# Well Background Check

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Thursday, September 01, 2011
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**MEMO and ROUTE SLIP** (ver. 5/11/10) 05/31/12

**WCR 1 Check for Well No. 3687-86** (GW regulation route)

1. **From Roy (initial)**
   - Initial entry in to well index
   - Ingrid's spreadsheet updated needed/done

**Pump Tests Check**

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- **<70 gpm no test required**
- **<50 gpm no test required**

**Potential Well Interference:**

**Potential Stream Impacts:**

**Additional Testing or Data Required:**

**Proposed Pump Capacity is OK.:**

2. **Well Log Check**
   - Geology Code for Well Index: ______
   - From Name: ______
   - Jeremy (initial)

3. **Construction Check**
   - Charley/Ryan (initial)
   - Data complete
   - Followed Special Cond & elevations
   - Location unchanged from WCPI/PA?
   - If yes, is SMA, CD, TMK changed?

**ATTACHMENTS FOR PUMP INSTALLATION PERMIT (2x):**

1. COVER LETTER
2. COUNTY COMMENTS (DWS/SMA)
3. DOH COMMENTS
4. DLNR COMMENTS (LD/OCC/CL/DHP)
5. WCR 1 Accept
6. WELL CONST. COMPLETION CERTIFICATE
7. USGS MAP UPDATED
8. PARCEL CHECK
9. WELL DATABASE INPUT CHECK
10. PUMP TEST WORKSHEET
11. WELL As-Built CHECK PRINT

- **not necessary – only WCP or BOTH.**

- **To be sent to driller/pump installer**
- **To Landowner**
- **Staff internal checks**

4. **Roy (initial) check** (Entered WCR 1/WCCC accept date into database)
5. **Susan H. (initial) finalize**
6. **Bill (initial) signature**
7. **Charley/Ryan** File & Enter PIP issue date if attached/required
MEMO and ROUTE SLIP (ver4/29/10/10)  05/31/12

WCR 2 Check for Well No. 3687-86 (GW regulation route)

1. From Roy (initial)

Pump Tests Check (special condition of PIP? Yes/No)

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Step-Drawdown Test:
followed WCPI Stds analysis attached

Aquifer Pump Test:
followed WCPI Stds T & S analysis attached

Potential Well Interference:
Potential Stream Impacts:

Additional Testing or Data Required:

Pump Test Comments Attached:

Proposed Pump Capacity is OK.

2. Pump Installation Check Charley/Ryan (initial)

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data complete
followed Special Cond & Elevations well database updated

ATTACHMENTS FOR ACCEPTANCE:
1WCR2 ACCEPTANCE LETTER
2PUMP INST. COMPLETION CERTIFICATE
3METER INSTALL. REPORT (if necessary)
4WUR FORM (if necessary)
5USGS MAP UPDATED
6PARCEL CHECK
7WELL DATABASE INPUT CHECK
8PUMP TEST WORKSHEET
9PUMP As-Built CHECK PRINT

To be sent to driller
To be sent to landowner/operator
Staff internal checks

3. Roy (initial) check (Entered WCR 2/PICC accept date into database)

4. Susan H. (initial) finalize

5. Bill (initial) signature

6. Charley/ Ryan File
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<td>Water Level</td>
<td>4.4 Depth to water 80.6</td>
</tr>
<tr>
<td>Public Water Supply Well?</td>
<td>no</td>
</tr>
<tr>
<td>Solid Casing Material</td>
<td>pvc plastic</td>
</tr>
<tr>
<td>Solid Casing Specification</td>
<td>Schedule 40</td>
</tr>
<tr>
<td>Solid Casing Length</td>
<td>80.6</td>
</tr>
<tr>
<td>Solid Casing Diameter</td>
<td>4.5</td>
</tr>
<tr>
<td>Solid Casing Wall Thickness</td>
<td>0.000</td>
</tr>
<tr>
<td>Open Casing Length</td>
<td>13.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Well Depth</strong></td>
</tr>
<tr>
<td>Theoretical Thickness of Aquifer</td>
</tr>
<tr>
<td>1/4 Aquifer Thickness</td>
</tr>
<tr>
<td>Depth of Well below Sea Level</td>
</tr>
<tr>
<td><strong>Well Casing</strong></td>
</tr>
<tr>
<td>Minimum Wall Thickness Material</td>
</tr>
<tr>
<td>Minimum Wall Thickness per standards</td>
</tr>
<tr>
<td>Wall Thickness Provided</td>
</tr>
<tr>
<td>Minimum Length of Solid Casing</td>
</tr>
<tr>
<td>90% of ground to top of aquifer</td>
</tr>
<tr>
<td>Length of solid casing Provided</td>
</tr>
<tr>
<td>Casing Material</td>
</tr>
<tr>
<td>(for pvc only - check for 200' limit)</td>
</tr>
<tr>
<td><strong>Annular Space</strong></td>
</tr>
<tr>
<td>Depth of Grouting</td>
</tr>
<tr>
<td>Calculated Depth of Grouting</td>
</tr>
<tr>
<td>Depth of Grouting provided</td>
</tr>
<tr>
<td>Minimum Annular Space required</td>
</tr>
<tr>
<td>Thickness of Annular Space</td>
</tr>
</tbody>
</table>
Mr. Daniel Besser
15-1811 1st Avenue
Keau, HI 96749

Dear Mr. Besser:

Combined Certificate of Well Construction and Pump Installation Completion for
Well No. 3687-86 (TMK (3)1-5-051:031)

We are pleased to inform you that the Well Construction and Pump Installation work permitted
for the Mana Well (Well No. 3687-86) is complete and acceptable and welcome you as a new member to
the community of well owners and ground water users in Hawaii. This combined certificate allows you to
commence pumping your well for reasonable & beneficial water use.

To protect Hawaii’s natural ground water resources for the benefit of all, the following
requirements apply to the use of your well:

1. If the well is not in use it must be properly capped.

2. If the well is to be abandoned then the landowner must cause a licensed contractor to apply
   for a well abandonment permit in accordance with §13-168-12(f), HAR, prior to any well
   sealing or plugging work.

3. In the event that the well operator and/or landowner changes, the Commission shall be
   notified prior to the change.

4. In the event the benchmark in the concrete base of the well is altered in any way, an updated
   version of the Well Elevation page of the Well Completion Report Part I shall be submitted to
   the Commission. If a licensed surveyor had estimated the original benchmark elevation then
   a licensed surveyor must establish the new benchmark elevation. The Well Elevation portion
   of the Well Completion Report Part I can be obtained by contacting Commission staff or at
   our website at www.hawaii.gov/dlnr/cwrm/resources_permits.htm.

5. Your approved pump has a capacity of 16 gpm at a head of 80 ft. In the future, pump
   replacements of equal or lesser capacity will not require an additional permit from the
   Commission, but will require the submission of a Well Completion Report Part II by the
   licensed pump installer. If the pump replacement is greater than the existing pump, you will
   need to apply for a new pump installation permit.
6. The landowner shall cause the well operator to maintain the installed meter or other appropriate means for measuring and reporting withdrawals and water levels, and appropriate devices or means for measuring chlorides and temperature. These data shall be measured monthly and reported to the Commission on an annual basis, on forms provided by the Chairperson (attached), in accordance with §13-168-7, HAR. Blank water use report forms are also available at www.hawaii.gov/dlnr/cwrm/info_permits.htm.

7. The proposed use shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. The authorization to drill a well and/or install a pump shall not constitute a determination of correlative water rights. The landowner and well operator are notified that the quantity of water taken from the well and/or the pump capacity could be reduced by the Commission in the future.

8. In the event that your installed pump is less than 70 gallons per minute, and no elevation survey has been completed, you may be required to do one in the future.

Because ground water in Hawaii is a public trust, and adverse effects at one well may affect other water resources, any violation of the above conditions or any other provision of the Hawaii Administrative Rules may be subject to fines of up to $5,000 per day. The Commission needs your help and asks that you do your part in utilizing this shared resource. We prefer to work with you in meeting the goal of protecting our ground water resources together.

If you have any questions, please contact Ryan Imata of the Commission staff at 587-0255 or toll-free at 974-4000 (Hawaii), 274-3141 (Kauai), 984-2400 (Maui), or 1-800-468-4644 (Lanai & Molokai), extension 70255.

Sincerely,

WILLIAM M. TAM
Deputy Director

RI:ss

c: Diamond Construction and Water Well Drilling
June 20, 2012

Mr. Rod Diamond  
Diamond Construction and Water Well Drilling  
HCR#3 Box 14073  
Keeau, HI 96749

Dear Mr. Diamond:

Well Completion Report Parts I & II for Well No. 3687-86

We received your Well Completion Report Parts I & II for the Mana Well (Well No. 3687-86) on April 10, 2012 and acknowledge that they are complete.

This completes your obligation under the well construction and pump installation permits. Certificates of well construction and pump installation completion will be issued to the well operator/landowner and you will receive a copy. These certificates transfer responsibility of specific aspects of well usage and maintenance from you to the well operator/landowner.

If you have any questions, please contact Ryan Imata of the Commission staff at 587-0255 or toll-free at 974-4000 (Hawaii), 274-3141 (Kauai), 984-2400 (Maui), or 1-800-468-4644 (Lanai & Molokai), extension 70255.

Sincerely,

WILLIAM M. TAM  
Deputy Director

RI:ss

c: Daniel Besser
PUMP INSTALLATION PERMIT
Mana Well, Well No. 3687-86

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 Mana Well (Well No. 3687-86) at TMK (3) 1-5-051-031, Hawaii, 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 until work is completed.

4. The pump installation permit shall be for installation of a 48 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/info_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 herein 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 at least two (2) weeks before any work covered by this permit commences. 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: February 28, 2012
Expiration Date: February 28, 2014

WILLIAM J. AILA, JR., 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: Rod Diamond
Firm or Title: Diamond Construction and Water

Printed Name: Rod Diamond

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

Attachments
### WELL COMPLETION REPORT - PART II

**State of Hawaii**  
COMMISSION ON WATER RESOURCE MANAGEMENT  
Department of Land and Natural Resources  

**Pump Installation**

Instructions: Please print in ink or type and send completed report (with attachments, if applicable) to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. The Commission may not accept incomplete reports. This form shall be submitted within 60 days of the completion of work. For assistance, please consult the Hawaii Well Construction and Pump Installation Standards or call the Regulation Branch at 587-0225. For updates to this form or additional information, please visit our website at [http://www.state.hi.us/dlnr/cwrm/](http://www.state.hi.us/dlnr/cwrm/).

---

<table>
<thead>
<tr>
<th>1. State Well No.:</th>
<th>3687-86</th>
<th>2. Well Name:</th>
<th>Mana</th>
<th>Island:</th>
<th>Hawaii</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Address:</td>
<td>Por of Block &quot;7&quot; Keaau, Puna, Hawaii</td>
<td>Tax Map Key:</td>
<td>1-5-051-031 Lot 2316</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Pump Installation Company:</td>
<td>Diamond Drilling and Pump</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Date Pump Installed:</td>
<td>3-6-12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Rated Capacity:</td>
<td>16 gpm</td>
<td>80.6 ft.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Motor Type, H.P., Voltage, rpm:</td>
<td>ITT / 3/4 HP / 230 V / 3450 RPM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Pump Type (check one):</td>
<td>Deep Well Turbine</td>
<td>Rotary</td>
<td>Propeller</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. X Submersible</td>
<td>Rotary-Displacement</td>
<td>Reciprocating</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Centrifugal</td>
<td>Rotary-Gear</td>
<td>Impulse</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>11. Method of flow measurement:</td>
<td>Flowmeter</td>
<td>Manufacturer</td>
<td>Master</td>
<td>Model no.</td>
<td>Size</td>
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<tr>
<td>12. X</td>
<td>Weir</td>
<td>□</td>
<td>□</td>
<td>PT 92412</td>
<td>¾ in.</td>
</tr>
<tr>
<td>13. Open Pipe</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>14. Orifice*</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>15. Other*, explain below</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*attach schematic

7. Fill in the as-built section on the other side of this sheet.
8. Attach the rating curve for the installed pump.
9. Attach photograph of well clearly showing the benchmark on the concrete pad, the well head, and the method of flow measurement.
10. Well Owner: Daniel Howard Besser & Sumiko Toguchi Besser  
15-1811 1st Ave.  
Keaau, HI 96749  
982-4644
11. Land Owner: Same

---

**Pump Installation Contractor** (print)  
Rod Diamond  
C-57/C-57a/A Lic. No.  
BC 23379

Signature  
28 MAR 12
Bench mark elevation
surveyed to nearest 0.01 ft. = 85.4 ft. mean sea level

Elevation of top of chase tube
N/A ft. mean sea level

Pump intake depth = 86 ft.
(referenced to bench mark)

Chase tube depth = N/A ft.
(referenced to bench mark)

If airline installed,
bottom of airline elevation = N/A ft. mean sea level
DIMENSIONS AND WEIGHTS

<table>
<thead>
<tr>
<th>Model</th>
<th>HP</th>
<th>Phase</th>
<th>Stages</th>
<th>Length (inches)</th>
<th>Weight (lbs.)</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Motor</td>
<td>W.E.</td>
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<td>10GS05412R,22,11,21</td>
<td>1/4</td>
<td>1</td>
<td>10</td>
<td>13.0</td>
<td>10.7</td>
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<td>10GS07412,22</td>
<td>1/2</td>
<td>1</td>
<td>2</td>
<td>11.0</td>
<td>9.5</td>
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<td>10GS10412,22</td>
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<td>12</td>
<td>14.4</td>
<td>11.8</td>
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<td>1 1/2</td>
<td>1</td>
<td>17</td>
<td>17.9</td>
<td>13.6</td>
</tr>
<tr>
<td>10GS15422</td>
<td>1 1/2</td>
<td>1</td>
<td>17</td>
<td>17.9</td>
<td>15.1</td>
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<tr>
<td>10GS15432</td>
<td>1 3/4</td>
<td>3</td>
<td>17</td>
<td>17.9</td>
<td>11.8</td>
</tr>
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<td>2</td>
<td>1</td>
<td>20</td>
<td>20.0</td>
<td>15.7</td>
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<td>3</td>
<td>3</td>
<td>27</td>
<td>26.0</td>
<td>16.1</td>
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<tr>
<td>10GS50412</td>
<td>5</td>
<td>1</td>
<td>42</td>
<td>36.3</td>
<td>28.2</td>
</tr>
<tr>
<td>10GS50432,34</td>
<td>5</td>
<td>3</td>
<td>42</td>
<td>36.3</td>
<td>22.2</td>
</tr>
</tbody>
</table>

* Reduced stage 1/4 HP pump/water end for low head applications. This model replaces the 1/2 HP water end.
* W.E. = water end or pump without motor.
* L.O.A. = length of assembly – complete pump – water end and motor.
WELL CONSTRUCTION PERMIT

Mana Well, Well No. 3687-86

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 Mana Well (Well No. 3687-86) at TMK (3) 1-5-051:031, Island of Hawaii, 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 basalt ground water, the depth of the well may not exceed one-fourth (1/4) of the theoretical thickness (41 times initial head) of the basalt ground water unless otherwise authorized by the Chairperson. If it can be shown that the well is not tap basalt 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 around 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 §13-168-13(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. If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

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

Date of Approval: February 28, 2012
Expiration Date: February 28, 2014

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: Rod Diamond
C-57 License #: BC-233799 Date: 6 MAR 2012
Printed Name: Rod Diamond Firm or Title: Diamond Construction and Water Well Drilling

Please sign both copies of this permit, return one copy to the Commission office, and retain the other for your records.
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources
WELL COMPLETION REPORT - PART I
Well Construction

Instructions: Please print in ink or type and send completed report (with attachments, if applicable) to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. The Commission may not accept incomplete reports. This form shall be submitted within 60 days of the completion of work. For assistance, please consult the Hawaii Well Construction and Pump Installation Standards or call the Regulation Branch at 887-0225. For updates to this form or additional information, please visit our website at http://www.state.hi.us/dlnr/cwrm/

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>State Well No.: 3687-86</td>
<td>Well Name: Mana</td>
</tr>
<tr>
<td></td>
<td>Island: Hawaii</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Address: Port of Block “7” Keau, Puna, Hawaii</td>
<td>Tax Map Key: 1-5-051-031 Lot 2316</td>
</tr>
<tr>
<td>3.</td>
<td>Drilling Company: Diamond Drilling and Pump</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Drilling method used during construction: Rotary</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Date Well Construction (drilled, cased, grouted) completed: 7 MAR 12 Fill out attached Driller's Log</td>
<td></td>
</tr>
</tbody>
</table>

In addition to the driller's log, if a geologic log was prepared, please submit with this form.

6. Was the subject well cored? □ Yes □ No

7. Step-Drawdown Test completed? □ No □ Yes Attach Step-Drawdown Test Form (12/17/97 SDPTD Form)

8. Constant Rate Aquifer Test completed? □ No □ Yes Attach Constant Rate Aquifer Test Form (12/17/97 CRPTD Form)

Water Level Data:

<table>
<thead>
<tr>
<th>Reference Point</th>
<th>Depth to Water (ft.)</th>
<th>Water Level ft. above msl</th>
<th>Date / Time of Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground= 85 ft msl</td>
<td>80.6</td>
<td>4.4</td>
<td>3-6-12 2:00</td>
</tr>
<tr>
<td>Ground= 85 ft msl</td>
<td>80.6</td>
<td>4.4</td>
<td>3-6-12 3:20</td>
</tr>
<tr>
<td>Ground= 85 ft msl</td>
<td>80.6</td>
<td>4.4</td>
<td>3-6-12 4:45</td>
</tr>
</tbody>
</table>

9. Initial encountered during drilling (this should also be filled in on the driller's log)

10. Just prior to casing installation
    After casing installation
    (this information should be before any pump tests are performed with casing installed)
    If this reference point is not the benchmark, the difference between the benchmark and this point is: 4 in.

11. Chloride: 64 ppm. Temperature: 68 °F

12. As-built section filled in completely

13. Attach photograph of well and concrete pad showing benchmark on concrete pad.

14. GPS coordinates provided in degrees, minutes, seconds

If a pump is not planned to be installed, please describe (below in the remarks section) how well is secured to prevent unauthorized access (example: lockable cover, threaded coupling, etc.)

16. Remarks:

Licensed Driller: Rod Diamond
C-57 Lic. No.: BC 23379

Signature: __________________________
Date: 28 MAR 12
13. AS-BUILT WELL SECTION

(Please attach as-built if different from diagram provided below)

Elevation at top of casing: 86 ft. msl
(Hole Diameter: 8.5 in.)

Minimum of 2' Radius & 4" Thick Concrete Pad

Ground Elevation: 85 ft. msl

Bench mark elevation:
85.4 ft. msl
(Survey to nearest 0.01 ft.)

Cement Grout: 66 ft.
(min. 70% of distance from ground elevation to top of water surface or 50 ft., whichever is less.)

Annular space between hole and casing (1.5" for positive displacement, 3" for other methods):
2 in.

Rock or Gravel Packing:
28 ft.

Material:
Crushed Basalt
Rounded Gravel

Water Level Elevation:
4.4 ft. msl

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 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

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 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

Open Hole:
Length:
Diameter:
Bottom Elevation:

---

*msl = mean sea level
## DRILLER'S LOG

### WELL NUMBER: 3687-86

<table>
<thead>
<tr>
<th>Depths (ft.)</th>
<th>Rock Description, Water Level, Chlorides PPM</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 5</td>
<td>Loose Rock</td>
<td>3-6-12</td>
</tr>
<tr>
<td>5 to 63</td>
<td>Basalt</td>
<td></td>
</tr>
<tr>
<td>63 to 65</td>
<td>Void</td>
<td></td>
</tr>
<tr>
<td>65 to 94</td>
<td>Basalt, Water @80.6 ft., Chlorides 64 ppm, end @94 ft.</td>
<td>3-6-12</td>
</tr>
</tbody>
</table>

### Remarks:

WCR1 Form 10/18/04 Page 3 of 5
Latitude: N 19 degrees 36 min. 18.1 sec.
LongITUDE: W 154 degrees 57 min. 55.0 sec.

SKETCH OF WELL LOCATION
(Referenced to permanent landmark, i.e. building, road, fence, etc.)
Benchmark Elevation 85.4

I certify that the elevation shown above:
1) Was done in accordance with acceptable surveying practices
2) Is accurate to the nearest 0.01 ft.
3) Is referenced to mean sea level

Surveyor

License No.

Date
FROM: RYAN  DATE: 2/17/12  SUSPENSE DATE: ________________

TO: CHONG, R.  INIT:       TO: KIMURA, J.  INIT: Approval
DANBARA, S.  INIT:       TO: OHYE, L.  INIT: 3 Signature
FUJII, N.  INIT:       TO: TAM, B.  INIT: Information
1 HARDY, R.  INIT: 3 SUSPENSE
2 HOAGBIN, S.  INIT: 3 Approval
ICE, C.  INIT: 3 Approval
4 IMATA, R.  INIT: 3 Approval

WELL NUMBER  3687-86  WELL NAME  Mana

application type  BOTH
1 WCP COVER LETTER
2 WCP
3 WELL CHECK PRINTOUT
proposed well section issues?

4 PIP COVER LETTER
5 PIP

COMMENTS: date rec'd issues? if checked, send to applicant
6 SDWB
7 WWB
8 CWB
9 HEER
10 LD
11 HP
12 LUC not in CD
13 OCCL not in CD
14 SMA not in SMA
15 BWS (Oahu)

NOTES:
DRILLER Rod Diamond
Diamond Construction and Water Well Drilling
23379
HCR#3 Box 14073
Keeau HI 96749
phone 966-4129
date 966-4129
cell 987-8100

TMK
PUMP CAPACITY 1-5-051.031
WELL OWNER Daniel Besser
LAND OWNER Daniel Besser
COMMENT DEADLINE 1/0/00
90-DAY DEADLINE 3/30/00
March 5, 2012

Mr. Rod Diamond
Diamond Construction and Water Well Drilling
HCR#3 Box 14073
Keeau, HI 96749

Dear Mr. Diamond:

Pump Installation Permit
Mana Well (Well No. 3687-86), Hawaiian Paradise Park, Island of Hawaii

Enclosed are two (2) originals of your approved Pump Installation Permit for the captioned well(s) that authorize permanent pump installation work for your well(s). As part of the Chairperson's approval, the following special conditions were added and are part of your permit under Permit Condition 14:

**Special Conditions**

1. If the elevation benchmark needs to be altered, the permittee, well operator, and/or well owner shall ensure that the benchmark is transferred (or the well resurveyed) and documentation of the new benchmark shall be submitted to the Commission within sixty (60) days after the pump is installed.

2. Attached for your information are copies of the Department of Health's (DOH) review comments. Please note DOH's requirements related to discharge of effluent from well drilling and testing activities. Also, please contact the Noise Radiation and Indoor Air Quality Branch at 586-4700 to check compliance with construction noise permit requirements for this project.

The permittee is responsible for all conditions of the permit. This includes ensuring the submission of a completed Well Completion Report Part II form within sixty (60) days after the pump installation work is completed. Be advised that you may be subject to fines of up to $5,000 per day for any violations of your permit conditions starting from the permit approval date.

Please sign both permit originals and return one copy to the Commission office for our files.

**IMPORTANT** - Pump installation shall not commence until a fully signed permit is returned to the Commission.

If you have any questions, please call Ryan Imata of the Commission staff at 587-0255.

Sincerely,

[Signature]

WILLIAM J. AILA, JR.
Chairperson

Enclosure

c: Daniel Besser (with applicable comments – DOH SDWB, WWB, CWB)
PUMP INSTALLATION PERMIT
Mana Well, Well No. 3687-86

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 Mana Well (Well No. 3687-86) at TMK (3) 1-5-051:031, Hawaii, 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 48 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/info_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: February 28, 2012
Expiration Date: February 28, 2014

WILLIAM J. AILIA, JR., 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 #: BC-23379 Date: _____________________
Printed Name: Rod Diamond Firm or Title: Diamond Construction and Water

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

Attachments
March 5, 2012

Ref: 3687-86.wcp

Mr. Rod Diamond
Diamond Construction and Water Well Drilling
HCR#3 Box 14073
Keeau, HI 96749

Dear Mr. Diamond:

Well Construction Permit
Mana Well (Well No. 3687-86), Hawaiian Paradise Park, Island of Hawaii

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 a permanent pump. As part of the Chairperson's approval, the following special conditions were added and are part of your permit under Permit Condition 17:

Special Conditions

1. Attached for your information are copies of the Department of Health's (DOH) review comments. Please note DOH's requirements related to discharge of effluent from well drilling and testing activities. Also, please contact the Noise Radiation and Indoor Air Quality Branch at 586-4700 to check compliance with construction noise permit requirements for this project.

Please refer to the Permit Processes Worksheet (transmitted with your acknowledgement letter) for further information regarding the process of drilling a well and installing a pump.

No withdrawal of water shall be made other than for testing purposes until a certificate of pump installation completion has been issued by the Commission.

Please sign both permit originals and return one copy to the Commission office for our files. For copies of the aquifer pump test worksheet, please call staff or visit www.state.hi.us/dlnr/cwrm/forms.htm.

IMPORTANT - Drilling work shall not commence until a fully signed permit is returned to the Commission. The permit shall be prominently displayed or made available at the construction site during construction. Be advised that you may be subject to fines of up to $5,000 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 587-0255 or toll-free at 974-4000 (Hawaii), 274-3141 (Kauai), 984-2400 (Maui), or 1-800-468-4644 (Lanai & Molokai), extension 70255.

Sincerely,

WILLIAM J. AILA, JR.
Chairperson

Enclosures

c: Daniel Besser (with applicable comments – DOH SDWB, WWB, CWB)
WELL CONSTRUCTION PERMIT

Mana Well, Well No. 3687-86

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 Mana Well (Well No. 3687-86) at TMK (3) 1-5-051:031, Island of Hawaii, 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 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 immediately and 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 §13-168-13(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: February 28, 2012
Expiration Date: February 28, 2014

WILLIAM J. AILA, JR., 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 #: BC-23379 Date: ____________
Printed Name: Rod Diamond Firm or Title: Diamond Construction and Water Well Drilling

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

Attachment
### Well Check Program
4/1/04 - Revised for update to Well Standards (February 2004)

<table>
<thead>
<tr>
<th>Data Input</th>
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<tbody>
<tr>
<td>Well Number</td>
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<td></td>
</tr>
<tr>
<td>Well Name</td>
<td>Mana</td>
<td></td>
</tr>
<tr>
<td>Ground Elevation</td>
<td>80</td>
<td></td>
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<tr>
<td>Cement Grout</td>
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<td>Grouting Method</td>
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<td>Solid Casing Specification</td>
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<td>Open Casing Length</td>
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</table>

### Results

#### Well Depth
- Theoretical Thickness of Aquifer: 123
- 1/4 Aquifer Thickness: 30.75
- Depth of Well below Sea Level: -10 okay

#### Well Casing
- Minimum Wall Thickness
  - Material: PVC plastic
  - Minimum Thickness per standards: no requirement
  - Wall Thickness Provided: 0 no standard
- Minimum Length of Solid Casing
  - 90% of ground to top of aquifer: 69.3
  - Length of solid casing Provided: 77 okay
- Casing Material
  - Schedule 40 in compliance
- Annular Space
  - Calculated Depth of Grouting: 53.9
  - Depth of Grouting provided: 53.9 okay
- Minimum Annular Space required: 2
- Thickness of Annular Space: 2 okay
February 6, 2012

TO: Honorable Loretta J. Fuddy, A.C.S.W., M.P.H., Director
Department of Health
Attention: Acting Chief, Wastewater Branch
Joanna L. Seto, Chief, Safe Drinking Water Branch
Alec Wong, Chief, Clean Water Branch
Dr. Keith Kawaoka, Office of Hazard Evaluation and Emergency Response

FROM: William J. Aila, Jr., Chairperson
Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application
Mana Well (Well No. 3687-86) TMK (3) 1-5-051:031
Well address: 6th Ave

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit application.

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by March 5, 2012. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Iwata of the Commission staff at 587-0255.

RESPONSE:

Attachment(s)

RESPONSE:

[Responses and comments redacted]

Contact Person: MICHAEL MUYAHIRA Phone: 586-4258
Signed: Date: 2/24/12
Safe Drinking Water Branch (SDWB) - Engineering Section

See attached private water wells information sheet.

SDWB Underground Injection Control (UIC) Section

1. In general, a shallow well, or a well that recharges quickly from local rainfall, should not be used as a potable water source because such a well increases the risk of having unsatisfactory groundwater quality that when consumed may compromise health. Factors that directly influence a well’s groundwater quality include wastewater disposal systems (cesspools, septic systems, drainage wells), lawn/garden/crop-growing activities, and even the proximity to the ocean where salt water intrusion may occur.

2. Well water quality should be initially and periodically tested for it’s acceptable and intended use, especially if for human consumption. Water quality should not be presumed acceptable and unchanging. Land-based activities around the well and within the well’s recharge area may, over time, have an unacceptable effect on the well’s water quality. Well construction materials and related equipment could also affect water quality.
**WARNING!** As the owner of a privately-owned well, you should **NOT** assume that water from your well is safe for consumption. It is your responsibility to make sure that your well water is safe to drink. The only way to do this is to have your well regularly tested for bacteriological and chemical contaminants.

There are no regulations controlling water quality in private wells serving individual residences as there are for public water systems (public or privately owned utilities supplying water to 25 or more people or 15 service connections). In other words, there are no enforceable limits for contaminants and no requirements for regular testing. Private wells are often found in rural areas, where many activities such as onsite wastewater disposal can contaminate the groundwater.

**U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) RECOMMENDATIONS**

The EPA recommends that private well owners test their well water each year for such contaminants as Total Coliform Bacteria, Nitrates, as well as any other contaminants that may be of concern in your area. More frequent testing may be appropriate if you suspect a problem. EPA also suggests that you consider testing for pesticides, organic chemicals, and heavy metals before using it for the first time. Please refer to the EPA website on Private Drinking Water Wells at [http://www.epa.gov/safewater/privatewells/faq.html](http://www.epa.gov/safewater/privatewells/faq.html).

**OTHER CONTAMINANTS**

Water testing can be very expensive. It is important that you spend time to identify what other potential contaminants may be of concern. Please refer to the EPA website on Private Drinking Water Wells at [http://www.epa.gov/safewater/privatewells/whatyoucando.html](http://www.epa.gov/safewater/privatewells/whatyoucando.html) for more helpful information. Be aware of what and how you use and dispose of household and garden chemicals. Also determine the location of nearby septic tanks or cesspools, and agricultural or industrial activities in the area. General information on known chemical contamination of ground water in Hawaii can also be found at the DOH website [www.hawaii.gov/health/environmental/water/sdwb/conmaps/pdf/conmaps05.pdf](http://www.hawaii.gov/health/environmental/water/sdwb/conmaps/pdf/conmaps05.pdf).

**LABORATORIES**

Local commercial laboratories can be found in the yellow pages of the telephone book under “Laboratories, Analytical.” Whenever possible, utilize a laboratory that is certified or approved for the specific drinking water tests and carefully follow their instructions for collecting, storing, and transporting the samples. Just be sure to ask the lab to use EPA approved methods for drinking water analysis. A list of labs certified or approved by the Department of Health can be found at [www.hawaii.gov/health/environmental/water/sdwb/sdwb/pdf/Testing%20Labs.pdf](http://www.hawaii.gov/health/environmental/water/sdwb/sdwb/pdf/Testing%20Labs.pdf). As lab certification status changes constantly, confirm their status when you contact the lab. Please note that the list is limited to currently regulated contaminants in public water systems.

**RESULTS**

Once the lab provides you with the test results, you will be in a better position to determine if your well water is safe to drink or what contaminant you need to treat for. Generally, you should compare the results with Federal ([www.epa.gov/safewater/mcl.html](http://www.epa.gov/safewater/mcl.html)) and State ([www.hawaii.gov/health/environmental/water/sdwb/sdwb/pdf/State%20MCL.pdf](http://www.hawaii.gov/health/environmental/water/sdwb/sdwb/pdf/State%20MCL.pdf)) drinking water standards. Where your test results are greater than the State or Federal maximum contaminant levels, your well water should be considered as **unsafe** for consumption.
February 6, 2012

TO: Honorable Loretta J. Fuddy, A.C.S.W., M.P.H., Director
Department of Health
Attention: Acting Chief, Wastewater Branch
Joanna L. Seto, Chief, Safe Drinking Water Branch
Alec Wong, Chief, Clean Water Branch
Dr. Keith Kawaoka, Office of Hazard Evaluation and Emergency Response

FROM: William J. Aila, Jr., Chairperson
Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application
Mana Well (Well No. 3687-86) TMK (3) 1-5-051:031
Well address: 6th Ave

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit application.

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by March 5, 2012. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Imata of the Commission staff at 587-0255.

RESPONSE:

This well qualifies as a source which will serve as a source of potable water to a public water system (defined as serving 25 or more people at least 60 days per year or has 15 or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, Rules Relating to Potable Water Systems, §11-20-29.

This well does not qualify as a source serving a public water system (serves less than 25 people or more people at least 60 days per year or 15 service connections) and if the well water is used for drinking, the private owner should test for bacteriological and chemical presences before initiating such use and routinely monitor the water quality thereafter. However, if future planned use from this source increases to meet the public water system definition, then Director of Health approval is required prior to implementation.

If the well is used to supply both potable and non-potable purposes in a single system, the user shall eliminate cross-connections and backflow connections by physically separating potable and non-potable systems by an air gap or approved backflow preventer, and by clearly labeling all potable spigots with warning signs to prevent inadvertent consumption of non-potable water. Backflow prevention devices should be routinely inspected and tested.

For the applicant's information, a source of possible wastewater contamination is not located near the proposed well site (information attached). An NPDES permit is required.

Other relevant DOH rules/regulations, information, or recommendations are attached.

Contact Person: Eng. in Hilo

Signed:  Date: 10/20/02
OWNER: DANIEL BESSER
TMK: (3) 1-5-051: 031
LOT SIZE: ONE ACRE
LOCATION: 6TH AVENUE,
HAWAIIAN PARADISE PARK,
KEAAU, PUNA
NUMBER OF BEDROOMS/USE: TWO

NOTES:
1. Recommended location of the cesspool
2. Final location to be determined in the field
3. MINIMUM separation distances:
   Property line: 9'
   Building wall line: 5'
   Between cesspools: 18'
   Ground water: 5'
   Stream: 50'  Large trees: 10'

FOR CESSPOOL ONLY
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER BY OBSERVATION.

PAUL NASH, P.E.
ATLAS ENGINEERING, LLC
P.O. BOX 11188, HILo, HI 96725
PHONE: 965-7269  FAX: 965-9231

NOTE: ANIMAL WASTE MAY NOT BE DISPOSED OF IN CESSPOOL.

SCALE: 1" = 40'

OWNER SHALL PREVENT VEHICULAR TRAFFIC OVER CESSPOOL

SITE PLAN FOR CESSPOOL
MEMORANDUM

TO:        William M. Tam, P.E., Deputy Director  
           State Commission on Water Resource Management  
           P.O. Box 621, Honolulu, Hawai‘i 96809  
           c/o Ryan Imata (ryan.r.imata@hawaii.gov)  

FROM:      Theresa K. Donham, Archaeology Branch Chief  

SUBJECT:   Chapter 6E-42 Historic Preservation Review –  
           Well Construction/Pump Installation Permit, Mana Well (No. 3687-86)  
           Kea‘au Ahupua‘a, Puna District, Island of Hawai‘i  
           TMK: (3) 1-5-051:031  

RESPONSE:

[ ] This is a [ ] public (county or state) project  [ ] private project and [ ] will [ ] may affect historic properties

[ X ] We concur that no historic properties will be affected by the work described under this permit  
     (well location has been grubbed and graded; no known historic properties within or near parcel)

[ ] We request additional information in order to determine whether historic properties will be affected. Please  
     submit the following information:

Contact Theresa K. Donham at Theresa.K.Donham@hawaii.gov if you have any questions.

In the event that historic resources, including human skeletal remains, lava tubes, and lava blisters/bubbles are  
identified during the construction activities, cease work in the immediate vicinity of the find, protect the find from  
additional disturbance, and immediately contact the State Historic Preservation Division, Hawaii Island Section at  
(808) 933-7653.

Signed:

[Signature]
Subject: National Pollutant Discharge Elimination System Regulations for the Well Construction/Pump Installation Permit Application(s) for the Subject Well(s)

The Department of Health, Clean Water Branch (CWB) has the following comments for the subject well:

1. For Well-Drilling Activities

Any discharge to State waters of treated process wastewater effluent associated with well drilling activities is regulated by Hawaii Administrative Rules (HAR), Title 11, Chapter 55, Appendix I, effective October 22, 2007, and compiled June 15, 2009. Treated process wastewater effluent covered by this general permit includes well drilling slurries, lubricating fluids wastewater, and well purge wastewater. This general permit does not cover well pump testing. The applicable Notice of Intent (NOI) Forms and filing fee shall be submitted at least 30 calendar days before the start of discharge to the:

Department of Health
Clean Water Branch
919 Ala Moana Boulevard, Room 301
Honolulu, Hawaii 96814-4920

The CWB-NOI Forms are available online at http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html. Inquiries may be directed to the CWB at (808) 586-4309 or by fax (808) 586-4352.

2. For Well Pump Testing

The discharger shall take all measures necessary to prevent the discharge of pollutants from entering State waters. Such measures shall include, if necessary, containment of initial discharge until the discharge is essentially free of pollutants. If the discharge is entering a stream or river bed, best management practices shall be implemented to prevent the discharge from disturbing the clarity of the receiving water. If the discharge is entering a storm drain, the discharger must obtain written permission from the owner of the storm drain prior to discharge. Furthermore, best management practices shall be implemented to prevent the discharge from collecting sediments and other pollutants prior to entering the storm drain.

3. For Construction Activities Disturbing One (1) or More Acres of Total Land Area

By HAR, Title 11, Chapter 55, Appendix C, effective October 22, 2007, and compiled June 15, 2009, an NPDES permit or Notice of General Permit Coverage is required before the start of the construction activities that result in the disturbance of one (1) or more acres of total land area, including clearing, grading, and excavation. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. An NOI (see Comment No. 1, above) shall be submitted 30 calendar days before the start of construction activities.
FROM: RYAN  
TO:  
INIT: 
TO:  
INIT: 
FOR:  

1 Approval  
2 Signature  
3 Information  

PLEASE:

1 Review & Comment  
2 Take Action  
3 Type Draft acknow letter  
4 File & Input Issue Date  
5 Xerox  
6 copies  

WELL NUMBER Mana  
WELL NAME Mana  
WUP Number na  

☐ WELL CONSTRUCTION  ☐ PUMP INSTALLATION  ☐ WUPA  ☐ WUP Transfer  ☐ DEC-ADM97-A1 Modification  

ATTACHMENTS FOR APPLICATION PROCESSING - Both applicant & staff generated  
1 TRANS. LETTER  
2 PERMIT PROCESS TABLE  
3 CWRM MAPS  
4 APPL. FORM (11 COPIES)  
5 USGS MAPS (11 COPIES)  
6 TAX MAPS (11 COPIES)  
7 PARCEL OWNER VERIF.  
8 CONTRACTOR VERIF.  
9 ALL INFO FILLED IN  
10 BACKGROUND CHECK  
11 $25 FEE DEPOSIT SLIP  
12 DHP/CDUP/SMA pre-screen  
13 EA 343 5(a) triggers?  

☐ YES - trigger identified is:  
☐ NO - (if triggered, exemption analysis memo and/or OEQC Environmental Notice Documents must be attached before accepting)  

FOLDER:  
☐ MADE NEW FILE FOLDER, ATTACHED  
☐ FILE FOLDER ALREADY MADE, IN FILE CABINET  

INCOMPLETE ACTION DATES:  
DATE  
ACTION  

☐ File cancellation letters  
☐ EA wells awaiting acceptance  
☐ DHP cancellation letter attach?  

name per  
2/1/12
February 6, 2012

Mr. Rod Diamond
Diamond Construction and Water Well Drilling
HCR #3 Box 14073
Keeau, HI 96749

Dear Mr. Diamond:

Well Construction/Pump Installation Permit Application for
Well No. 3687-86, Hawaiian Paradise Park, Island of Hawaii

On February 2, 2012, the Commission on Water Resource Management (Commission) received your completed Well Construction/Pump Installation permit application and filing fee for the Mana Well (Well No. 3687-86). Your application will be processed within ninety (90) days from this date.

The attached table describes the process, responsible parties, and deadline requirements for drilling or modifying a well and installing, modifying, or replacing a pump.

By this acceptance letter, we are also notifying the well operator/landowner that no water may be pumped other than for testing until a certificate of well construction/pump installation completion letter is issued to the well operator and landowner.

The permitted pump capacity described on the pump installation permit may be reduced if the pump test does not support the capacity. No certificate of pump installation will be issued until the Commission determines that the pump capacity will not have adverse effects on the aquifer, other nearby wells, or streams. Thus, you may need to remove the pump and install a smaller pump if the Commission decides a smaller pump is required to protect water resources before you can withdraw water for purposes other than testing.

If you have any questions about your permit application, please contact Ryan Imata of the Commission staff at 587-0255 or toll-free at 974-4000 (Hawaii), 274-3141 (Kauai), 984-2400 (Maui), or 1-800-468-4644 (Lanai & Molokai) extension 70255.

Sincerely,

WILLIAM M. TAM
Deputy Director

RLss
Attachment

cc: Daniel Besser
TO: Honorable Loretta J. Fuddy, A.C.S.W., M.P.H., Director  
Department of Health  
Attention: Acting Chief, Wastewater Branch  
Joanna L. Seto, Chief, Safe Drinking Water Branch  
Alec Wong, Chief, Clean Water Branch  
Dr. Keith Kawaoka, Office of Hazard Evaluation and Emergency Response  

FROM: William J. Aila, Jr., Chairperson  
Commission on Water Resource Management  

SUBJECT: Well Construction/Pump Installation Permit Application  
Mana Well (Well No. 3687-86) TMK (3) 1-5-051:031  
Well address: 6th Ave  

February 6, 2012  

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit application.  

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by March 5, 2012. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.  

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Imata of the Commission staff at 587-0255.  

RESPONSE:  

This well qualifies as a source which will serve as a source of potable water to a public water system (defined as serving 25 or more people at least 60 days per year or has 15 or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title II, Chapter 20, Rules Relating to Potable Water Systems, §11-20-29.  

This well does not qualify as a source serving a public water system (serves less than 25 people or more people at least 60 days per year or 15 service connections) and if the well water is used for drinking, the private owner should test for bacteriological and chemical presence before initiating such use and routinely monitor the water quality thereafter. However, if future planned use from this source increases to meet the public water system definition then Director of Health approval is required prior to implementation.  

If the well is used to supply both potable and non-potable purposes in a single system, the user shall eliminate cross-connections by physically separating potable and non-potable systems by an air gap or an approved backflow preventer, and by clearly labeling all non-potable spigots with warning signs to prevent inadvertent consumption of non-potable water. Backflow prevention devices should be routinely inspected and tested.  

It does not appear that this well will be used for consumptive purposes and is not subject to Safe Drinking Water Regulations.  

For the applicant’s information, a source of possible wastewater contamination is not located near the proposed well site (information attached).  

An NPDES permit is required.  

Other relevant DOH rules/regulations, information, or recommendations are attached.  

In the event that the location of the well changes but is still within the parcel described on this application, our division considers the comments to still be applicable, and we do not need to review the new location.  

No comments/objections  

Contact Person: __________________________ Phone: __________________________  

Signed: __________________________ Date: __________________________
February 6, 2012

TO: Russell Tsuji, Administrator  
Land Division

FROM: William M. Tam, Deputy Director  
Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application  
Mana Well (Well No. 3687-86) TMK (3) 1-5-051:031

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit application.

We would appreciate your comments on the captioned application with regard to the programs, plans, and objectives specific to your division. Please respond by returning this cover memo form by March 5, 2012. If we do not receive comments or a request for additional review time by this date, we will assume you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Inata of the Commission staff at 587-0255.

RESPONSE:

[ ] A water lease/permit is required of this applicant and an application for such will be requested by our division.

[ ] A water lease/permit is not required of this applicant.

[ ] A water lease/permit has been obtained by the applicant through lease no. _____________________

[ ] Other relevant Land Division rules/regulations, information, or recommendations are attached.

[ ] No objections

[ ] Other comments:

Contact Person: ________________________ Phone: ______________

Signed: ___________________________ Date: ______________
February 6, 2012

TO: Dr. Puaalaokalani Aiu, Administrator
    Historic Preservation
    Attn: Theresa Donham

FROM: William M. Tam, Deputy Director
      Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application
         Mana Well (Well No. 3687-86) TMK: (3) 1-5-051:031

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit application.

We would appreciate your comments on the captioned application with regard to the programs, plans, and objectives specific to your division. Please respond by returning this cover memo form by March 5, 2012. If we do not receive comments or a request for additional review time by this date, we will assume you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application or request additional review time, please contact Ryan Imata of the Commission staff at 587-0255. If you require additional information regarding specific information that can be provided by the applicant, please contact the applicant directly at the contact information provided on the application form.

RI:ss
Attachment(s)

RESPONSE:

[ ] This is a [ ] public (county or state) project [ ] private project and [ ] will [ ] may disturb historic sites.

[ ] We concur that the work described under this permit will not disturb historic sites.

[ ] We do not concur that the work described under this permit will not disturb historic sites. We require the following for our concurrence:

Contact Person: ___________________________ Phone: __________

Signed: ___________________________ Date: __________
<table>
<thead>
<tr>
<th><strong>GENERAL LICENSEE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>LIC ID: CT-23379</td>
</tr>
<tr>
<td>NAME: RODNEY K DIAMOND</td>
</tr>
<tr>
<td>TRADE NAME:</td>
</tr>
<tr>
<td>STATUS: CURRENT, VALID &amp; IN GOOD STANDING</td>
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<tr>
<td>ENTITY: INDIVIDUAL</td>
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<tr>
<td>ORIG LIC DATE: 10/12/2001</td>
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<tr>
<td>CLASS PREFIX: BC</td>
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<tr>
<td>RESTRICTION:</td>
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<tr>
<td>CONDITIONS AND LIMITATIONS:</td>
</tr>
<tr>
<td>BUSINESS ADDR: HCR #3 BOX 14073 KEAAU HI 96749</td>
</tr>
<tr>
<td>MAILING ADDR:</td>
</tr>
</tbody>
</table>

Click here to enter search criteria for prior complaints history -
For prior complaints and disciplinary history, contact licensing and business information center at (808) 587-3295.
<table>
<thead>
<tr>
<th>Taxkey</th>
<th>Subdiv/Condo Tnr</th>
<th>Address</th>
<th>Owner/Lessee</th>
<th>Bds</th>
<th>Bths</th>
<th>Land area</th>
<th>Liv area</th>
<th>Last Sale Instr</th>
<th>Price</th>
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<td>3-1-5-51-31</td>
<td>Hawaiian F 6TH</td>
<td>BESSER,</td>
<td>DANIEL H &amp;</td>
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<td>0</td>
<td>1.00 ac</td>
<td>0</td>
<td>DEED 4/12/2011</td>
<td>$75,00</td>
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This information has been supplied by third parties and has not been independently verified by Hawaii Information Service and is, therefore, not guaranteed. Copyright ©1/31/2012
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<th>AMOUNT</th>
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<td>$25.00</td>
<td>HFS (Ck #873416)</td>
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**TOTAL** $25.00

**REMARKS:**
- LINE (1): Mana Well
- LINE (2): 
- LINE (3): 
- LINE (4): 
- LINE (5): 
- LINE (6): 
- LINE (7): 
- LINE (8): 
- LINE (9): 
- LINE (10): 
STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
APPLICATION FOR A WELL CONSTRUCTION / PUMP INSTALLATION PERMIT

**Instructions:** Please print in ink or type and send completed application with attachments to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. Application must be accompanied by 10 copies and a non-refundable filing fee of $25.00 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 587-0225.

**Well Location Information**

<table>
<thead>
<tr>
<th>State Well No.</th>
<th>Intended Use</th>
<th>Owner</th>
<th>Contact</th>
<th>Address</th>
<th>Well Operator’s Contact</th>
<th>Address</th>
<th>Well Location Monitor's Address</th>
<th>Address</th>
</tr>
</thead>
<tbody>
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**Proposed Well Construction**

<table>
<thead>
<tr>
<th>Proposed Work</th>
<th>Well Type</th>
<th>Drilled Depth</th>
<th>Shaft Depth</th>
<th>Tunnel Depth</th>
<th>Drilled Well Area</th>
<th>Existing Well Area</th>
<th>Abandoned Well Area</th>
<th>Connected to Public Water System</th>
<th>Utility Area</th>
<th>Special Management Area</th>
<th></th>
<th>Preparation Date</th>
</tr>
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<tr>
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<td>X</td>
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</tbody>
</table>

**Proposed Pump Installation**

<table>
<thead>
<tr>
<th>Proposed Well Type</th>
<th>Proposed Pump Type</th>
<th>Method of Flow Measurement</th>
<th>Number of GPM</th>
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**Site Photo**

**Proponent Use**

<table>
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<tr>
<th>Use</th>
<th>Description</th>
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**Other Legal Requirements**

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<tr>
<th>Requirement</th>
<th>Description</th>
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**Well Use Permit No.**

<table>
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<th>Number</th>
<th>Description</th>
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**Notes:**

- Signing below indicates that the signatories understand and agree that the information provided is accurate and true to the best of their knowledge. Further, the signatories understand that upon permit approval, 1) the proposed work is to be completed within 2 years from the approval date, 2) the contractor shall submit to the Commission a well completion/compliance report within 60 days after the completion date of the permit, 3) in the event that the application is not completed correctly, any permit may be suspended until the error is brought to compliance, and any work done while the permit is in suspension may result in fines of up to $5000/day.

**Well Driller**

<table>
<thead>
<tr>
<th>Name</th>
<th>License No.</th>
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**Pump Installer**

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<tr>
<th>Name</th>
<th>License No.</th>
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**Application Form Date**

<table>
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<tr>
<th>Date</th>
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**Contact Information**

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone</th>
<th>E-mail</th>
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**Attachment:**

[Additional information and attachments related to the application.]
Proposed Well Location at red flag
PROPOSED WELL SECTION (Please attach schematic if different from diagram provided below)

<table>
<thead>
<tr>
<th>Hole Diameter: 3.5 inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevation at top of casing: 81 ft. msl*</td>
</tr>
<tr>
<td>Minimum of 2' Radius &amp; 4&quot; Thick Concrete Pad (to contain benchmark surveyed to nearest 0.01 ft)</td>
</tr>
<tr>
<td>Ground Elevation: 80 ft. msl*</td>
</tr>
</tbody>
</table>

Grouting method:  
- Positive Displacement  
- x Other

Annular space between hole and casing (1") for positive displacement, 3" for other methods
- 2 in.

Rock or Gravel Packing:
- 23.1 in.
- Material:
  - x Crushed Basalt  
  - □ Rounded Gravel

Estimated Water Level Elevation:
- 3 ft. msl*

Cement Grout: 53.9 ft. (min. 70% of distance from ground elevation to top of water surface or 500 ft. whichever is less)

Solid Casing: (≥ 90% x [Ground Elev. - Water Level Elev])
- Total Length: 77 ft
- Nominal Diameter: 4.5 in
- Wall Thickness: 8 S40 in
- Bottom Elevation: 3 ft. msl*

Open Casing:
- □ Perforated  
- □ Screen
- Total Length: 13 ft
- Nominal Diameter: 4.5 in
- Wall Thickness: 8 S40 in
- Bottom Elevation: -10 ft. msl*

Open Hole:
- □ Perforated  
- □ Screen
- □ Core Sample
- □ None
- □ Other

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 or more):
  - □ ASTM A424 (or A500)  
  - □ Type E  
  - □ Type S  
  - □ Grade B  
  - □ Other
- Stainless Steel: (check one):  
  - □ ASTM A424 (production wells)  
  - □ ASTM A312 (monitor wells)
- ABS Plastic conforming to ASTM F480 and ASTM D1527: (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. 5L  
  - □ ASTM A53  
  - □ ASTM A139
- Stainless Steel: (check one or more):
  - □ ASTM A424 (or A500)  
  - □ Type E  
  - □ Type S  
  - □ Grade B  
  - □ Other
- Stainless Steel: (check one):
  - □ ASTM A424 (production wells)  
  - □ ASTM A312 (monitor wells)
- ABS Plastic conforming to ASTM F480 and ASTM D1527: (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

* 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 should not be deeper than 1/4 of aquifer thickness or, Bottom Elevation of Well Limit = (Water Level - 41 x Water Level Elevation / 4)

Example: Estimated + 2 ft Water Level Elev: >>> Bottom Elevation of Well Limit = (2 - 41 x (2) / 4) = -18.5 ft.
STATE OF HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
APPLICATION FOR A WELL CONSTRUCTION / PUMP INSTALLATION PERMIT

Instructions: Please print in ink or type and send completed application with attachments to the Commission on Water Resource Management. P.O. Box 621, Honolulu, Hawaii 96809. Application must be accompanied by 10 copies and a non-refundable filing fee of $35.00 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 808-835-3228. For further information and updates to this application form, visit http://www.hawaii.gov/dlnr/cwrm.

WELL LOCATION INFORMATION

1. STATE WELL No (if already assigned)
   WEL-1001
2. COUNTY
   Hawaii
3. TMAK
   051
4. TND
   031
   
   The following information is to be submitted in the application as complete and correct (check off if applicable):
   - Portion of 7.5-Minute Series U.S.G.S. topographic map (cover $12.00) with well location shown and include the name of the quad map
   - Property tax map, showing well location referenced to established property boundaries.
   - Photograph of the proposed well site.
   - A schematic diagram showing the well site, access road and proposed well infrastructure (if applicable)
   - For dug wells, sketch a grading plan with cross section profiles showing existing and future grades.

5. WELL OPERATOR’S NAME/COMPANY
   Daniel Howard Besser
   Sumiko Toguchi Besser
   Well Operator’s Making Address
   15-1811 4th Ave HPP
   Keaau, HI 96749

6. LANDOWNER’S NAME/COMPANY
   SAME

   X Construct New Well.
   □ Modify Existing Well.
   □ AbandonSeal Well.

8. Construction Type
   □ Drilled
   □ Aug
   □ Start.
   □ Tunnel

9. Is this well part of a battery of wells? □ Yes □ No

10. Proposed Pumping Rate, gpm (gallons per minute)
   □ Replace Pump
   □ New Pump

11. Proposed Amount of Withdrawal, gal (gallons per day)
   □ Open Pipe
   □ Well
   □ Office
   □ Other
   □ 5,000

12. Method of Flow measurement
   □ X
   □ Other

13. Special Management Area Permit (SMAP) Required
   □ Yes
   □ No
   SMA# ____________________
   Date approved: ____________
   □ Not Required (attach documentation from applicable County Agency)
   □ I have not checked with the county about whether or not an SMA Permit is required.
   □ I have checked with applicable documentation from applicable County Agency.

14. Proposed Permit number if required

15. Municipal (water systems serving greater than 25 individuals or 15 service connections)
   □ 16 Domestic Number of units to be served: 1

16. Irrigation (describe crop and no. of acres) Vegetables, 7 acres

17. Military (describe)

18. Other (describe)

OTHER LEGAL REQUIREMENTS: If required, items 21. and 23. must be obtained before the Commission can legally issue a permit.

21. Conservation District Use Permit (CDUP)
   □ Required
   □ Not Required
   □ CDUP # ____________________
   □ Date approved: ____________
   □ X
   □ Other
   □ I have not checked with CCO for about whether or not a CDUP is required.
   □ I have checked with CCO for about whether or not a CDUP is required.

22. Special Management Area Permit (SMAP) Required
   □ Yes
   □ No
   SMA# ____________________
   Date approved: ____________
   □ Not Required (attach documentation from applicable County Agency)
   □ I have not checked with the county about whether or not an SMA Permit is required.
   □ I have checked with applicable documentation from applicable County Agency.

23. State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources
   □ I have consulted SHPD regarding potential impacts of well construction activities on historic sites.
   □ I have attached applicable documentation from SHPD.
   □ I have not consulted SHPD regarding potential impacts of well construction activities on historic sites.

24. Chapter 333
   □ Environmental Assessment was completed, and
   □ An Environmental Statement was required and has been accepted (attach letter of acceptance).
   Publication date on The Environmental Notice:
   □ A finding of No Significant Impact has been determined (attach letter).
   Publication date on The Environmental Notice:

   This project proposes:
   Use of state or county land, or use of state or county funds
   Use within a state conservation district
   Use within the Waikiki Special District
   Use of a shoreland accretion area
   A wastewater treatment unit
   A waste to energy facility
   The construction, expansion or modification of a helicopter facility
   Use of a sandbar accreted area
   Use within a conservation district
   Use within the Waikiki Special District
   Use within a Shoreline Management Area
   Use within a state conservation district
   Use within a Shoreline Management Area
   None of the above 11 items

25. Water Use Permit No. (If applicable):

   Additional remarks, explanations, etc. (attach additional sheet if more space is needed)

NOTE: Filling in boxes indicates that the signatures understand and agree that the information provided is accurate and true to the best of their knowledge. Further, the signatures understand that upon permit approval: 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/bond report within 60 days after the completion of the permitted work; 3) in the event that the application is not completed correctly, any permit may be suspended until the item is brought into compliance, and any work done while the permit is in suspension may result in fines up to $5000/year.

19. Well Driller or Contractor (If application is for Well Construction)
   Rodney K Diamond
   BC23379

20. Pump Installer (If application is for Pump Installation)
   Rodney K Diamond
   BC23379

21. Address
   HCR #3 Box 14073 Keaau HI 96749
   16 AUG 2011

22. E-mail
   Diamond.drilling.pump@gmail.com

23. Phone
   966-4129

24. Address
   997-9100

25. Phone
   996-4129

Department of Land and Natural Resources
Commission on Water Resource Management
2011 AUG 24 PM 1:28

WCP App. Form 8/2012
PROPOSED WELL SECTION (Please attach schematic if different from diagram provided below)

Elevation at top of casing: 81 ft., msf

Hole Diameter: 8.5 inches

Minimum of 2' Radius & 4.4" Thick Concrete Pad (to contain benchmark surveyed to nearest 0.01 ft.)

Ground Elevation: 80 ft., msf

Cement Grout: 53.9 ft.
(min. 70% of distance from ground elevation to top of water surface or 500 ft., whichever is less.)

Accurate space between hole and casing (1.5" for positive displacement, 3" for other methods)

2 in.

Rock or Gravel Padding:

23.1 in.

Material

o Crushed basalt
o Rounded gravel

Total Depth

90 feet.

Estimated Water Level Elevation:

3 ft., msf

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

Total Length: ______ ft.
Nominal Diameter: _____ in.
Wall Thickness: _____ in.
Bottom Elevation: 3 ft., msf

Open Casing: 

Perforated

Screen

Total Length: ______ ft.
Nominal Diameter: _____ in.
Wall Thickness: _____ in.
Bottom Elevation: _____ ft., msf

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

Open Hole:

Length: NA
Diameter: ______ in.
Bottom Elevation: ______ ft., msf

* 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 Basin Wells - bottom elevation of well should not be deeper than 1/4 of aquifer thickness or, Bottom Elevation of Well Limit = (Water Level - 41 x Water Level Elev) / 4

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

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 (or A606) □ Type E □ Other
- Stainless Steel: (check one): □ ASTM A409 (production wells) □ ASTM A312 (monitor wells)
- ABS Plastic conforming to ASTM F480 and ASTM D1527: (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. 5L □ ASTM A53 □ ASTM A139
- And compliant with (check one or more): □ ASTM A242 (or A606) □ Type E □ Other
- Stainless Steel: (check one): □ ASTM A409 (production wells) □ ASTM A312 (monitor wells)
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