. THIELEN, Chairperson
Commission on Water Resource Management

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed and understand that I shall not commence work until I have signed, dated, and returned the permit to the Commission. I understand that this permit is not to be transferred to any other entity. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to \$5,000 per day starting from the permit date of approval.

Driller's Signature: _____ C-57 License #: C-24947 Date: _____

Printed Name: Tracie Sober Firm or Title: Valley Well Drilling

Please sign both copies of this permit, return one copy to the Commission office, and retain the other for your records.

Attachment

ATTACHMENT C

PUMP INSTALLATION PERMIT
Papohaku-Harris Well, Well No. 0915-02

Note: This permit shall be prominently displayed at the site until the work is completed

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the pump installation for **Papohakuu-Harris Well (Well No. 0915-02)** at **TMK (4) 5-1-007:068**, Oahu, subject to the Hawaii Well Construction & Pump Installation Standards (HWCPIS - February 2004) which include but are not limited to the following conditions:

1. The Chairperson to the Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work covered by this permit commences and staff shall be allowed to inspect installation activities in accordance with §13-168-15, Hawaii Administrative Rules (HAR).
2. No withdrawal of water shall be made other than for testing until a Certificate of Pump Installation Completion has been issued by the Commission.
3. This permit shall be prominently displayed, or made available, at the site of construction work until work is completed.
4. The pump installation permit shall be for installation of a **30 gpm** rated capacity, or less, pump in the well. This permanent capacity may be reduced in the event that the pump test data does not support the capacity.
5. A water-level measurement access shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels.
6. The permittee shall install an approved meter or other appropriate means for measuring and reporting withdrawals and appropriate devices or means for measuring chlorides and temperature at the well head.
7. Well Completion Report Part II shall be submitted to the Chairperson within sixty (60) days after completion of work (please contact staff or visit www.hawaii.gov/dlnr/cwrm/resources_permits.htm for current form).
8. The permittee, well operator, and/or well owner shall comply with all applicable laws, rules, and ordinances, and non-compliance may be grounds for revocation of this permit.
9. The pump installation permit application and, if relevant, any related staff submittal approved by the Commission are incorporated into this permit by reference.
10. If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.
11. Any variances from the HWCPIS shall be approved by the Chairperson **prior** to invoking the variance.
12. The work proposed in the pump installation permit application shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Chairperson upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Chairperson no later than the date the permit expires.
13. The permittee, its successors, and assigns shall indemnify, defend, and hold the State of Hawaii harmless from and against any loss, liability, claim, or demand for property damage, personal injury, or death arising out of any act or omission of the applicant, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit.
14. Special conditions in the attached cover transmittal letter are incorporated herein by reference.

Date of Approval: **October 24, 2009**
Expiration Date: **October 24, 2011**

LAURA H. THIELEN, Chairperson
Commission on Water Resource Management

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed and understand that I shall not commence work until I and the pump installer have signed, dated, and returned the permit to the Commission. I understand that this permit is not to be transferred to any other entity. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to \$5,000 per day starting from the permit date of approval.

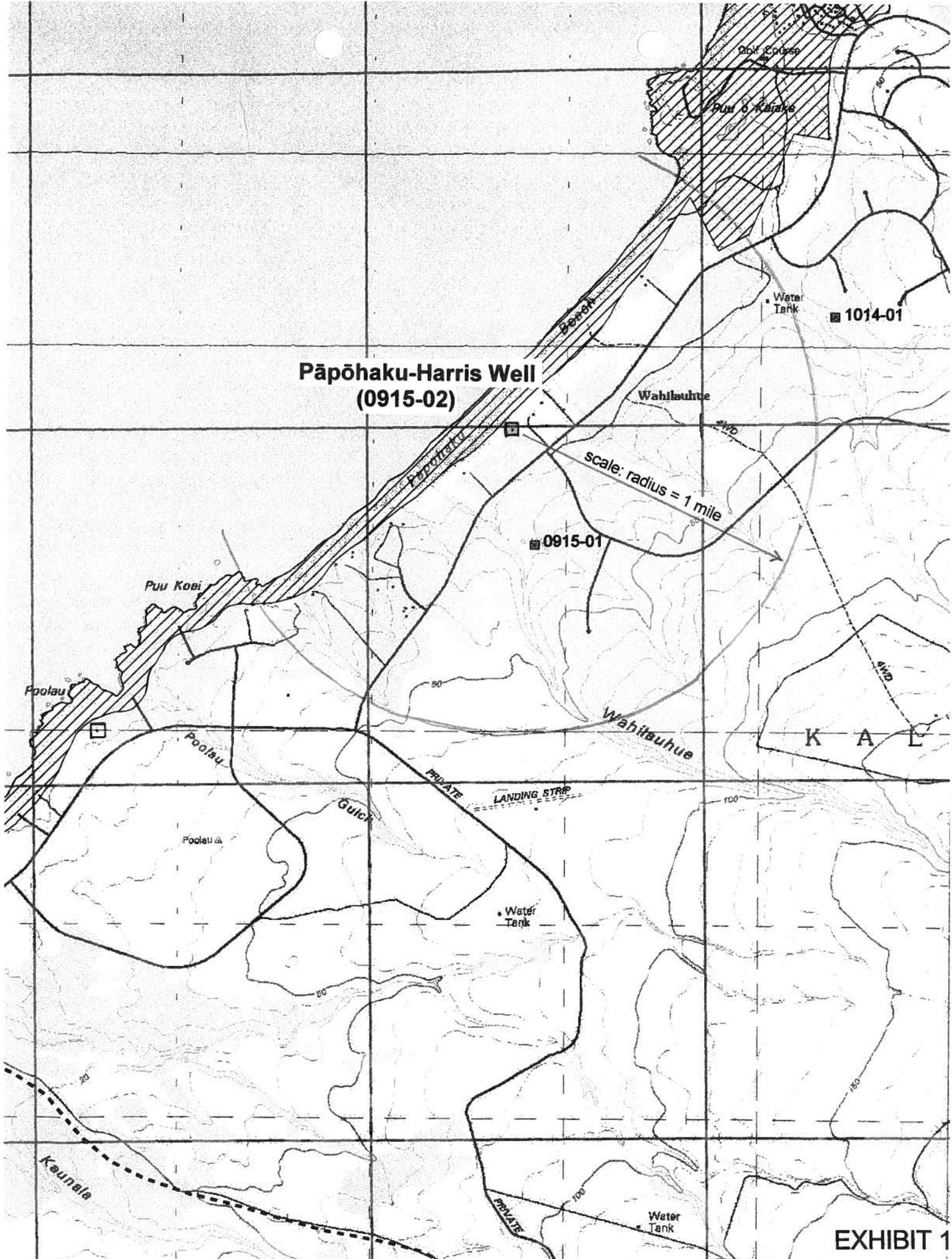
Installer's Signature: _____ C-57, C-57a, or A License #: C-24947 Date: _____

Printed Name: Tracie Sober Firm or Title: Valley Well Drilling

Please sign both copies of this permit, return one copy to the Commission office, and retain the other for your records.

Attachments

ATTACHMENT D



Aquifer System Area Water Use Permit Index *(total)*

ISLAND OF Molokai

Aquifer System Ground Water Management Area: **Kaluakoi**

Sustainable Yield = 2

WUP No	Approved	Applicant	Well No.	Well Name	WUP (mad)	12-MAV (mad)
869	2/18/2009	Pierluigi Zappacosta	0916-01	Papohaku Zappacosta	0.008	
<i>Summary for Kaluakoi (1 detail record)</i>					Totalling	0.008
					Available	1.992



"Teves, Glenn"
<TevesG@ctahr.hawaii.edu>
08/10/2009 10:37 AM

To <Charley.F.Ice@hawaii.gov>, "Arakaki, Alton"
<ArakakiA@ctahr.hawaii.edu>, <stacy@molokaieec.org>,
<feeter@wave.hicv.net>, <jcfm@hawaiiantel.net>,
cc
bcc
Subject RE: Papohaku-Harris water use permit application

Charley,

What is CWRM going to do since the county is increasing water use on the West end by approving new house development and Molokai Ranch has no well permit no water allocation, no transmission agreement to carry the water to the West End, no nothing!! Is this how we allocate water in the State of Hawaii?

THIS WATER ALLOCATION AND WELL PERMIT STUFF IS A BIG JOKE!!! WHY EVEN HAVE A CWRM?

In response to below, I don't think you can consider any new wells until you figure out how much water is going to be used in this sector, even if it's coming from another sector. We cannot keep taxing the Kualapuu Aquifer, the majority of the water is for homesteaders. Molokai is a sole source aquifer according to EPA, and no matter where you're sticking your straw, you're taking is from the same place. In light of the recent pump breakdowns, we really have to rethink how we allocate water and whether we have a back-up from each system, and this doesn't mean the adjacent system and especially Hawaiian Homes System Hawaiian Homes system is for Hawaiian Homes, when DHHL lessees have to cut back on water use because the County is not self sufficient in covering their water needs, then something is really wrong in how we operate our water systems Also, we need to revisit how much water will be required for DHHL now and in the future

Glenn

From: Charley.F.Ice@hawaii.gov [mailto:Charley.F.Ice@hawaii.gov]
Sent: Monday, August 10, 2009 9:01 AM
To: Arakaki, Alton; stacy@molokaieec.org; feeter@wave.hicv.net; jcfm@hawaiiantel.net; granger@aloha.net; AMHelm@dow.com; karenh@molokai.org; colettem@oha.org; nancy.mcpherson@co.maui.hi.us; purdy@wave.hicv.net; Teves, Glenn; gtibble@usgs.gov; pauhanamolokai@yahoo.com; Darrell.C.Yagodich@hawaii.gov; emisaki@tnc.org; ellen.kraftsow@co.maui.hi.us; abbeymeyer@molokaieec.org; ldrd@wave.hicv.net; rkamakana@molokairanch.com; lbuchanan@tnc.org; Debra.Kelly@hi.nacdn.net
Subject: Papohaku-Harris water use permit application



**Charley F
Ice/DLNR/StateHIUS**
08/10/2009 09:01 AM

To ArakakiA@ctahr.hawaii.edu, stacy@molokaiec.org,
feeter@wave.hicv.net, jcfm@hawaiiantel.net,
granger@aloha.net, AMHelm@dow.com,

cc

bcc

Subject Papohaku-Harris water use permit application

(try that again!)

Good morning, Molokai Water Working Group members.
We have an active new application for a water use permit. Please find it attached, and make appropriate response.

Your review and comment is appreciated.



wupa878.revOther.pdf

Charley Ice
Hydrologist

Hawaii Water Commission
1151 Punchbowl 227 Kalaninokū
P.O. Box 621, Honolulu 96809
(808) 587-0218



"Robert Granger/Elizabeth
Johnson"
<granger@aloha.net>

08/11/2009 09:11 AM

To <Charley.F.Ice@hawaii.gov>,
<ArakakiA@ctahr.hawaii.edu>, <stacy@molokaiee.org>,
<feeter@wave.hicv.net>, <jcfm@hawaiiantel.net>,
cc

bcc

Subject RE: Papohaku-Harris water use permit application

Dear Charley,

Thanks for giving us the opportunity to comment on these applications. This, I think, is the second application of this type, that is, the desalination of brackish water to supplement and possibly act, as insurance if the present water system fails. I commented on the first that we knew little about the long term consequence of such an operation and especially the disposal of the high salt water after processing through the filters (membranes). This application has very no detail on this and many other parts of the system, to include BFPs, mixing of the two systems or segregation of the systems. Seems that you might consider time limits on such systems, after which, meeting some requirements for reliability and quality, the owner chooses to shut down the system or remove themselves from the MPL system.

Expressing my ignorance here, but where do we draw the line between fresh (drinkable) ground water/well water and ocean water. Is this clearly defined for the group? Why do people need to get their sale water for desalination from a well drilled on land?

Again, thanks for the opportunity to review.

Robert Granger

From: Charley.F.Ice@hawaii.gov [mailto:Charley.F.Ice@hawaii.gov]

Sent: Monday, August 10, 2009 9:01 AM

To: ArakakiA@ctahr.hawaii.edu; stacy@molokaiee.org; feeter@wave.hicv.net; jcfm@hawaiiantel.net; granger@aloha.net; AMHelm@dow.com; karenh@molokai.org; colettem@oha.org; nancy.mcpherson@co.maui.hi.us; purdy@wave.hicv.net; TevesG@ctahr.hawaii.edu; gtribble@usgs.gov; pauhanamolokai@yahoo.com; Darrell.C.Yagodich@hawaii.gov; emisaki@tnc.org; ellen.kraftsow@co.maui.hi.us; abbeymeyer@molokaiee.org; ldrd@wave.hicv.net; rkamakana@molokairanch.com; lbuchanan@tnc.org; Debra.Kelly@hi.nacdn.net

Subject: Papohaku-Harris water use permit application

(try that again!)

Good morning, Molokai Water Working Group members.

We have an active new application for a water use permit. Please find it attached, and make appropriate response.

Your review and comment is appreciated.

Exhibit 4



"Lori L. Buchanan"
<lbuchanan@TNC.ORG>
08/10/2009 01:08 PM

To <Charley.F.Ice@hawaii.gov>,
<ArakakiA@ctahr.hawaii.edu>, <stacy@molokaieec.org>,
<feeter@wave.hicv.net>, <jcfm@hawaiiantel.net>,
cc "Teya Penniman" <misc@hawaii.edu>, "Walter Ritte"
<rittew@hotmail.com>, "Danny"
<danny.mateo@mauicounty.us>, "Ella L. Alcon"
bcc
Subject RE: Papohaku-Harris water use permit application

Aloha Charley,

Thank you for sending me this correspondence and allowing me to comment. Please review and submit my formal testimony to the commission. This current application and Molokai's on-going water woes clearly demands attention. It seems appropriate that I request of COWRM to resume water working group meetings on Molokai. Even with the states current fiscal crisis I am confident we can all work together to make this happen. Thank you for serious considerations of the attached testimony.

Mahalo,
Lori Buchanan

From: Charley.F.Ice@hawaii.gov [mailto:Charley.F.Ice@hawaii.gov]

Sent: Monday, August 10, 2009 9:01 AM

To: ArakakiA@ctahr.hawaii.edu; stacy@molokaieec.org; feeter@wave.hicv.net; jcfm@hawaiiantel.net; granger@aloha.net; AMHelm@dow.com; karenh@molokai.org; colettem@oha.org; nancy.mcpherson@co.maui.hi.us; purdy@wave.hicv.net; TevesG@ctahr.hawaii.edu; gtibble@usgs.gov; pauhanamolokai@yahoo.com; Darrell.C.Yagodich@hawaii.gov; Ed Misaki; ellen.kraftsow@co.maui.hi.us; abbeymeyer@molokaieec.org; ldrd@wave.hicv.net; rkamakana@molokairanch.com; Lori L. Buchanan; Debra.Kelly@hi.nacdn.net

Subject: Papohaku-Harris water use permit application

(try that again!)

Good morning, Molokai Water Working Group members.

We have an active new application for a water use permit. Please find it attached, and make appropriate response.

Your review and comment is appreciated.

Charley Ice
Hydrologist

Hawaii Water Commission
1151 Punchbowl 227 Kalaninokou
P.O. Box 821, Honolulu 96809
(808) 587-0218



WUP No. 878.doc

August 10, 2009

State of Hawaii
Department of Land and Natural Resources
Commission on Water Resource Management
P.O. Box 621
Honolulu, Hawaii, 96809

Lori Buchanan
Member
Molokai Water Working Group
P.O. Box 133
Hoolehua, Hawaii 96729
(808) 954-6585

Re; Kaluakoi Ground Water Management Area, Molokai (WUPA) No. 878)

Aloha Commissioners,

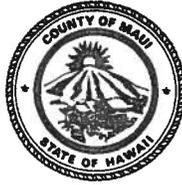
Thank you for the opportunity to comment on WUPA No. 878. I also commented on a previous similar application for Pierluigi Zappocosta. My comments at that time reflected my concern for setting a precedent for deep well extraction of water with desalination in west Molokai. The Zappocosta permit was the first request of its kind in west Molokai. While I was unaware and unable to substantiate any measurable or probable adverse impacts from the Zappocosta application, I did make a point of concern should multiple similar applications be sought. It has not yet been a year and already there is a second similar application. My concern was for multiple adverse impacts that could occur as a result of multiple wells and the processes of desalination on Molokai. Concerns would include the impacts of near shore and off shore marine life, the likelihood of island water table levels being affected, and the amount of brine by product and processes for brine disposal. What levels are acceptable, not acceptable? Secondary socio-economic impact of allowing permits which can only be afforded by more affluent applicants. Demographic and land use changes? I believe there is no "cap" of potable water usage for Kaluakoi residents. With single residential plots of no less than 2-acres, acquiring and keeping a "green" landscape with pool in arid west Molokai gets very expensive. I am aware of single family dwellings with water bills in the thousands of dollars. It makes sense then for west Molokai residents to "develop" their own water source and pay nothing except for initial infrastructure and maintenance costs. Like solar energy, there are high cost up front but the pay off comes when the need to purchase utility expires. That in itself creates its own problems. My main concern for Molokai as a Water Management Area has always been in working to seriously and honestly quantify current total Molokai water uses in order to coherently plan for future uses. This was my purpose of joining the Water Users Working Group and presently it has not been achieved. There are many questions that arise from cumulative impacts of multiple deep well water

withdrawals across the Water Management Area of Molokai, also the use of desalination as a tool in land management. One's ability to afford the process does not make it ok. We are all aware that in the state's current fiscal crisis that there will be no monies to fund a study to help answer questions of impacts from prolonged deep well extraction and desalination over similar landscapes. I am unaware that there are any. The absence of scientific data for west Molokai shores should not be defacto to grant approval of WUPA No. 878. I am not in support of granting WUPA No. 878. There are no supporting documents to show that this application will not have impacts. For future Molokai island permits and any other Water Management Areas in the state, the commission can and should decline "questionable" permits. That the commission's due diligence does consider reasonable affect by ANY water draw in a Water Management Area as set forth by WMA criteria. In all cases the commission can attach conditions to permits and should consider multiple conditions. Examples of considerations may be that the permit would be non transferable. If the applicant sold his home the day after he started pumping water he would have to "properly" close the well and the new owners would have to apply for their own permit. That the total water use is less based on plant and soil pathology. That the applicant pays for research for proof of no impact etc. The entire island of Molokai is a Water Management Area and the commission is tasked with the responsibility to protect our #1 endangered resource in perpetuity. Do not permit WUP No. 878 and I stand ready to resume input and time to The Molokai Water Working Group as a means to coherently plan for Molokai's future water uses. Again, thank you for allowing me to respond to WUP No. 878.

Sincerely,

Lori Buchanan
Member
Molokai Water Working group

CHARMAINE TAVARES
MAYOR



OFFICE OF THE MAYOR
County of Maui

September 30, 2009

200 South High Street
Wailuku, Hawaii 96793-2155
Telephone (808) 270-7855
Fax (808) 270-7870
e-mail: mayors.office@mauicounty.gov

Honorable Laura H. Thielen, Chairperson
Commission on Water Resource Management
State Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

Dear Chairperson Thielen:

**SUBJECT: NOTICE OF AN APPLICATION FOR A WATER USE PERMIT
KALUAKOI GROUND WATER MANAGEMENT AREA, MOLOKAI
(WUPA NO. 878) WELL NO. 0915-02
TERRANCE AND PAMELA HARRIS**

Thank you for the opportunity to comment on this application.

The Water Use Permit Application (WUPA) is consistent with the County of Maui (County) land use plans and policies. The requested 8,000 gallons per day will not have a significant adverse impact on County land use plans and policies, and Department of Water Supply (DWS) wells.

Since the applicant plans to desalinate the brackish water from their well, the County recommends that the applicant properly dispose of the brine discharge so as not to have a significant adverse impact on the environment. In addition, care should also be taken to avoid build-up of salts in the soil through appropriate measures.

The Department of Water Supply of the County of Maui (DWS) has the following concerns regarding the growing number of private wells in the County:

- Each well is a potential conduit for contamination to the aquifer.
- Proper maintenance and operation of wells are expensive. Over time, private well owners or their successors in interest may not be able to ensure proper maintenance, repair and eventual abandonment measures.
- A majority of wells in the state either do not report pumpage at all or report infrequently. Though the individual impacts of such wells are minor, their cumulative impact may not be.
- We note that several community members have expressed concerns about the number of well permits on Molokai, and suggest that their concerns be evaluated and addressed.

RECEIVED WATER
COMMISSION ON WATER
RESOURCE MANAGEMENT
2009 OCT -2 PM 12:02

Exhibit 6

Honorable Laura H. Thielen
September 30, 2009
Page 2

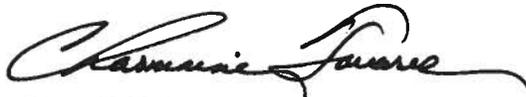
In order to protect the ground water resources, the Hawaii State Water Code and the Administrative Rules of the Department of Land and Natural Resources has required the Commission on Water Resource Management to develop minimum standards for the construction, as well as modification, repair/maintenance, and sealing/abandonment of wells.

The County's DWS recommends additional measures which include the following:

- Inspect exposed parts of the well periodically for problems such as cracked or corroded well casing, broken or missing well cap, damaged protective casing, and the settling or cracking of surface seals.
- Avoid mixing or using pesticides, fertilizers, herbicides, degreasers, fuels or other pollutants near the well.
- Keep accurate records of any well maintenance, such as, disinfection or sediment removal that requires the use of chemicals in the well.
- Install an approved back-flow prevention device, as would be required if the applicant were on the DWS system. The device will prevent the reverse flow of water and possible contaminants into the private system and the groundwater.

Should you have any questions, please contact our Department of Water Supply, Water Resource & Planning Division at 808-244-8550.

Sincerely,



CHARMAINE TAVARES
Mayor, County of Maui

CT:je

c: Jeffrey K. Eng, Director of Water Supply
Jane E. Lovell, Deputy Corporation Counsel