**SECTION 1: WELL LOCATION INFORMATION**

<table>
<thead>
<tr>
<th>Island</th>
<th>HAWAII</th>
<th>Proposed Use</th>
<th>#VALUE!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquifer System</td>
<td>SW.MAUNA LOA</td>
<td>Proposed Withdrawal</td>
<td>0</td>
</tr>
<tr>
<td>Aquifer Sector</td>
<td>KEALAKEKUA</td>
<td>System Sustainable Yield</td>
<td>38</td>
</tr>
</tbody>
</table>

**SECTION 2: WELL SECTION DATA** *(enter data in grey cells only)*

<table>
<thead>
<tr>
<th>Elevation at top of casing</th>
<th>ft., m.s.l.</th>
<th>Solid Casing Material</th>
<th>ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Elevation</td>
<td>ft., m.s.l.</td>
<td>Designation</td>
<td></td>
</tr>
<tr>
<td>Cement Grout</td>
<td>ft.</td>
<td>Length</td>
<td></td>
</tr>
<tr>
<td>Rock Packing</td>
<td></td>
<td>Diameter</td>
<td>in.</td>
</tr>
<tr>
<td>Hole Diameter</td>
<td></td>
<td>Wall Thickness</td>
<td>in.</td>
</tr>
<tr>
<td>Total Depth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Head</td>
<td>ft., m.s.l.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calculated Aquifer Thickness</td>
<td>82 ft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>County Water Supply (Y/N ?)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 3: CHECKLIST** *(values to check are shaded)*

| Well Depth | Theoretical Thickness of Aquifer | 82 ft. |
|           | 1/4 Aquifer Thickness | 20.5 ft. |
|           | Depth of Well below Sea Level | 6 ft. okay *(refer to HWCPIS Section 2.2)* |
| Well Casing | Minimum Wall Thickness Material | PVC |
|           | County or Non-County | non-county |
|           | Minimum Thickness per standards | 0.276 in. |
|           | Wall Thickness Provided | 0.276 in. okay *(refer to HWCPIS Section 2.4 c)* |
|           | Minimum Length of Solid Casing | 88.2 ft. |
|           | 90% of ground to top of aquifer Length | 106 ft. okay *(refer to HWCPIS Section 2.4 d)* |
|           | Casing Material | Sch 80 okay *(refer to HWCPIS Section 2.4 e)* |
|           | Annular Space | If the cell above reads #N/A, reference HWCPIS |
|           | Depth of Grouting | 68.6 ft. |
|           | Calculated Depth of Grouting | 75 ft. okay *(refer to HWCPIS Section 2.6 c)* |
|           | Thickness of Annular Space | 1.75 in. too small *(refer to HWCPIS Section 2.6 d)* |
**SECTION 1: WELL LOCATION INFORMATION**

- **Island**: Island HAWAII
- **Aquifer System**: SW.MAUNA LOA
- **Aquifer Sector**: KEALAKEKUA
- **Proposed Use**: SW.MAUNA LOA Aquifer System
- **Proposed Withdrawal**: Aquifer Sector KEALAKEKUA
- **System Sustainable Yield**: 38

**SECTION 2: WELL SECTION DATA**

(enter data in grey cells only)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevation at top of casing</td>
<td></td>
</tr>
<tr>
<td>Ground Elevation</td>
<td></td>
</tr>
<tr>
<td>Cement Grout</td>
<td></td>
</tr>
<tr>
<td>Rock Packing</td>
<td></td>
</tr>
<tr>
<td>Hole Diameter</td>
<td></td>
</tr>
<tr>
<td>Total Depth</td>
<td>ft.</td>
</tr>
<tr>
<td>Estimated Head</td>
<td>ft., m.s.l.</td>
</tr>
<tr>
<td>Calculated Aquifer Thickness</td>
<td>82 ft.</td>
</tr>
<tr>
<td>County Water Supply (Y/N ?)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Solid Casing Material</td>
<td></td>
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<tr>
<td>Designation</td>
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<tr>
<td>Length</td>
<td>ft.</td>
</tr>
<tr>
<td>Diameter</td>
<td>in.</td>
</tr>
<tr>
<td>Wall Thickness</td>
<td>in.</td>
</tr>
<tr>
<td>Casing Material Designation</td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>ft.</td>
</tr>
<tr>
<td>Diameter</td>
<td>in.</td>
</tr>
<tr>
<td>Wall Thickness</td>
<td>in.</td>
</tr>
<tr>
<td>Openings sq.in./ft.</td>
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</tr>
<tr>
<td>Open Hole</td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>ft.</td>
</tr>
<tr>
<td>Diameter</td>
<td>in.</td>
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</tbody>
</table>

**SECTION 3: CHECKLIST**

(values to check are shaded)

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<tr>
<th>Parameter</th>
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<tbody>
<tr>
<td>Well Depth</td>
<td></td>
</tr>
<tr>
<td>Theoretical Thickness of Aquifer</td>
<td>82 ft.</td>
</tr>
<tr>
<td>1/4 Aquifer Thickness</td>
<td>20.5 ft.</td>
</tr>
<tr>
<td>Depth of Well below Sea Level</td>
<td>6 ft. okay</td>
</tr>
<tr>
<td>Well Casing</td>
<td></td>
</tr>
<tr>
<td>Minimum Wall Thickness County</td>
<td></td>
</tr>
<tr>
<td>or Non-County</td>
<td></td>
</tr>
<tr>
<td>PVC Minimum Thickness per standards</td>
<td>0.276 in.</td>
</tr>
<tr>
<td>Wall Thickness Provided</td>
<td>0.276 in. okay</td>
</tr>
<tr>
<td>Minimum Length of Solid Casing</td>
<td></td>
</tr>
<tr>
<td>90% of ground to top of aquifer</td>
<td>34.2 ft.</td>
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<tr>
<td>Length of solid casing Provided</td>
<td>41 ft. okay</td>
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<tr>
<td>Casing Material</td>
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<tr>
<td>PVC Sch 80</td>
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<tr>
<td>Annular Space</td>
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<tr>
<td>Depth of Grouting</td>
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<td>Calculated Depth of Grouting</td>
<td>35 ft. okay</td>
</tr>
<tr>
<td>Thickness of Annular Space</td>
<td>1.75 in. too small</td>
</tr>
</tbody>
</table>
Hey Bob!

We need a couple of things from your office.

First off, we need the Surveyor's signature and chloride information on the Well Completion Report Part I for the Hokukano Monitor Wells (Well Nos. 3057-01 and 3157-01).

We also need the Well Completion Report Part I and pump test results for the Parker 1 Well (5548-01). It also seems that this pump was installed without a pump installation permit.

That's it for now. Give me a call at [redacted] if you have any questions.

Thanks,

Ryan
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Thanks,

Ryan
<table>
<thead>
<tr>
<th>Approved Well No.</th>
<th>Well Name</th>
<th>Applicant</th>
<th>Driller</th>
<th>Type</th>
<th>Well Construction Issued</th>
<th>Signed</th>
<th>WCR1</th>
<th>Accept</th>
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<tr>
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<td>Well Name</td>
<td>Applicant</td>
<td>Driller</td>
<td>Type</td>
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<td>Pump Installation</td>
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<tr>
<td>------------------</td>
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<td></td>
<td></td>
<td>Issued</td>
<td>Signed</td>
<td>WCR1</td>
<td>Accept</td>
</tr>
<tr>
<td>4558-02</td>
<td>HR-5 WB Kukio Resort</td>
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<td>C-16543</td>
<td>PUMP</td>
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<tr>
<td>4459-02</td>
<td>HR-4 WB Kukio Resort</td>
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<td>C-16543</td>
<td>PUMP</td>
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<tr>
<td>4558-01</td>
<td>HR-3 WB Kukio Resort</td>
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<tr>
<td>4459-01</td>
<td>HR-2 WB Kukio Resort</td>
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<td>C-16543</td>
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<td></td>
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<tr>
<td>5206-02</td>
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<td>J.W.A. Buyers</td>
<td>C-16543</td>
<td>PUMP</td>
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<tr>
<td>5548-02</td>
<td>Parker 1A West Hawaii Water Co.</td>
<td></td>
<td>C-16543</td>
<td>BOTH</td>
<td></td>
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<tr>
<td>11/21/1991</td>
<td>Puu Waawaa</td>
<td>Puu Waawaa Water Works</td>
<td>C-16543</td>
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<tr>
<td>7/6/1999</td>
<td>4959-09</td>
<td>Ryan Resident S</td>
<td>Hitherandthithering Waters LLC</td>
<td>C-16543</td>
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<td>7/6/1999</td>
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<tr>
<td>10/10/1999</td>
<td>2189-01</td>
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<td>WELL</td>
<td>10/26/1999</td>
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<tr>
<td>10/20/1999</td>
<td>6753-01</td>
<td>Kaupalaoa</td>
<td>Dennis D. Gordy</td>
<td>WELL</td>
<td>10/26/1999</td>
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<td>11/23/1999</td>
<td>4759-01</td>
<td>WB Kukio Resorts, LLC</td>
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<td>11/23/1999</td>
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<td>WB Kukio LLB</td>
<td>C-16543</td>
<td>PUMP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TRANSMITTAL LETTER

To: Ryan Imata  
Commission on Water  
Resource Management  
P.O. Box 621  
Honolulu, HI 96809

From: Nancy Burns

Date: September 11, 2000

Enclosed please find the following:

<table>
<thead>
<tr>
<th>Copies:</th>
<th>Title:</th>
<th>Dated:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Original)</td>
<td>Well Construction Permit</td>
<td>9.8.00</td>
</tr>
<tr>
<td></td>
<td>Hokukano Monitor 1 &amp; 2, Well Nos</td>
<td></td>
</tr>
</tbody>
</table>

Remarks:
Cc: Steve Bowles  
Copy to File

Transmittal No. 00911-04
WELL CONSTRUCTION PERMIT
Hokukano Monitor 1 & 2, Well Nos. 3157-01 & 3057-01

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-188, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the construction and testing of Hokukano Monitor 1 & 2 (Well Nos. 3157-01 & 3057-01) at Halekii St., Island of Hawaii, TMK 6-1-4-3, subject to the Hawaii Well Construction & Pump Installation Standards (12297) 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.

2. The well construction permit shall be for construction and testing of the well only. A minimum 11/4-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels. The permittee, well operator, and/or well owner shall coordinate with the Chairperson and conduct a pumping test in accordance with the Standards (a pump testing worksheet is attached). The permittee, well operator, and/or well owner shall submit to the Chairperson the results as a basis for supporting an application to install a permanent pump and withdraw water for use. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson.

3. 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.

4. The permittee, well operator, and/or well owner 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.

5. In the event that subsurface cultural remains such as artifacts, burials or concentrations of shells or charcoal are encountered during construction, the permittee, well operator, and/or well owner shall stop work and contact the Department's Historic Preservation immediately.

6. 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.

7. The following shall be submitted to the Chairperson within sixty (60) days after completion of work:
   b. Elevation (referenced to mean sea level, msl) survey by a Hawaii-licensed surveyor.
   c. As-built sectional drawing of the well.
   d. Plot plan and map showing the exact location of the well.
   e. Complete pumping test records, including time, pumping rate, drawdown, chloride content, and other data.

8. The permittee, well operator, and/or well owner shall comply with all applicable laws, rules, and ordinances; non-compliance may be grounds for revocation of this permit.

9. The well construction permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (January 23, 1997; HWCPIS). If the HWCPIS are not followed and as consequence water is wasted or contaminated, a lien on the property may result.

10. The permit may be revoked by the Commission if work is not started within six (6) months after the date of approval or if work is suspended or abandoned for six (6) months, unless otherwise specified. 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 three (3) months prior to the date the permit expires. If the commencement date is not met, the Commission may revoke the permit after giving the permittee, well operator, and/or well owner notice of the proposed action and an opportunity to be heard.

11. If the well is not to be used it must be properly capped. If the well is to be abandoned then the permittee, well operator, and/or well owner must apply for a well abandonment permit in accordance with §13-168-12(f) prior to any well sealing or plugging work.

12. 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.

13. Special conditions in the attached cover transmittal letter are incorporated herein by reference.

Date of Approval: June 27, 2000
Expiration Date: June 27, 2002

TIMOTHY E. JOHNS, 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 driller have signed, dated, and returned the permit to the Commission. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $1000 per day starting from the permit date of approval.

Permittee's Signature: 
Printed Name: Nancy E. Burns Firm or Title: 1250 Oceanside Partner
Driller's Signature: 
Printed Name: C-57 License # C-1513 Date: 9/30/00
Printed Name: Dr. Richardson Firm or Title: WAT 39

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

Attachment

USGS
Department of Health/Safe Drinking Water, Wastewater, and Clean Water Branches
Hawaii Department of Water Supply
Mr. Bob Stuit  
Hokulua  
78-6831 Alii Dr., K-15  
Kailua-Kona, HI 96740  

Dear Mr. Stuit:  

Well Construction Permit  
Hokukano Monitor 1 & 2 (Well Nos. 3157-01 & 3057-01)  

Enclosed are two (2) copies of your approved Well Construction Permit for the captioned well(s) that authorize well construction activities but excludes installation work for your permanent pump. As part of the Chairperson's approval, the following special conditions were added and are part of your permit under Permit Condition 13:  

**Special Conditions**  

1. The annular space shall be a minimum of 3" per Section 2.6d of the Hawaii Well Construction and Pump Installation Standards.  

This permit does not authorize work for your permanent pump installation. Approval and issuance of your pump installation permit is contingent upon completed application and information provided to and accepted by Commission staff as required in the Well Construction & Pump Installation Standards (1/23/97) and any special conditions performed under this permit. However, a permanent pump may be installed prior to the permanent pump installation permit issuance in accordance with the Commission's April 15, 1998 Declaratory Ruling No. DEC-ADM98-G5, which states that:  

"Permanent pump installation for capacities between 0-70 gpm and where the proposed use is for private individual needs in non-ground-water management areas may be allowed prior to the final pump installation permit issuance. When required as a condition of the well construction permit, subsequent pumping tests shall validate the acceptability of the permanent pump. The permanent pump installed prior to final pump installation permit issuance is subject to removal if the testing shows that a smaller pump is required to reduce the potential of affecting neighboring wells and localized upconing at the applicant's well."
If you qualify and wish to take advantage of this ruling, please include a written request to install the permanent pump prior to final pump installation permit issuance when you return to us your signed well construction permit.

Please sign and have the contractor sign both permit originals and return one for our files. Also, copies of the aquifer pump test worksheet and the well completion report form are enclosed for your use.

**IMPORTANT** - Drilling work shall not commence until a fully signed permit is returned to the Commission. Please provide all the information in this packet to your well drilling contractor. The permittee, well operator, and/or well owner are responsible for all conditions of the permit. This includes ensuring that the well construction contractor, or other party who constructs the well(s), submits a completed Part I of the Well Completion Report form (enclosed) within sixty (60) days after the well construction work is completed. Be advised that you may be subject to fines of up to $1000 per day for any violations of your permit conditions starting from the permit approval date.

If you have any questions, please call Ryan Imata of the Commission staff at [redacted] or toll-free at [redacted] extension 70255.

Aloha,

TIMOTHY E. JOHNS
Chairperson

Enclosures
WELL CONSTRUCTION PERMIT
Hokukano Monitor 1 & 2, Well Nos. 3157-01 & 3057-01

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 Hokukano Monitor 1 & 2 (Well Nos. 3157-01 & 3057-01) at Halekili St., Island of Hawaii, TMK 8-1-4: 3, subject to the Hawaii Well Construction & Pump Installation Standards (12/37) 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 §13-168-16, Hawaii Administrative Rules.

2. The well construction permit shall be for construction and testing of the well only. A minimum 1½-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels. The permittee, well operator, and/or well owner shall coordinate with the Chairperson and conduct a pumping test in accordance with the Standards (a pump testing worksheet is attached). The permittee, well operator, and/or well owner shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump and withdraw water for use. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson.

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   d. Plot plan and map showing the exact location of the well.
   e. Complete pumping test records, including time, pumping rate, drawdown, chloride content, and other data.

8. The permittee, well operator, and/or well owner shall comply with all applicable laws, rules, and ordinances; non-compliance may be grounds for revocation of this permit.

9. The well construction permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (January 23, 1997; HWCPIS). If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

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12. The permittee, its successors, and assigns shall indemnify, defend, and hold the State of Hawaii harmless from and against any loss, liability, claim, or damages 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.

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Commission on Water Resource Management

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Permittee's Signature: ___________________________ Date: __________
Printed Name: ___________________________ Firm or Title: __________

Driller's Signature: ___________________________ C-57 License #: __________ Date: __________
Printed Name: ___________________________ Firm or Title: __________

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

Attachment
C: USGS
Department of Health/Safe Drinking Water, Wastewater, and Clean Water Branches
Hawaii Department of Water Supply
HOKULI'A
AN EXCEPTIONAL
MASTER-PLANNED COMMUNITY

1250 OCEANSIDE PARTNERS
ANNOUNCES RELOCATION OF ITS OFFICES TO
KEAUHOU SHOPPING CENTER
SUITE K-15
78-6831 ALI'I DRIVE
KAILUA-KONA, HAWAI'I 96740

TELEPHONE: 324-1500 FACSIMILE: 324-0171

AS OF MARCH 29, 1999
State of Hawaii  
COMMISSION ON WATER RESOURCE MANAGEMENT  
Department of Land and Natural Resources  
APPLICATION FOR PERMIT  

Well Construction and/or Pump Installation  

APPLICANT INFORMATION: (fill out all three, if applicable, and place a check next to the primary contact)  
1. (a) WELL OWNER: Hokulii'a  
   Contact Person: Bob Stuit  
   Phone: (808) 324-1500  
   Mailing Address:  
   Fax: (808)  
   E-mail: rstuit@hokulia.com  
2. (b) LAND OWNER: Hokulii'a  
   Contact Person: Bob Stuit  
   Phone: (808)  
   Mailing Address:  
   Fax: (808) 324-0171  
   E-mail: rstuit@hokulia.com  
3. (c) CONTRACTOR: To Be Determined  
   Contact Person:  
   Phone:  
   Mailing Address:  
   Fax:  
   E-mail:  
   Lic #:  
   (circle one: C-57, C-57a, or A)  

WELL & PUMP INFORMATION: (Please fill in the diagram on the back of this form.)  
2. WELL NAME: Hokukano Monitoring Wells #1 & #2  
   Island: Hawaii  
   Address: Bottom of Halekii St.  
   Tax Map Key: S-1-04-3  
   Zone: Sec: Plat: Parcel  
   Attach the relevant portion of (a) a 7.5-Minute Series USGS topographic map (scale 1:24,000) and include the name of the quad map, and (b) a property tax map, showing well location referenced to established property boundaries.  
3. PROPOSED WORK:  
   (check all that apply)  
   ☐ Construct New Well  ☐ Install New Pump*  
   ☐ Modify Existing Well*  ☐ Modify Pump*  
   ☐ Abandon/Seal*  
   *State Well No.:  
   (if unknown, please call Commission at 587-0225)  
4. CONSTRUCTION:  
   ☐ Drilled  ☐ Dug  ☐ Shaft  ☐ Tunnel  
   Is this well part of a battery of wells? ☐ Yes ☐ No  
   (Please describe)  
5. PROPOSED PUMP INFORMATION:  
   Rated Pump Capacity: NA gallons per minute  
   Pump Type (Check one):  
   ☐ Deep Well Turbine  ☐ Rotary  ☐ Propeller  
   ☐ Submersible  ☐ Rotary-Displacement  ☐ Reciprocating  
   ☐ Centrifugal  ☐ Rotary-Gear  ☐ Impulse  
6. PROPOSED USE:  
   (check all that apply)  
   ☐ Municipal (including hotels, stores, etc.)  ☐ Industrial  
   ☐ Domestic (individual, noncommercial water system)  ☐ No. of Dwelling Units:  
   ☐ Irrigation (crop)  ☐ No. of Acres:  
   ☐ Military  ☐ Other (explain): Monitor  
7. (a) PROPOSED AMOUNT OF WITHDRAWAL:  
   (b) METHOD OF FLOW MEASUREMENT:  
   ☐ Flowmeter  ☐ Open-pipe  ☐ Weir  ☐ Orifice  ☐ Other (explain)  

OTHER IMPORTANT INFORMATION:  
8. LEGAL REQUIREMENTS:  
   ☐ COUP  ☐ SMAP  ☐ EIS  ☐ EA  ☐ None  ☐ Other (explain)  
9. REMARKS, EXPLANATIONS:  
   Purpose to monitor any impact on groundwater quality from golf course.  
   (if more space is needed, please attach additional sheet)  

I understand that approval of this application attaches the following standard conditions: 1) the proposed work is to be completed within two (2) years of the approval date, 2) the contractor shall submit to the Commission a well completion/abandonment report within 90 days after the completion date of the permitted work, 3) monthly water use data shall be submitted to the Commission, 4) such approval shall not constitute a determination of cumulative water rights and shall not guarantee the pump capacity or future use up to the permitted pump capacity.  

Well Owner: Hokulii'a  
Signature:  
Date: 5/19/00  
Landowner: Hokulii'a  
Signature:  
Date: 5/19/00  
Contractor: To Be Determined  
Signature:  
Date:  

For official use only  
Latitudef:  
Aquifer System No.  
Longitude:  
State Well No.  

WCPIPA Form 5200
**Solid Casing Material:**
Carbon Steel: compliant with (check one or more): [ ] ANSI/AWWA C200 [ ] API Spec. 5L [ ] ASTM A53 [ ] ASTM A139
And compliant with (check one or more): [ ] ASTM A242 [ ] Type E [ ] Type S [ ] Grade B [ ] Other
Stainless Steel: (check one): [ ] ASTM A409 (production wells) [ ] ASTM A312 (monitor wells)
ABS Plastic conforming to ASTM F490 and ASTM D1527: (check one) [ ] Schedule 40 [ ] Schedule 80
Thermoset Plastic: (check one): [ ] Filament Wound Resin Pipe conforming to ASTM D2996 [ ] Centrifugally Cast Resin Pipe conforming to ASTM D2997 [ ] Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517 [ ] Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950 [ ] PTFE Fluorocarbon Tubing conforming to ASTM D3296 [ ] FEP Fluorocarbon Tubing conforming to ASTM D3296

**Open Casing Material:**
Carbon Steel: compliant with (check one or more): [ ] ANSI/AWWA C200 [ ] API Spec. 5L [ ] ASTM A53 [ ] ASTM A139
And compliant with (check one or more): [ ] ASTM A242 [ ] Type E [ ] Type S [ ] Grade B [ ] Other
Stainless Steel: (check one): [ ] ASTM A409 (production wells) [ ] ASTM A312 (monitor wells)
ABS Plastic conforming to ASTM F490 and ASTM D1527: (check one) [ ] Schedule 40 [ ] Schedule 80
PVC Plastic conforming to ASTM F490 and (ASTM D1785 or ASTM D2241): (check one) [ ] Schedule 40 [ ] Schedule 80 [ ] Schedule 120
Thermoset Plastic: (check one): [ ] Filament Wound Resin Pipe conforming to ASTM D2996 [ ] Centrifugally Cast Resin Pipe conforming to ASTM D2997 [ ] Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517 [ ] Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950 [ ] PTFE Fluorocarbon Tubing conforming to ASTM D3296 [ ] FEP Fluorocarbon Tubing conforming to ASTM D3296

*The approximate elevation must be referenced to mean sea level (msl) at the time of application filing. Final elevations of well components shall be submitted in the Well Completion/Well Abandonment report and referenced to a benchmark which has been established by a surveyor licensed by the State.

For non-salt water Basal Wells - bottom elevation of well should not be deeper than 1/4 of aquifer thickness or,

Bottom Elevation of Well Limit = (Water Elevation - 41 ft. - Water Level Elevation) / 4

Solid Casing Material:
- Carbon Steel: compliant with (check one or more): □ ANSI/AWWA C200 □ API Spec. 5L □ ASTM A53 □ ASTM A139
- SS Steel: compliant with (check one or more): □ ASTM A422 □ Type E □ Type S □ Grade B □ Other
- ABS Plastic conforming to ASTM F490 and ASTM D1527: (check one): □ Schedule 40 □ Schedule 80
- PVC Plastic conforming to ASTM F490 and (ASTM D1795 or ASTM D2241): (check one): □ Schedule 40 □ Schedule 80 □ Schedule 120
- Thermoset Plastic: (check one) □ Filament Wound Resin Pipe conforming to ASTM D2996 □ Centrifugally Cast Resin Pipe conforming to ASTM D2997 □ Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517 □ Glass Fiber Reinforced Pressure Pipe conforming to AWWA C950 □ PTFE Fluorocarbon Tubing conforming to ASTM D3296 □ FEP Fluorocarbon Tubing conforming to ASTM D3298

Open Casing Material:
- Carbon Steel: compliant with (check one or more): □ ANSI/AWWA C200 □ API Spec. 5L □ ASTM A53 □ ASTM A139
- SS Steel: compliant with (check one or more): □ ASTM A422 □ Type E □ Type S □ Grade B □ Other
- ABS Plastic conforming to ASTM F490 and ASTM D1527: (check one): □ Schedule 40 □ Schedule 80
- PVC Plastic conforming to ASTM F490 and (ASTM D1795 or ASTM D2241): (check one): □ Schedule 40 □ Schedule 80 □ Schedule 120
- Thermoset Plastic: (check one) □ Filament Wound Resin Pipe conforming to ASTM D2996 □ Centrifugally Cast Resin Pipe conforming to ASTM D2997 □ Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517 □ Glass Fiber Reinforced Pressure Pipe conforming to AWWA C950 □ PTFE Fluorocarbon Tubing conforming to ASTM D3296 □ FEP Fluorocarbon Tubing conforming to ASTM D3298
Location Map - Monitor Well 1
## PUBLIC RECORD DATA

**TMK # 3-8-1-4-3**

| **Owner:** 1250 OCEANSIDE PARTNERS | **Tax:** 1250 OCEANSIDE PARTNERS |
| **Payer:** 74-5620 A PALANI ROAD, KAILUA-KONA, HI | **Tenure:** Fee Simple |
| **Tax Bill:** 96740 USA | **Semi-Annual Tax:** $12,452.50 |

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<tr>
<td>5/28/1996 DEED 1250 OCEANSIDE PARTNERS <em>(PARTITION DEED)</em></td>
</tr>
</tbody>
</table>

This information has been supplied by third parties and has not been independently verified by Hawaii Information Service and is, therefore, not guaranteed.
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources
APPLICATION FOR PERMIT

WELL & PUMP INFORMATION: (Please fill in the diagram on the back of this form.)

2. WELL NAME: Hukukanono Monitoring Wells #1 & #2
   Island: Hawaii
   Address: Bottom of Haku St.
   Tax Map Key: 8 - 1 - 04 - 3
   Zone: Sec Plat Parcel

   PROPOSED WORK: (Check all that apply)
   □ Construct New Well
   □ Modify Existing Well
   □ Abandon/Seal
   □ Install New Pump
   □ Modify Pump

   (State Well No.: (If unknown, please call Commission at:)

4. CONSTRUCTION: □ Drilled □ Dug □ Shaft □ Tunnel
   Is this well part of a battery of wells? □ Yes □ No (Please describe)

5. PROPOSED PUMP INFORMATION: Rated Pump Capacity: NA gallons per minute
   Pump Type (Check one):
   □ Deep Well Turbine
   □ Rotary
   □ Submersible
   □ Rotary-Displacement
   □ Centrifugal
   □ Rotary-Gear
   □ Propeller
   □ Reciprocating
   □ Impulse

6. PROPOSED USE: (Check all that apply)
   □ Municipal (including hotels, stores, etc.)
   □ Industrial
   □ Domestic (individual, noncommercial water system)
   □ No. of Dwelling Units:
   □ Irrigation (cm)
   □ No. of Acres:
   □ Military
   □ Other (explain): Monitor

7. (a) PROPOSED AMOUNT OF WITHDRAWAL:
   □ Flowmeter □ Open-pipe □ Weir □ Orifice □ Other (explain)
   (b) METHOD OF FLOW MEASUREMENT:

OTHER IMPORTANT INFORMATION:

8. LEGAL REQUIREMENTS:
   □ CDUP □ SMAP □ EIS □ EA □ None □ Other (explain)

9. REMARKS, EXPLANATIONS:
   Purpose to monitor any impact on groundwater quality from golf course.

   (If more space is needed, please attach additional sheet)

I understand that approval of this application attaches the following standard conditions: 1) the proposed work is to be completed within two (2) years of the approval date; 2) the contractor shall submit to the Commission a well completion/abandonment report within 90 days after the completion date of the permitted work; 3) monthly water use data shall be submitted to the Commission; 4) such approval shall not constitute a determination of correlative water rights and shall not guarantee the pump capacity or future use up to the permitted pump capacity.

Well Owner: Hukukanono
Signature: [Signature]
Date: 5/19/00

Landowner: [Signature]
Date: 5/19/00

Contractor: To Be Determined
Signature: [Signature]
Date: [Date]

For official use only
Latitude: [Latitude]
Aquifer System No.: [Aquifer System No.]
Longitude: [Longitude]
State Well No.: [State Well No.]
10. PROPOSED WELL SECTION (Please attach schematic if different from diagram provided below)

Hokukano Monitoring
Well #1

Elevation at top of casing: 41 ft., mast^* at hole diameter: 6 in.

Minimum of 2" Radius & 4" Thick Concrete Pad (to contain benchmark surveyed to nearest 0.01 ft.)
Ground Elevation: 40 ft., mast^*

Solid Casing: (≥ 90% x (Ground Elev.-Water Level Elev))
- Total Length: 41 ft.
- Nominal Diameter: 2.5 in.
- Wall Thickness: 0.276 in.
- Bottom Elevation: 0 ft., mast^*

Open Casing:
- Total Length: 5 ft.
- Nominal Diameter: 2.5 in.
- Wall Thickness: 0.276 in.
- Bottom Elevation: -5 ft., mast^*

- Solid Casing: (≥ 90% x (Ground Elev.-Water Level Elev))
- Open Casing:

- Perforated Screen

- Total Length: 5 ft.
- Nominal Diameter: 2.5 in.
- Wall Thickness: 0.276 in.
- Bottom Elevation: -5 ft., mast^*

- Open Hole:

- Length: NA ft.
- Diameter: ___ in.
- Bottom Elevation: ___ ft., mast^*

- Note: Neither bentonite nor mud should be used in saturated zone during drilling.

For non-salt water Basal Wells - bottom elevation of well should not be deeper than 1/4 of aquifer thickness or:
Bottom Elevation of Well Limit = (Water Elevation - 41 ft.) / 4
Example: Estimated +2 ft. Water Level Elev. = Bottom Elevation of Well Limit = (2 - 41 ft.) / 4 = -18.5 ft.

Solid Casing Material:
Carbon Steel: compliant with (check one or more): 3 ANSI/AWWA C200 1 API Spec. 5L 0 ASTM A53 0 ASTM A139
And compliant with (check one or more): 0 ASTM A242 0 Type E 0 Type S 0 Grade B 0 Other
Stainless Steel: (check one):
0 ASTM A409 (production wells) 0 ASTM A312 (monitor wells)
AISI Plastic conforming to ASTM F480 and ASTM D1527: (check one) 0 Schedule 40 0 Schedule 80
PVC Plastic conforming to ASTM F480 and ASTM D1765 or ASTM D2241: (check one) 0 Schedule 40 0 Schedule 80 0 Schedule 120
Thermoset Plastic: (check one):
0 Filament Wound Resin Pipe conforming to ASTM D2996
0 Cast-in-place Resin Pipe conforming to ASTM D2997
0 Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
0 Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
0 PTFE Fluorocarbon Tubing conforming to ASTM D3296
0 FEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing Material:
Carbon Steel: compliant with (check one or more): 3 ANSI/AWWA C200 1 API Spec. 5L 0 ASTM A53 0 ASTM A139
And compliant with (check one or more): 0 ASTM A242 0 Type E 0 Type S 0 Grade B 0 Other
Stainless Steel: (check one):
0 ASTM A409 (production wells) 0 ASTM A312 (monitor wells)
AISI Plastic conforming to ASTM F480 and ASTM D1527: (check one) 0 Schedule 40 0 Schedule 80
PVC Plastic conforming to ASTM F480 and ASTM D1765 or ASTM D2241: (check one) 0 Schedule 40 0 Schedule 80 0 Schedule 120
Thermoset Plastic: (check one):
0 Filament Wound Resin Pipe conforming to ASTM D2996
0 Cast-in-place Resin Pipe conforming to ASTM D2997
0 Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
0 Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
0 PTFE Fluorocarbon Tubing conforming to ASTM D3296
0 FEP Fluorocarbon Tubing conforming to ASTM D3296

- Note: Neither bentonite nor mud should be used in saturated zone during drilling.

- Elevation of Water Level:

- Estimated: +2 ft. Water Level Elev. = Bottom Elevation of Well Limit = (2 - 41 ft.) / 4 = -18.5 ft.

- Total Depth:

- 46 ft.

- Annular space between hole and casing (min.3")

- Rock or Gravel Packing:

- NA ft.

- Material:

- Crushed Basalt

- Rounded Gravel

- Estimated Water Level:

- +2 ft. mast^*
10. PROPOSED WELL SECTION

(Please attach schematic if different from diagram provided below)

Hokukano Monitoring
Well #2

Elevation at top of casing: __________ ft, msl

Hole Diameter: __________ in.

Minimum of 2 Round & 4" Thick Concrete Pad (to contain benchmark)

Ground Elevation: __________ ft, msl

Solid Casing: (90% x (Ground Elev. - Water Level Elev.))

- Total Length: __________ ft
- Nominal Diameter: __________ in
- Wall Thickness: __________ in
- Bottom Elevation: __________ ft, msl

Open Casing:
- Perforated Screen
  - Total Length: __________ ft
  - Nominal Diameter: __________ in
  - Wall Thickness: __________ in
  - Bottom Elevation: __________ ft, msl

- Note: Neither bentonite nor mud should be used in saturated zone during drilling

Solid Casing Material:
- Carbon Steel: compliant with (check one or more): □ ANSI/AWWA C200 □ API Spec. 5L □ ASTM A53 □ ASTM A139
  And compliant with (check one or more): □ ASTM A242 □ Type E □ Type S □ Grade B □ Other
- Stainless Steel: (check one):
  □ ASTM A409 (production wells) □ ASTM A312 (monitor wells)
- ABS Plastic conforming to ASTM F490 and ASTM D1527: (check one) □ Schedule 40 □ Schedule 80
- PVC Plastic conforming to ASTM F490 and (ASTM D1785 or ASTM D2241): (check one) □ Schedule 40 □ Schedule 80 □ Schedule 120
- Thermocast Plastic: (check one)
  □ Filament Wound Resin Pipe conforming to ASTM D2996
  □ Centrifugally Cast Resin Pipe conforming to ASTM D2997
  □ Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
  □ Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
  □ PTFE Fluorocarbon Tubing conforming to ASTM D3296
  □ FEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing Material:
- Carbon Steel: compliant with (check one or more): □ ANSI/AWWA C200 □ API Spec. 5L □ ASTM A53 □ ASTM A139
  And compliant with (check one or more): □ ASTM A242 □ Type E □ Type S □ Grade B □ Other
- Stainless Steel: (check one):
  □ ASTM A690 (production wells) □ ASTM A312 (monitor wells)
- ABS Plastic conforming to ASTM F490 and ASTM D1527: (check one) □ Schedule 40 □ Schedule 80
- PVC Plastic conforming to ASTM F490 and (ASTM D1785 or ASTM D2241): (check one) □ Schedule 40 □ Schedule 80 □ Schedule 120
- Thermocast Plastic: (check one)
  □ Filament Wound Resin Pipe conforming to ASTM D2996
  □ Centrifugally Cast Resin Pipe conforming to ASTM D2997
  □ Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
  □ Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
  □ PTFE Fluorocarbon Tubing conforming to ASTM D3296
  □ FEP Fluorocarbon Tubing conforming to ASTM D3296

For non-salt water Basal Wells - bottom elevation of well should not be deeper than 1/4 of aquifer thickness or,
Bottom Elevation of Well Limit = \( \frac{\text{Water Elevation} - \text{Ground Elevation}}{4} \)

Example: Estimated 2 ft. Water Level Elev. --- Bottom Elevation of Well Limit = \( \frac{2 - 5.122}{4} \approx -1.05 \) ft.

* The approximate elevation must be referenced to mean sea level (msl) at the time of application filing. Final elevations of well components shall be submitted in the Well Completion/Well Abandonment reports and referenced to a benchmark which has been established by a surveyor licensed by the State.
Location Map - Monitor Well 1
**APPLICATION FOR PERMIT**

**APPLICANT INFORMATION:** (Fill out all three, if applicable, and place a check next to the primary contact)

1. **WELL OWNER:** Hokulů’a  
   - **Phone:** (808) 324-1500  
   - **Fax:**  
   - **E-mail:** rstuit@hokulů’a.com

2. **LAND OWNER:** Hokulů’a  
   - **Phone:** (808) 324-1500  
   - **Fax:**  
   - **E-mail:** rstuit@hokulů’a.com

3. **CONTRACTOR:** To Be Determined  
   - **Phone:**  
   - **Fax:**  
   - **E-mail:**

**WELL & PUMP INFORMATION:** (Please fill in the diagram on the back of this form.)

2. **WELL NAME:** Hokukano Monitoring Wells  
   - **Island:** Hawaii  
   - **Bottom of Halekii St.**

   **Tax Map Key:** B - 1 - 04 - 3

**WELL NO.:**

3. **PROPOSED WORK:** (check all that apply)
   - [ ] Construct New Well
   - [ ] Modify Existing Well
   - [ ] Install New Pump
   - [ ] Modify Pump
   - [ ] Abandon/Seal

   *State Well No.:*  
   - [ ] (if unknown, please call Commission at 367-0225)

4. **CONSTRUCTION:**
   - [ ] Drilled
   - [ ] Dug
   - [ ] Shaft
   - [ ] Tunnel

Is this well part of a battery of wells?  
- [ ] Yes  
- [ ] No  
(Please describe)

5. **PROPOSED PUMP INFORMATION:**  
   - **Rated Pump Capacity:** NA  
   - **gallons per minute**

   **Pump Type (Check one):**
   - [ ] Deep Well Turbine
   - [ ] Rotary
   - [ ] Propeller
   - [ ] Submersible
   - [ ] Rotary-Displacement
   - [ ] Reciprocating
   - [ ] Centrifugal
   - [ ] Rotary-Gear
   - [ ] Impulse

6. **PROPOSED USE:** (check all that apply)
   - [ ] Municipal (including hotels, stores, etc.)
   - [ ] Industrial
   - [ ] No. of Dwelling Units:  
   - [ ] Domestic (individual, noncommercial water system)
   - [ ] No. of Acres:  
   - [ ] Irrigation (crop)
   - [ ] Other (explain): Monitor
   - [ ] No

7. **PROPOSED AMOUNT OF WITHDRAWAL:**
   - [ ] gallons per day

   **METHOD OF FLOW MEASUREMENT:**
   - [ ] Flowmeter
   - [ ] Open-pipe
   - [ ] Weir
   - [ ] Office
   - [ ] Other (explain)

**OTHER IMPORTANT INFORMATION:**

8. **LEGAL REQUIREMENTS:**
   - [ ] CDUP
   - [ ] SMAP
   - [ ] EIS
   - [ ] EA
   - [ ] None
   - [ ] Other (explain)

9. **REMARKS, EXPLANATIONS:** Purpose to monitor any impact on groundwater quality from golf course.

   **(If more space is needed, please attach additional sheet)**

**I understand that approval of this application attaches the following standard conditions: 1) the proposed work is to be completed within two (2) years of the approval date; 2) the contractor shall submit to the Commission a well completion/abandonment report within 30 days after the completion date of the permitted work; 3) monthly water use data shall be submitted to the Commission; 4) such approval shall not constitute a determination of cumulative water rights and shall not guarantee the pump capacity or future use up to the permitted pump capacity.**

**Well Owner:**  
- **Signature:**  
- **Date:** 5/19/00

**Landowner:**  
- **Signature:**  
- **Date:** 5/19/00

**Contractor:**  
- **Signature:**  
- **Date:**

**For official use only**

- **Latitude:**
- **Longitude:**
- **Aquifer System No.:**
- **State Well No.:**

**WCPDA Form 5/2000**
**10. PROPOSED WELL SECTION** (Please attach schematic if different from diagram provided below) 

Hokukano Monitoring Well #1

---

**Solid Casing Material:**
- Carbon Steel: compliant with (check one or more): ANSI/AWWA C200
- API Spec. 5L
- ASTM A53
- ASTM A139
- Other

---

**Open Casing Material:**
- Carbon Steel: compliant with (check one or more): ANSI/WWA C200
- API Spec. 5L
- ASTM A53
- ASTM A139
- Other

---

**For non-salt water Basalt Wells - bottom elevation of well shall not be deeper than 1/4 of aquifer thickness or,**

Bottom Elevation of Well Limit = (Water Elevation - 4.1 x Water Level Elevation / 4)

Example: Estimated + 2 ft. Water Level Elev. - Bottom Elevation of Well Limit = (2 x 4.1 / 4) = .185 ft.

---

**Solid Casing:** (± 90° x (Ground Elev. - Water Level Elev))
- Total Length: 41 ft.
- Nominal Diameter: 2.5 in.
- Wall Thickness: .276 in.
- Bottom Elevation: 0 ft., msl

---

**Open Casing:**
- Total Length: 5 ft.
- Nominal Diameter: 2.5 in.
- Wall Thickness: .276 in.
- Bottom Elevation: .5 ft., msl

---

**Open Hole:**
- Length: NA
- Diameter: NA
- Bottom Elevation: NA

---

*The approximate elevation must be referenced to mean sea level (msl) at the time of application filing. Final elevations of well components shall be submitted in the Well Completion/Well Abandonment reports and referenced to a benchmark which has been established by a surveyor licensed by the State.*

---

For non-salt water Basalt Wells - bottom elevation of well shall not be deeper than 1/4 of aquifer thickness or,
10. PROPOSED WELL SECTION

Elevation at top of casing: 101 ft., msl
Hole Diameter: _____ in.

Minimum of 2' Radius & 4" Thick Concrete Pad (to contain benchmark surveyed to nearest 0.01 ft.)
Ground Elevation: 100 ft., msl

Cement Grout: 75% (min. 70% of distance from ground elevation to top of water surface or 500 ft., whichever is less.)

Annular space between hole and casing (min.3"): 3 in.

Rock or Gravel Packing:
NA
Material:
- Crushed Basalt
- Rounded Gravel

Estimated Water Level Elevation: 2 ft., msl*

Solid Casing: (2.90" x (Ground Elev. - Water Level Elev.))
Total Length: 106 ft.
Nominal Diameter: 2.5 in.
Wall Thickness: 2.76 in.
Bottom Elevation: 100 ft., msl*

Open Casing: • Perforated • Screen
Total Length: 5 ft.
Nominal Diameter: 2.5 in.
Wall Thickness: 2.76 in.
Bottom Elevation: -5 ft., msl*

Open Hole: NA
Length: __________ ft.
Diameter: __________ in.
Bottom Elevation: __________ ft., msl*

* The approximate elevation must be referenced to mean sea level (msl) at the time of application filing. Final elevations of well components shall be submitted to the Well Completion/Well Abandonment reports and referenced to a benchmark which has been established by a surveyor licensed by the State.

For non-salt water Basalt Wells - bottom elevation of well should not be deeper than 1/4 of aquifer thickness or,

Bottom Elevation of Well Limit = (Water Elevation - 0.25 x Aquifer Thickness)

Example: Estimated 2 ft. Water Level Elev. - Bottom Elevation of Well Limit = (2 - 0.25 x 8) = -18.5 ft.

Solid Casing Material:
Carbon Steel: compliant with (check one or more): • ANSI/AWWA C200 • API Spec. SL • ASTM A53 • ASTM A139
- and compliant with (check one or more): • ASTM A242 • Type E • Type S • Grade 8 • Other
Stainless Steel: (check one):
- ASTM A409 (production wells) • ASTM A312 (monitor wells)
ABS Plastic conforming to ASTM F480 and ASTM D1577: (check one) • Schedule 40 • Schedule 80
PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one) • Schedule 40 • Schedule 80 • Schedule 120
Thermoset Plastic: (check one):
- Filament Wound Resin Pipe conforming to ASTM D2996
- Centrifugally Cast Resin Pipe conforming to ASTM D2997
- Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
- Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
- PTFE Fluorocarbon Tubing conforming to ASTM D3296
- FEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing Material:
Carbon Steel: compliant with (check one or more): • ANSI/AWWA C200 • API Spec. SL • ASTM A53 • ASTM A139
- and compliant with (check one or more): • ASTM A242 • Type E • Type S • Grade 8 • Other
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- PTFE Fluorocarbon Tubing conforming to ASTM D3296
- FEP Fluorocarbon Tubing conforming to ASTM D3296
Location Map – Monitor Well 2

Hokukano
Monitor Well 2
USGS Topo Map

Approximate MFAN Declination: 982

Scale 1:24,000

Contour Interval 40 Feet

Datum is Mean Sea Level
Depth Curves in Feet—Datum is Mean Lower Low Water
The relationship between the two datums is variable
Shoreline shown represents the approximate line of mean high water
The mean range of tide is approximately 1 foot

This map complies with National Map Accuracy Standards
For sale by U.S. Geological Survey, Denver, Colorado 80225, or Reston, Virginia 22093
A folder describing topographic maps and symbols is available on request.
REKAAKS:

ACT

(1) 25.00
(2) 25.00
(3) 
(4) 

TOTAL 50.00

REMARKS:

LINE (1) Well No. 6451-04 (WCPA/PIPA)
LINE (2) Well No. 3157-01, 3057-01 (WCPA)
LINE (3) 

DORIS REILLY
GERRY REILLY
P.O. BOX 44525
KAWAIHAE, HI 96143

COMMUNITY FEDERAL CREDIT UNION
P.O. BOX 747
KAILUA-KONA, HI 96745

Pay to the Order of:

25.00

TENANT, Landlord, Lessee: DORIS REILLY

2361

BANK OF HAWAII
KONA BRANCH
KAILUA-KONA, HAWAII 96740

200264

*TWENTY-FIVE AND XX/100

PAY TO THE ORDER OF:

State of Hawaii
Department of Land and Natural Resources

01-STOFHI

200264
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<th>Dated</th>
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<td>5.19.00</td>
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State of Hawai'i
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources
APPLICATION FOR PERMIT

In accordance with the provisions of the Water Pumping Law, Ch. 272, Hawaii Rev. Stat. the Department of Land and Natural Resources shall act to allow the following application for permit: 1. WELL CONSTRUCTION and/or 2. PUMP INSTALLATION.

APPLICANT INFORMATION:

1. (a) WELL OWNER: Hokulii' a
   Mailing Address: 78-6831 Alii Dr., K-15, Kailua-Kona, HI 96740
   Phone: (808) 324-1500
   Fax: (808) __________ E-mail: rstuit@hokulia.com

   (b) LAND OWNER: Hokuli'a
   Mailing Address: 78-6831 Alii Dr., K-15, Kailua-Kona, HI 96740
   Phone: (808) __________ E-mail: rstuit@hokulia.com

   (c) CONTRACTOR: To Be Determined
   Mailing Address: __________
   Phone: __________
   Fax: __________ E-mail: __________

WELL & PUMP INFORMATION:

2. WELL NAME: Hokukano Monitoring Wells #1 & #2
   Address: Bottom of Balekii St.
   Tax Map Key: 8-1-04-3
   Zone: __________ Sec: __________ Plat: __________ Parcel: __________

   (Please fill in the diagram on the back of this form.)

   Attach the relevant portion of (a) a 7.5-Minute Series USGS topographic map (scale 1:24,000) and include the name of the quad map, and (b) a property tax map, showing well location referenced to established property boundaries.

   3. PROPOSED WORK:
      (check all that apply)
      (Please describe)
      X Construct New Well
      X Modify Existing Well
      X Abandon/Seal
      X Install New Pump*
      X Modify Pump*

      *State Well No.: __________ (if unknown, please call Commission at: __________)

   4. CONSTRUCTION:
      X Drilled
      X Dug
      X Shaft
      X Tunnel

      Is this well part of a battery of wells? Yes X No (Please describe)

   5. PROPOSED PUMP INFORMATION:
      Rated Pump Capacity: NA gallons per minute

      (Please check one):
      X Deep Well Turbine
      X Rotary
      X Propeller
      X Submersible
      X Rotary-Displacement
      X Reciprocating
      X Centrifugal
      X Rotary-Geer
      X Impulse

   6. PROPOSED USE:
      (check all that apply)
      X Municipal (including hotels, stores, etc.)
      X Industrial
      X Domestic (individual, noncommercial water system)
      X No. of Dwelling Units: __________
      X No. of Acres: __________
      X Irrigation (crop) __________
      X Other (explain): Monitor

   7. (a) PROPOSED AMOUNT OF WITHDRAWAL:
      X Gallons per day __________
      (b) METHOD OF FLOW MEASUREMENT:
      X Flowmeter
      X Open-pipe
      X Weir
      X Office
      X Other (explain)

OTHER IMPORTANT INFORMATION:

8. LEGAL REQUIREMENTS:
   X OUP
   X SMAP
   X GIS
   X EA
   X Other (explain)

9. REMARKS, EXPLANATIONS:
   Purpose to monitor any impact on groundwater quality from golf course.

   (If more space is needed, please attach additional sheet)

I understand that approval of this application attaches the following standard conditions: 1) the proposed work is to be completed within 2 years of the approval date; 2) the contractor shall submit to the Commission a well completion/abandonment report within 90 days after the completion date of the permitted work; 3) monthly water use data shall be submitted to the Commission; 4) such approval shall not constitute a determination of cumulative water rights and shall not guarantee the pump capacity or future use up to the permitted pump capacity.

Well Owner: ________ Signature: ________ Date: 5/19/00
Landowner: ________ Signature: ________ Date: 5/19/00
Contractor: ________ Signature: ________ Date: ________

For official use only
Latitude: __________ Aquifer System No. __________
Longitude: __________ State Well No. __________

WCPRA Form 5/2000
10. PROPOSED WELL SECTION (Please attach schematic if different from diagram provided below)

Hokukano Monitoring Well #1

**Solid Casing Material:**
- Carbon Steel: compliant with (check one or more): ANSI/AWWA C200  API Spec. 5L  ASTM A53  ASTM A139
- Other: (check one or more): ASTM A106  API Spec. 5L  ASTM A53  ASTM A139
- Stainless Steel: (check one): ASTM A106  Cast Iron  Stainless Steel  Other
- ABS Plastic conforming to ASTM D480 and ASTM D1527: (check one)  [ ] Schedule 40  [ ] Schedule 80
- PVC Plastic conforming to ASTM D480 and ASTM D1527: (check one)  [ ] Schedule 40  [ ] Schedule 80  [ ] Schedule 120
- Thermoset Plastic: (check one)
  - Filament Wound Resin Pipe conforming to ASTM D2996
  - Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
  - Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
  - PTFE Fluorocarbon Tubing conforming to ASTM D3296
  - PFA Fluorocarbon Tubing conforming to ASTM D3296

**Open Casing Material:**
- Carbon Steel: compliant with (check one or more): ANSI/AWWA C200  API Spec. 5L  ASTM A53  ASTM A139
- Other: (check one or more): ASTM A106  API Spec. 5L  ASTM A53  ASTM A139
- Stainless Steel: (check one): ASTM A106  Cast Iron  Stainless Steel  Other
- ABS Plastic conforming to ASTM D480 and ASTM D1527: (check one)  [ ] Schedule 40  [ ] Schedule 80
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  - PTFE Fluorocarbon Tubing conforming to ASTM D3296
  - PFA Fluorocarbon Tubing conforming to ASTM D3296

**Minimum of 3' Radius & 4' Thick Concrete Pad (to contain benchmark surveyed to nearest 0.01 ft.)

**Solid Casing:** (≥ 90% x (Ground Elev. - Water Level Elev.))
- Total Length: 41 ft.
- Nominal Diameter: 2.5 in.
- Wall Thickness: 0.276 in.
- Bottom Elevation: 0 ft. mast

**Open Casing:**
- Total Length: 5 ft.
- Nominal Diameter: 2.5 in.
- Wall Thickness: 0.276 in.
- Bottom Elevation: -5 ft. mast

*The approximate elevation must be referenced to mean sea level (msl) at the time of application filing. Final elevations of well components shall be submitted in the Well Completion/Well Abandonment reports and referenced to a benchmark which has been established by a surveyor licensed by the State.

For non-salt water Basal Wells, bottom elevation of well should not be deeper than 1/4 of aquifer thickness or,

Bottom Elevation of Wall Limit = (Water Elevation - 0.25 x WaIar Thickness) / 4

Example: Estimated +2 ft. Water Elev. → Bottom Elevation of Wall Limit = (2 - 0.25 x 2) / 4 = 1.5 ft.
10. PROPOSED WELL SECTION

(Hokukano Monitoring Well #2)

Solid Casing Material:
Carbon Steel: compliant with (check one or more): □ ANSI/AWWA C200 □ API Spec. 5L □ ASTM A53 □ ASTM A139
Stainless Steel: (check one): □ ASTM A249 □ Type E □ Type S □ Grade B □ Other
ABS Plastic conforming to ASTM F490 and ASTM D1527: (check one): □ Schedule 40 □ Schedule 80
PVC Plastic conforming to ASTM F490 and ASTM D1785 or ASTM D2241: (check one): □ Schedule 40 □ Schedule 80 □ Schedule 120
Thermoset Plastic: (check one)
□ Filament Wound Resin Pipe conforming to ASTM D2996
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□ FEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing Material:
Carbon Steel: compliant with (check one or more): □ ANSI/AWWA C200 □ API Spec. 5L □ ASTM A53 □ ASTM A139
Stainless Steel: (check one): □ ASTM A249 □ Type E □ Type S □ Grade B □ Other
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* The approximate elevation must be referenced to mean sea level (msl) at the time of application filing. Final elevations of well components shall be submitted in the Well Completion/Well Abandonment reports and referenced to a benchmark which has been established by a surveyor licensed by the State.

For non-salt water Basal Wells: bottom elevation of well shall not be deeper than 1/4 of aquifer thickness or,

Bottom Elevation of Wall Limit = (Water Elevation - 0.25(Aquifer Thickness))

Example: Estimated 2 ft. Water Level Elev. → Bottom Elevation of Wall Limit = (2 - 0.25(2)) = -1.5 ft.
Location Map - Monitor Well 1

Hokukano
Monitor Well 1
Location Map – Monitor Well 2
USGS Topo Map

Kuamoo Pt
Leinokano Pt
Paaso Pt
Nenue Pt
Puu Chal

Hokukano Monitor Well 1
Hokukano Monitor Well 2

APPROXIMATE MEAN DEClINATION 1982

CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL
DEPTH CURVES IN FEET—DATUM IS MEAN LOWER LOW WATER
THE RELATIONSHIP BETWEEN THE TWO DATUMS IS VARIABLE
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER
THE MEAN RANGE OF TIDE IS APPROXIMATELY 1 FOOT

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22091
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST