**CHECKLIST**

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<table>
<thead>
<tr>
<th>WELL CONSTRUCTION PERMIT</th>
<th>PUMP INSTALLATION PERMIT</th>
</tr>
</thead>
</table>

**WELL NAME or LOCATION:** Mauna Lani Irrigation  
**ISLAND:** Hawaii

**WELL NUMBER:** 5651-01  
**Tax Map Key:** 6-8-01:52

**OWNER/OPERATOR:**
- **Firm Name:** Mauna Lani Resort, Inc.  
- **Contact Person:** Bill Spitz  
- **Address:** P.O. Box 4959 - HCR 2, Kohala Coast, Hawaii 96743  
- **Phone:** 885-6677

**LANDOWNER:**
- **Firm Name:** same  
- **Contact Person:**  
- **Address:**  
- **Phone:**

---

**Date application received:** 18 November 1991

**Date acknowledged receipt/request more info:**

**Date application accepted:**

**Suspense date (90 days):**

**Date filing fee deposited:**

**Application sent to following:**

<table>
<thead>
<tr>
<th>Department/Office</th>
<th>Date sent</th>
<th>Comments received</th>
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<tr>
<td>Dept. of Hawa Home Lands</td>
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<tr>
<td>Dept. of Health</td>
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<td>Office of Hawa Affairs</td>
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<td>State Hist Pres Div</td>
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<td>Dept/Bd of Water Supply</td>
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<td>Additional List (Molokai)</td>
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**Date agenda due:**

**Date submittal due:**

**Date submittal sent to applicant:**

**Date application approved or disapproved:**

**Date applicant notified of decision:**

**REMARKS:** Pump may have been installed w/o approval from CWRM  
_Since July 1990_
To: ROY HARDY - CWRA

From: Tom Nance

Subject: South Korea Water Waste Group

(1) Copy of the signed Memorandum of Understanding (pp. 2-5)
(2) Unsigned copy of Policies and Procedures (pp. 6-9)

680 Ala Moana Boulevard, Suite 406 • Honolulu, Hawaii 96813-5411 • Phone: (808) 537-1141 • Fax: (808) 538-7757

Ryan - Fored this should put copies in relevant Big Island well folders
MEMORANDUM OF UNDERSTANDING BETWEEN MAUNA KEA PROPERTIES, INC., MAUNA LANI RESORT, INC., NANSAY HAWAII, INC. AND WAIKOLOA LAND COMPANY ON COOPERATIVE REGIONAL WATER DEVELOPMENT

Mission Statement

To work jointly and cooperatively in developing and implementing a regional water plan which best serves the collective water needs of the parties and others within the region in a manner acceptable to relevant governmental authorities.

Objectives

The parties to this Memorandum of Understanding (collectively referred to as "South Kohala Water Study Group" or "Group") acknowledge and agree that it is in their long-term best interests to achieve the Mission set forth above in the following manner:

- Reach agreement on a regional plan for the development of sources and distribution systems for potable, non-potable water and effluent reuse;
- Form and establish, as equity participants, a private, regional water company or companies for the development, production, distribution and sale of potable, non-potable and effluent reuse resources serving the parties and others within the region;
- Reach bilateral and multilateral agreements achieving the staged implementation of the regional water plan;
- Publicly support and consider the commitment to the conditional, partial funding of the County of Hawaii Department of Water Supply's (DWS) development of its planned North Kohala Pipeline;
- Develop a Water Commitment Policy, which is incorporated herein by reference, containing guidelines and requirements for each Group Member securing a sufficient supply of water for actual use in accordance with a realistic timetable;
Coordinate the activities of the Water Study Group with all relevant State of Hawaii authorities, including but not limited to its Water Commission, in a manner which promotes and preserves the Group's ability to deal with regional water issues on a collective basis;

Communicate, where appropriate, with other interested parties within the region;

Enter into subsequent joint agreements intended to implement the objectives adopted herein.

Governance

The activities of the Group shall be governed and coordinated through an Executive Committee comprised of a designated representative of each signatory to this Memorandum of Understanding.

The Group Executive Committee shall:

- Approve all policies, agreements and expenditures made on behalf of the Group; provided, that if the representative of any Group member specifically disapproves of any such expenditure, that Group member shall be excused from its pro rata share of such expenditure;

- Approve the inclusion of additional members to and approve, except member in question, for the exclusion of existing members from the Water Study Group;

- Approve public statements and testimony regarding Water Study Group activities;

- Develop and approve an annual operating budget, project budgets and the individual party's obligations to fund the operations and the development of these planned projects;

- Be kept informed of all agreements entered into between Water Study Group members affecting the Group's Mission and Objectives;

- Coordinate all contact regarding the activities of the Water Study Group with governmental agencies;
Direct and approve the activities of all consultants retained by the Water Study Group relating to its stated Mission and Objectives.

All decisions of the Group shall be by the majority of the members of the Executive Committee except for "key decisions" which require unanimous approval. Key decisions include approval of the annual operating budget and individual members' obligation to fund operations or make contributions to the development of planned projects, expenditures which are outside of the approved budget in excess of $5,000 in any single case or $25,000 in the aggregate and the addition of any new member to the Executive Committee.

Dispute Resolution

It is acknowledged that from time to time, disputes and disagreements may arise between the parties to this Memorandum of Understanding regarding regional water issues and that it is in their long-term collective best interests that such disputes be resolved without resort to governmental or judicial involvement.

The parties agree that they shall use their individual and collective best efforts to resolve any and all outstanding issues covered by this Memorandum. The parties further agree that in the event negotiations fail to result in acceptable agreement or resolution, they may voluntarily submit outstanding issue(s) to binding or nonbinding arbitration pursuant to terms agreed to by the parties.

North Kohala Pipeline

The parties agree to support the concept of a North Kohala pipeline transporting potable water to South Kohala being pursued by the Department of Water Supply, County of Hawaii.

In the event that the parties are reasonably satisfied that the North Kohala pipeline will be built, but no later than the start of construction, individual signatories to this agreement shall commit, on a fair and equitable basis, to the partial funding of said pipeline under acceptable terms and conditions to be negotiated.
Termination/Withdrawal

A majority of the members of the Group may terminate the Group and joint obligations contained in this Memorandum of Understanding. Individual Group members may withdraw from the South Kohala Water Study Group upon written notice to other members; provided, that members shall remain liable for their or its pro-rata share of costs of operations per the approved budget or amendments thereto, incurred during their membership or prior to withdrawal, as the case may be.

This Memorandum of Understanding is entered into this 9th day of February, 1993.

MAUNA KEA PROPERTIES, INC.  
By ____________________________  
Its ____________________________

NANSAY HAWAII, INC.
By ____________________________  
Its ____________________________

MAUNA LANI RESORT, INC.
By ____________________________  
Its ____________________________

WAIKOLOA LAND COMPANY
By ____________________________  
Its ____________________________
DRAFT
Water Commitment Policies and Procedures
of the
South Kohala Water Users' Group
Revised: [February 4, 1993]
March 9, 1993

The South Kohala Water Users Group ("Group") recognizes the need to develop a coherent set of policies and procedures for the development of groundwater to ensure maximum beneficial use of this limited resource, avoid conflicts among users, and facilitate the timely development of water tied to actual use. The parties to this document agree to abide by the policies and procedures it contains and encourage the State Commission on Water Resource Management ("Commission") to evaluate all drilling and pump installation permits received from other water users in the basin by the same criteria.

POLICIES

1. The group recognizes that all parties need assurance of the availability of water for their developments. The group further recognizes that such assurances can occur only if it is agreed to by all parties.

2. All drilling, well modification, and pump installation permits will be formulated to conform to the intent of the then current version of the Group's approved South Kohala Water [Master] Resource Plan.

3. All drilling, well modification, and pump installation permits will be submitted to the Group for its approval prior to submittal to the Commission. The Group's approval shall be based on the applicant's conformance with these policies, and the procedures listed below. The Group's approval shall not be unreasonably withheld if such conformance is demonstrated.

4. To minimize excessive use of groundwater, all effluent from sewage treatment plants shall be reused for irrigation unless it can be conclusively demonstrated to be physically and/or economically impractical for the developer of the irrigation supply or the ultimate user of the water.
4. All new landscaping, including golf course turfgrass, will be designed and implemented to minimize irrigation use. Efforts toward this end shall include choosing appropriate plant materials, use of proper soil types and thickness, and avoiding excessive turfgrass areas. Any new 18-hole golf course shall not use more than 0.75 MGD on year-round average nor more than 1.00 MGD over any seven-day period.

5. All new hotel, residential, commercial, and industrial development shall be designed to minimize water use and shall include appropriate water saving devices.

6. Drilling permits should be supported if consistent with the Water Resource Plan as they provide much needed information about this region’s aquifer.

7. [Drilling and] Pump installation permits shall not be sought more than two years in advance of actual need [to avoid creating false shortages of supply and inappropriate positioning for the resource, potentially denying others their fair and equitable use].

8. Members of the Group agree to devise water use standards for consumption of potable and irrigation water use in order to implement these policies.

9. It is recognized that agreements between two or more parties may be necessary to facilitate respective water development. [Such agreements shall be consistent with these policies and procedures.]

PROCEDURES

1. All applications for drilling, well modification, and pump installation permits, including extensions of these permits, will be submitted for review and approval by the Group to ensure conformance with the Intent of the Group's policies and [master] water resource plan prior to submittal to the Commission.

2. To initiate the Group's review, application will be submitted with the following supporting information:

   a. Quantity [and timing] of potable and/or non-potable supply requirements, including the basis for these projections (unit counts, acreage, etc.).
b. Measures taken to avoid excessive potable and/or non-potable water use.

c. Exact location of the water uses, including land use plans, TMKs, etc.

d. Approved State land use designation; County General Plan designation; County zoning; use permit for district use; and the prospective land use approvals, including subdivision, needed to achieve the desired land use.

e. The project's site specific water master plan for potable and not potable water shall be submitted.

f. Exact location, dimensions, and pump capacity of the well (or wells) to be developed to meet these supply requirements.

[g. A development schedule indicating the date of actual water use.]

3. The Group's review and response to the application shall be completed within 45 days. The response shall judge the application's conformance with these policies and with the South Kohala Water [Master] Resource Plan, [the appropriateness of the timing of the application,] and the [a.e.]

[Unless there are compelling reasons otherwise, the timing of an application shall be deemed inappropriate unless all land use approvals through and including County zoning have been received and the actual use of water, based on a firm schedule, is to begin within two years.]

Listed below are specific criteria of the Group's review of applications.

a. If conformance with these policies and procedures is demonstrated [and the timing of the application is appropriate,] the Group's approval shall not be unreasonably withheld.

b. If the application fails to meet the standards for acceptability set out herein, no submittal of the application to the Commission shall be made until revisions satisfactory to the Group are made.

c. The Group's approval for a pump installation permit shall be given only after tentative subdivision approval for the project to be served has been given.

d. If a proven water source is a condition of County zoning or use permit approvals, the Group's approval of a well construction permit shall be given only if evidence of the actual water use within two years is provided.
These Water Commitment Policies and Procedures are entered into this day of ______________, 1993.

Mauna Kea Properties, Inc.
By: __________________________
Its

Nansay Hawaii, Inc.
By: __________________________
Its

Mauna Lani Resort, Inc.
By: __________________________
Its

Waikoloa Land Company
By: __________________________
Its
August 17, 1999

Ms. Sachiko Murano
Mauna Lani Resort
68-1310 Mauna Lani Drive, Suite 101
Kohala Coast, Hawaii 96743-9704

Dear Ms. Murano:

IRRIGATION WELLS CERTIFICATION
MAUNA LANI RESORT
At Waikoloa, South Kohala, Island of Hawaii, Hawaii

The undersigned hereby certifies that a field survey was performed to establish elevations on the listed irrigation wells at Mauna Lani Resort with the following results:

1. North Well, Well No. 5749-01:
   a. Elevation of "+" cut on concrete pad is 92.56 feet.

2. Fire Station Well, Well No. 5750-03:
   a. Elevation of "+" cut on steel plate is 59.48 feet.

3. Culvert Well, Well No. 5650-02:
   a. Elevation of "+" cut on concrete pad is 123.77 feet.
   b. Elevation of top of base plate is 123.92 feet.

4. Entrance Well, Well No. 5650-01:
   a. Elevation of "+" cut on concrete pad is 136.64 feet.
   b. Elevation of top of base plate is 136.81 feet.

5. Highway Well, Well No. 5651-01:
   a. Elevation of "+" cut on concrete pad is 120.96 feet.
   b. Elevation of top of base plate is 121.12 feet.

The elevations are referred to Mean Sea Level (MSL) and based upon Kawaihae Harbor Tidal Bench Mark 3 with an elevation of 7.23 feet, MSL.

R.M. TOWILL CORPORATION

Robert K.Y. Lee
Licensed Professional Surveyor
Certificate Number 5075

Ct: Greg Fukuura, TNWR
Mr. Keith W. Ahue  
Chairperson  
Commission on Water Resource Management  
Post Office Box 621  
Honolulu, HI 96809  

Re: Pump Installation Permits  

Dear Mr. Ahue:  

Enclosed please find the following executed original Pump Installation Permits:  

1. Mauna Lani Resort Irrigation Well No. 5650-01;  
2. Mauna Lani Resort Irrigation Well No. 5650-02  
3. Mauna Lani Resort Irrigation Well No. 5651-01; and  
4. Mauna Lani Resort Irrigation Well No. 5749-01;  

We have retained copies for our files.  

Please contact me should you have any questions.  

Sincerely,  

MAUNA LANI RESORT, INC.  

Morikuni Sasakura  
President  

Enclosures
PUMP INSTALLATION PERMIT

for

Mauna Lani Resort Irrigation Well
Well No. 5651-01
South Kohala, Hawaii

TO: Mauna Lani Resort, Inc.
P.O. Box 4959-HCR 2
Kohala Coast, HI 96743

In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", your application to install a 425 gallons per minute pump in Mauna Lani Resort Irrigation Well (Well No. 5651-01), is approved subject to the following conditions:

1. The Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, before any work covered by this permit commences.

2. The permit shall be for installation of a 425 gpm capacity, or less, pump in the well. A means to accurately measure water levels, acceptable to the Commission, shall be provided.

3. 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. This permit or the authorization to pump water from the well shall not constitute a determination of correlative water rights. The permittee is notified and by this provision understands that the quantity of water taken from the well could be reduced by the Commission in the future. This permit is not a commitment that the pump capacity permitted here or even some lesser amount is guaranteed in the future.

4. The applicant shall comply with all applicable laws, rules, and ordinances.

5. The applicant shall provide and maintain an approved meter or other appropriate device or means for measuring and reporting total water usage. Water usage and salinity shall be measured on a monthly basis and reported to the Commission.
6. This permit may be revoked if work is not started within six (6) months of the date of issuance or if work is suspended or abandoned for six months. The work proposed in the permit application shall be completed within two years from the date of permit approval.

7. An as-built sectional drawing of the pump installation shall be submitted to the Commission within thirty (30) days after completion of work.

8. The permit application and staff submittal approved by the Commission at its meeting on June 15, 1994 shall be incorporated herein by reference.

KEITH W. AHUE, Chairperson
Commission on Water Resource Management

JUL 7 1994
Date of Issuance

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.

Applicant's Signature: Morikuni Sasakura Date: 7-11-94

Printed Name: Morikuni Sasakura

Firm or Title: President

Please sign and return one copy of this permit to the Commission and retain a copy for your record.

cc: USGS
Department of Health
Safe Drinking Water Branch
Ground Water Protection Program
Wastewater Branch
Hawaii Department of Water Supply
Tom Nance Water Resource Engineering
Mr. Edwin T. Sakoda
Acting Deputy Director
Commission on Water Resource Management
Department of Land and Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Sakoda:

As-Built Well Sections for Mauna Lani Resort Irrigation Well
Nos. 5651-01, 5650-01, 5650-02, and 5749-01

In response to your June 2, 1999 letter to Mr. Hajime Yoshida at Mauna Lani Resort, we are enclosing as-built well sections, pump installation drawings, and other relevant data for the four wells cited in your letter. For clarity, their names and numbers are slightly different than cited in your letter. In sequence from south to north, they are as follows:

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<tr>
<th>Resort Number</th>
<th>Resort Name</th>
<th>State Number</th>
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<tbody>
<tr>
<td>4</td>
<td>Highway</td>
<td>5651-01</td>
</tr>
<tr>
<td>5</td>
<td>Entrance</td>
<td>5650-01</td>
</tr>
<tr>
<td>6</td>
<td>Culvert</td>
<td>5650-02</td>
</tr>
<tr>
<td>7</td>
<td>North</td>
<td>5749-01</td>
</tr>
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</table>

Please let me know if there are any other outstanding issues in the processing of the Resort's applications for Wells 8 and 9 (State Nos. 5849-02 and -03). Thank you for your attention to this matter.

Sincerely,

Tom Nance

cc: Sachiko Murano
    Hajime Yoshida

Enclosures
NOTES:

1. The pump outfitting contractor shall coordinate the timing of construction with: municipal and personal. 

2. Pump outfitting contractor shall verify present static water level and set bottom of pump bowl elevation accordingly.

3. End of sounding tube shall be set 2' above bottom of pump bowl elevation.

4. Site contractor shall construct concrete pads & blocks as shown on sheet C-4, "typical well pump plan & section".

HIGHWAY WELL SECTION

Scale: 3/4" = 1'-0"
MANWELL WELL NO 8 (HIGHWAY)
STATE NO. 5661-01
JAN. 2, 1980 AS-BUILT WELL SECTION

12" SOLID 120'

30' GROUT

OPEN ANNULUS

STATIC WATER LEVEL

12" SCREEN 10'

EASTING GROUND (1211')

DEPTH TO WATER 118.7'

TOTAL DEPTH 130'
Highway #4
State No. 5651-01
WELL COMPLETION REPORT

Instructions: Please print or type and submit completed report within 30 days after well completion to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96806. An as-built drawing of the well and chemical analysis should also be submitted. For assistance call the Commission Regulation Branch at 587-0225.

1. STATE WELL NO. 5651-01 WELL NAME Highway Well (No. 4) ISLAND Hawaii
2. LOCATION: Address Mauna Lani Resort Tax Map Key 6-8-01: 52 Honolulu.
3. DRILLING OR PUMP INSTALLATION CONTRACTOR Big Island Drilling
4. CONTRACTOR’S C-67 LICENSE NUMBER C-11455
5. NAME OF DRILLER WHO PERFORMED WORK Paul Bergstedt
6. TYPE OF RIG/CONSTRUCTION Cable-tool
7. DATE OF WELL DRILLING COMPLETION December 1988

(NOTE: Report must be submitted within 30 days after this date)

8. GROUND ELEVATION (msl) 121 ft.
   Top of Drilling Platform (msl) - ft.
   Height of Drilling Platform above Ground surface - ft.
   Bench Mark and Method Used to Determine Ground Elevation - ft.

9. DRILLER’S LOG:

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<th>Depth (ft.)</th>
<th>Water Level</th>
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10. TOTAL DEPTH OF WELL BELOW GROUND 130 ft.

11. HOLE SIZE: 16 inch dia. from 0 ft. to 130 ft. below ground
    inch dia. from ft. to ft. below ground
    inch dia. from ft. to ft. below ground

12. CASING INSTALLED:
    12 in. I.D. x 0.3125 in. wall solid section to 120 ft. below ground
    12 in. I.D. x 0.3125 in. wall perforated section to 130 ft. below ground
    Type of Perforation 60 sq. in./LF

13. ANNULUS: Gravel from 0 ft. below ground to 30 ft. below ground
    Gravel packed from ft. below ground to ft. below ground
    Rock Description.

14. INITIAL WATER LEVEL 119 ft. below ground. Date and time of measurement N/A
15. INITIAL CHLORIDE - ppm Date and time of sampling N/A
16. INITIAL TEMPERATURE °F Date and time of sampling N/A
17. DATE OF PUMP INSTALLATION: Pump Installation Permit Pending - Submitted 11-14-91

18. PUMP INSTALLATION: Pump Type, Make, Serial No. Capacity gpm
    Motor type, H.P., Voltage, rpm
    Depth of Pump intake Setting ft. below ground, which elevation is ft.
    Depth of bottom of airliner ft. below ground, which elevation is ft.
    Pumping Head is ft.

19. PUMPING TESTS: Reference Point (R.P.) used: ft. below ground, which elevation is ft.
    Date 11-11-88
    Start water level 118.67 ft. below R.P. Date
    End water level ft. below R.P.
    Depth of well ft. below R.P.

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<th>Temp. °F</th>
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(If more space is needed, continue on back.)

Remarks: A.V.R. Mauna Lani 4 5651-01

Contractor (print) Big Island Drilling Title

Signature

Date

For Driller’s Use
Job Name

For Official Use
Well No.
Longitude
Latitude

(If more space is needed, continue on back.)
PUMP DESCRIPTION: Driver **DIESEL ENGINE**; Head **6 x 6 x 12**; Column **6**

GUARANTEED FIELD PERFORMANCE: Capacity **425** gpm; Head **192** ft; Eff **81**%; BHP **26**

**HYDRAULIC PERFORMANCE WARRANTY**

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<td>UNDERCUT ALL THE WAY 6 1/2&quot;</td>
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<td>STANDARD FILING 6 1/2&quot;</td>
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**Laboratory Performance**

- **SIZE 9**: 9 LA
- **RPM 1760**: Curve 2842909

**Customer:** *MANAS QUASI*

**Item No:** HILARY 6 4

**Peerless Ref. No:**

**NOTE:** ANY CHANGE IN EFFICIENCY AFFECTS EITHER THE HEAD OR HOSSE POWER COMPARABILITY.
October 8, 1992

MEMORANDUM FOR THE RECORD

FROM: Bill Rozeboom

SUBJECT: MAUI LANI RESORT: WELL PERMIT VIOLATIONS?

Maui Lani Resort, Inc. presently uses water from four active wells, according to water use reports being submitted by them to us. However, three of the four wells may be lacking the required permits.

Well No. 5750-01: "Pāko" No problems with permit requirements on this well. It was constructed in 1960 and a registration/declaration of use form was filed for it in 1989.

Well No. 5651-01: "Highway" Well may be in service without a pump installation permit. A construction permit for this well was issued in March 1989. A well completion report is logged in the master log as having been received, but the form is not in the well file. According to water use reports, the well was placed into operational service and withdrawals of water began in July 1990. An application for a pump installation permit was received in November 1991 but there is no indication that this application was ever acted on.

Well No. 5750-03: "Fire Station" Well may be in service without a pump installation permit. A construction permit for this well was issued in March 1989. There is no evidence that a well completion report or application for a pump installation permit was ever received for this well. According to water use reports, the well was placed into operational service and withdrawals of water began in July 1990.

Well No. 5750-04: "STP" Well may have been constructed without a construction permit and placed in service without a pump installation permit. I could not find a file for this well, and it is not listed in the well permit application database. It is, however, marked on our working map showing all assigned well numbers, so someone must know something about it? According to water use reports, the well was placed into operational service and withdrawals of water began in July 1990.
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources

WELL COMPLETION REPORT

9-25-92
839-0901

Instructions: Please print or type and submit completed report within 30 days after well completion to the Commission on Water Resource Management, P.O. Box 661, Honolulu, Hawaii 96820. An as-built drawing of the well and chemical analysis should also be submitted. For assistance call the Commission Regulation Branch at 587-0225.

1. STATE WELL NO. 5651-01
2. LOCATION: Address Mauna Lani Resort
   Tax Map Key 6-8-01:52
3. DRILLING OR PUMP INSTALLATION CONTRACTOR Big Island Drilling
4. CONTRACTOR'S C-57 LICENSE NUMBER C-11456
5. NAME OF DRILLER WHO PERFORMED WORK Paul Bergstedt
6. TYPE OF RIG/CONSTRUCTION Cable Tool
7. DATE OF WELL DRILLING COMPLETION December 1988
8. GROUND ELEVATION (msl) 121 ft.
   Top of Drilling Platform (msl) _____ ft.
   Height of Drilling Platform above Ground surface _____ ft.
   Bench Mark and Method Used to Determine Ground Elevation _____ ft.
9. DRILLER'S LOG:

<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks, Dates</th>
<th>Water Level (ft.)</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks, Dates</th>
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10. TOTAL DEPTH OF WELL BELOW GROUND 130 ft.
11. HOLE SIZE: 16 inch dia. from 0 ft. to 130 ft. below ground
   ____________________ ft. below ground
   ____________________ ft. below ground
   ____________________ ft. below ground

12. CASING INSTALLED:
   Type of perforation 60 sq. in./LP
   __________ in. I.D. x 0.3125 in. wall solid section to __________ ft. below ground
   __________ in. I.D. x 0.3125 in. wall perforated section to __________ ft. below ground

13. ANNULUS:
   Grouted from __________ ft. below ground to __________ ft. below ground
   Gravel packed from __________ ft. below ground to __________ ft. below ground

14. INITIAL WATER LEVEL 119 ft. below ground. Date and time of measurement N/A
15. INITIAL CHLORIDE -- ppm Date and time of sampling
16. INITIAL TEMPERATURE -- °F Date and time of sampling
17. DATE OF PUMP INSTALLATION
18. PUMP INSTALLATION: Pump Installation Permit Pending - Submitted 11-14-91
   Pump Type, Make, Serial No. Capacity gpm
   Motor type, H.P., Voltage, rpm
   Depth of Pump Intake Setting __________ ft. below ground, which elevation is __________ ft.
   Depth of bottom of airline __________ ft. below ground, which elevation is __________ ft.
   Pumping Head is __________ ft.
19. PUMPING TESTS:
   Reference Point (R.P.) used: __________, which elevation is __________ ft.
   Date 11-11-88
   Start water level __________ ft. below R.P. Date
   End water level __________ ft. below R.P.
   Depth of well __________ ft. below R.P.

<table>
<thead>
<tr>
<th>Elapsed Time (hours)</th>
<th>Rate (gpm)</th>
<th>Draw-down (ft.)</th>
<th>Cl.- (ppm)</th>
<th>Temp. °F</th>
<th>Elapsed Time (hours)</th>
<th>Rate (gpm)</th>
<th>Draw-down (ft.)</th>
<th>Cl.- (ppm)</th>
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<tbody>
<tr>
<td>12:00 to 12:12</td>
<td>225</td>
<td>1.08</td>
<td>15</td>
<td>to</td>
<td>12:00 to 12:12</td>
<td>225</td>
<td>1.08</td>
<td>15</td>
<td>to</td>
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<tr>
<td>12:12 to 12:24</td>
<td>325</td>
<td>2.33</td>
<td>15</td>
<td>to</td>
<td>12:12 to 12:24</td>
<td>325</td>
<td>2.33</td>
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<td>12:24 to 12:36</td>
<td>475</td>
<td>4.58</td>
<td>15</td>
<td>to</td>
<td>12:24 to 12:36</td>
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<tr>
<td>12:36 to 12:48</td>
<td>600</td>
<td>8.08</td>
<td>15</td>
<td>to</td>
<td>12:36 to 12:48</td>
<td>600</td>
<td>8.08</td>
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(if more space is needed, continue on back.)

Remarks:

Contractor (print) Big Island Drilling Title
Signature Date

For Driller's Use: Job Name
Job No.

For official Use: Well No. 5651-01
Long. 155° 51' 05" Lat. 19° 56' 08"

Remarks: [space is needed, continue on back]
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DATE: September 24, 1992

TO: Department of Land and Natural Resources
Commission on Water Resource Management
P.O. Box 373
Honolulu, Hawaii 96809

ATTENTION: Ed Sakoda

SUBJECT: Mauna Lani Resort - Irrigation Well Completion Reports for Well No. 5750-03 and 5651-01.

We herewith transmit the following:

1 9/25/92  Mauna Lani Resort - Well Completion Report for Fire Station Well, State Well No. 5750-03.


Remarks:

We herewith transmit the above reports for your files. We filled out these reports with information we have in our files and left blank items where we did not receive any data from the driller. Also, we did not sign either report for the driller.

Please feel free to call the undersigned if there are any questions regarding this matter.

Sincerely,

Tom Nance Water Resources Engineering

Greg Fukumitsu, P.E.

cc: Billy Spitz, Mauna Lani Resort
MEMORANDUM

TO: Manabu Tagomori, Deputy Director
Commission on Water Resource Management

FROM: Don Hibbard, Administrator
State Historic Preservation Division

SUBJECT: State of Hawaii--Pump Installation Permit Application
(Well No. 5651-01), Mauna Lani
Waikoloa, South Kohala, Island of Hawaii
TMK: 6-8-01: 52

HISTORIC PRESERVATION PROGRAM CONCERNS:

Archaeological surveys as recent as 1986 recorded significant historic sites in areas just west of the subject parcel, with similar type of terrain, and oceanside of Queen Kaahumanu Highway. These historic sites include cave shelters, quarries, and foot trails a few of which are slated for preservation. We have no records of any significant historic sites in the subject parcel but we have no reason to believe that this area will be different from the areas cited above to contain significant historic sites. Therefore, we recommend that the pump installation site and access roads be surveyed archaeologically to determine if significant historic sites are present. The results of the survey should be submitted to us for review in report format. We request that your office take no action on this application until we have received and reviewed the above-recommended archaeological survey report.

If you have any further questions, please contact Kanalei Shun at 587-0047.

KS:jle
December 17, 1991

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

Dear Mr. Tagomori:

SUBJECT: PUMP INSTALLATION PERMIT APPLICATION
MAUNA LANI IRRIGATION WELL
STATE WELL NO. 5651-01
MAUNA LANI RESORT, HAWAII

Thank you for the opportunity to review and comment on the subject document. We have examined the application and have the following comments to offer:

1. The application indicates that the proposed well will be used for golf course and landscape irrigation. Thus, Hawaii Administrative Rules, Title 11, Chapter 20, Potable Water Systems, will not be applicable. However, in the event that the proposed use of the well were to change, the Safe Drinking Water Branch must be notified.

2. The proposed well is situated above the Underground Injection Control (UIC) line. Land areas above the UIC line are considered to contain underground sources of drinking water. Thus, it is essential that the well be designed and constructed to prevent the possibility of groundwater contamination. For example, the well should have a concrete well pad and full grouting to prevent seepage or floodwaters from migrating down the well shaft.

3. The operation of the well should not be allowed to adversely affect the water quality of nearby water wells. The map accompanying the application indicates that the proposed well will be located within 4,000 feet of the state well nos. 5650-01 and -02.
December 13, 1991

MR MANABU TAGOMORI  DEPUTY DIRECTOR
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P O BOX 621
HONOLULU HI  96809

SUBJECT: WELL CONSTRUCTION PERMIT APPLICATION

We have reviewed the subject permit application and have no objections to the proposed well being constructed.

1. Kealakehe-DWS, Well No. 4057-04
   TMK: 7-4-3: por. 5

2. Honokohau-DWS, Well No. 4158-02
   TMK: 7-4-5: 2

3. Mauna Lani Irrigation, Well No. 5651-01
   TMK: 6-8-01: 52

ROBERT K. YANABU, Division Chief
Engineering Division

GR:byf
Mr. Clayton H. W. Hee  
Chairman & Trustee At Large  
Office of Hawaiian Affairs  
1600 Kapiolani Blvd., Suite 1500  
Honolulu, Hawaii 96814

Attn: Ms. Linda Delaney, Land & Natural Resources Division

Dear Mr. Hee:

**Well Construction and Pump Installation Permit Application(s)**

Transmitted for your review and comment is a copy of the following permit application(s):

<table>
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<tr>
<th>Island</th>
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Please review the application(s) pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this letter.

Should you have any questions, please contact Manabu Tagomori, Deputy Director at 587-0214.

Very truly yours,

[Signature]

WILLIAM W. PATY

Enc.
Mr. Bill Spitz  
Mauna Lani Resort, Inc.  
P.O. Box 4959 - HCR 2  
Kohala Coast, Hawaii 96743

Dear Mr. Spitz:

We have received your application and filing fee for a permit to install a pump in a well (Well No. 5651-01) at Waikoloa, Hawaii, (TMK 6-8-01:52). We are reviewing the application for completeness.

Should you have questions, please call the Division of Water Resource Management at 587-0225.

Sincerely,

[Signature]

MANABU TAGOMORI  
Deputy Director

NF:fc
Mr. William Sewake, Manager  
Department of Water Supply  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

Dear Mr. Sewake:

Well Construction and Pump Installation Permit Application(s)

Transmitted for your review and comment is a copy of the following permit application(s):

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Please review the application(s) pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this letter.

Should you have any questions, please contact the Division of Water Resource Management at 587-0225.

Sincerely,

[Signature]

MANABU TAGOMORI  
Deputy Director

NF:fc  
Enc.
Mr. Thomas Arizumi, Chief  
Environmental Management Division  
State Department of Health  
Five Waterfront Plaza  
500 Ala Moana Blvd., Suite 250  
Honolulu, Hawaii 96813

Attn: Mr. William Wong

Dear Mr. Arizumi:

Well Construction and Pump Installation Permit Application(s)

Transmitted for your review and comment is a copy of the following permit application(s):

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Should you have any questions, please contact the Division of Water Resource Management at 587-0225.

Sincerely,

[Signature]

MANABU TAGOMORI  
Deputy Director

NF:fc  
Enc.
Mr. Bruce C. McClure
Chief Engineer
Department of Public Works
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. McClure:

Well Construction and Pump Installation Permit Application(s)

Transmitted for your review and comment is a copy of the following permit application(s):

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Please review the application(s) pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this letter.

Should you have any questions, please contact the Division of Water Resource Management at 587-0225.

Sincerely,

[Signature]
MANABU TAGOMORI
Deputy Director

NF:fc
Enc.
Ms. Marjorie Ziegler  
Sierra Club Legal Defense Fund, Inc.  
212 Merchant Street, Room 202  
Honolulu, Hawaii 96813

Dear Ms. Ziegler:

Well Construction and Pump Installation Permit Application(s)

Transmitted for your information are copies of recent well permit application(s):

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Should you have questions, please contact the Division of Water Resource Management at 587-0225.

Sincerely,

MANABU TAGOMORI  
Deputy Director

NF:fc  
Enc.
DEC - 4 1991

MEMORANDUM

TO: Don Hibbard, Director
    Historic Preservation Program

FROM: Manabu Tagomori, Deputy Director
      Commission on Water Resource Management

SUBJECT: Well Construction and Pump Installation Permit Application(s)

Transmitted for your review and comment is a copy of the following permit application(s):

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Please review the application(s) pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this memo.

Should you have any questions, please contact the Division of Water Resource Management at 587-0225.

NF:fc
Enc.
Honorable Hoaliku L. Drake  
Director  
Department of Hawaiian Home Lands  
State of Hawaii  
P.O. Box 1879  
Honolulu, Hawaii 96805

Dear Mrs. Drake:

Well Construction and Pump Installation Permit Application(s)

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</table>

Please review the application(s) pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this letter.

Should you have any questions, please contact Manabu Tagomori, Deputy Director at 587-0214.

Very truly yours,

WILLIAM W. PATY

Enc.
APPLICATION FOR

WELL CONSTRUCTION PERMIT
X PUMP INSTALLATION PERMIT

INSTRUCTIONS: Please print or type and send completed application with attachments to the Division of Water and Land Development, P.O. Box 373, Honolulu, Hawaii 96809. Application must be accompanied by a non-refundable filing fee of $125.00 payable to the Department of Land and Natural Resources. (Filing fee waived for government agencies.) If necessary, phone 148-7542, Hydrology/Geology Section for assistance.

1. WELL LOCATION

Island Hawaii Tax Map Key 6-8-01:52
Address Mauna Lani Resort State Well No. 5651-01

(Attach a USGS map (scale 1"=2000') and property tax map showing well location referenced to established property boundaries.)

2. WELL OWNER

Firm Name Mauna Lani Resort, Inc.
Contact Person Bill Spitz
Address P. O. Box 4959 - HCR 2
Kohala Coast, Hawaii 96743
Phone 885-6677

3. PROPOSED CONTRACTOR FOR:

Name Roscoe Moss Hawaii, Inc.
Address 830 Ahua Street
Honolulu, Hawaii 96810
Phone 839-6888

4. PROPOSED WORK

☐ Drill New Well ☐ Deepen
☐ Alter ☐ Seal
☐ Install New Pump ☐ Replace Pump
☐ Redrill ☐ Abandon
☐ Modify Pump

(Briefly describe the proposed work and fill in the diagram on the back of this form.)

5. PROPOSED USE

☐ Municipal (including hotels, stores, etc.) ☐ Military
☐ Domestic (individual, noncommercial water systems) ☐ Industrial
☐ Irrigation (specify) Golf Course and Other Landscape ☐ Other (specify)

6. PROPOSED AMOUNT OF WITHDRAWAL 610,000 gallons per day

7. PROPOSED PUMP INFORMATION

Pump Type: ☐ Vertical Turbine ☐ Submersible
☐ Centrifugal
Motor: ☐ Diesel ☐ Gas ☐Electric: 20 Rated Horsepower
Rated Pump Capacity 425 gallons per minute (gpm)

Well Owner (print) Mauna Lani Resort, Inc.
Signature Date 11/16/91

Landowner (print) Mauna Lani Resort, Inc.
Signature Date 11/16/91

For Official Use Only: Latitude Hydrologic Unit
State Well No. 8-5651-01

Field Checked By
Date 11/16/91

Longitude
Briefly describe the proposed work:
A new pump will be installed in the well. It is to be used for golf course and other landscape irrigation.

PROPOSED SECTION OF WELL

Elevation at top of casing 121 ft., msl.
Ground Elev. 121 ft., msl*
Cement Grout 30 ft.
Hole Dia. 17 in.
Total Depth 140 ft.
Rock Packing None ft.

Solid Casing:
Material Steel
Length 120 ft.
Diameter 12 in.
Wall thickness 0.3125 in.

Casing: / /Perforated / /Screen
Material Steel
Length 10 ft.
Diameter 12 in.
Wall thickness 0.3125 in.
Openings 60 sq. in./L.F.

Open Hole:
Length 10 feet
Diameter 12 in.

*Approximate elevation at time of filing application. Final elevation (msl) by a surveyor licensed by the State must be submitted at start of construction.
Mauna Lani Irr. Well
(Well No. 5651-01)
Mr. William Paty
Commission on Water Resource Management
Department of Land & Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Paty:

Pump Installation Permit Application
for Mauna Lani Resort
South Kohala, Hawaii

The enclosed permit application and $25 filing fee are submitted on behalf of Mauna Lani Resort. The pump would be installed in completed well (No. 5651-01) to augment the supply capability of Mauna Lani’s private, non-potable water system. This system is used to irrigate its two golf courses and roadway landscaping.

If any questions arise during your review of this application, please call Bill Spitz at Mauna Lani Resort (885-6677) or me. Thank you for your attention to this matter:

Sincerely,

Tom Nance

cc: Bill Spitz

Enclosures
<table>
<thead>
<tr>
<th>DATE</th>
<th>DESCRIPTION</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-14-91</td>
<td>Filing Fee: Pump Installation Permit Application for Mauna Lani Resort (Job No. 154-11)</td>
<td>$25.00</td>
</tr>
</tbody>
</table>

Well No. 5651-01
REGISTRATION OF WELL
AND
DECLARATION OF WATER USE

INSTRUCTIONS: Please print or type. If information is not available or not applicable, indicate as N/A. Fill out as completely as possible, sign, and file with the Division of Water Resource Management, P.O. Box 373, Honolulu, Hawaii 96809. Phone 548-3948 or 548-7543 for assistance.

BATTERY OF WELLS: For a battery of wells, on the surface, in a tunnel, or in a shaft, submit a registration form for each well together with a single map or plot plan showing layout of wells.

STATE WELL NO.: 5651-01
WELL NAME OR DESIGNATION: None
ISLAND: Hawaii
SOURCE OR STATION NAME (For a battery of wells):

A. WELL OPERATOR
Firm name: Mauna Lani Resort, Inc.
Contact person: Mike Gomes
Address: P. O. Box 4959 - HCR 2
Kohala Coast, Hawaii
Zip: 96743 Phone: 885-6677

B. OWNER OF WELL SITE
Firm name: Mauna Lani Resort, Inc.
Contact person: Tom Yamamoto
Address: P. O. Box 4959 - HCR 2
Kohala Coast, Hawaii
Zip: 96743 Phone: 885-6677

C. WELL LOCATION
Tax Map Key: 6-8-22:32Town, Place, District: South Kohala, Hawaii
Attach USGS "Quad" map (scale 1:24,000), tax map, or other map showing the well location.

D. WELL DATA
For Drilled Wells, submit "as-built" drawing, driller's log, and pump test results, and complete items below.
For Tunnels and Shafts, submit construction drawings, plot plan, or sketch map.

Ground elevation (Mean sea level): 121 ft.
Reference point (used to measure depth to water):
Elevation: 122 ft.
Description: Top of Casing

Depth to water (Below reference point): 120 ft.
Maximum recorded chloride: ______ ppm
Minimum recorded chloride: ______ ppm
Maximum chloride in 1987: ______ ppm

Year drilled or constructed: 1988
Well contractor: Big Island Drilling
Casing diameter: 12 in.
Solid casing depth (Below ground): 120 ft.
Perforated casing depth (Below ground): 130 ft.
Total depth of well: 130 ft.
Chlorides in initial pump test: 820 MGL.
Minimum chloride in 1987: ______ ppm

E. INSTALLED PUMP DATA
Pump type: □ Vertical shaft □ Submersible □ Centrifugal □ Other (specify): ______
Power: □ Diesel, ______ HP □ Gas, ______ HP □ Electric, ______ HP □ Other (specify): ______
Pump capacity: ______ gallons per minute
Pump installation contractor: No pump; not in use yet.

... (continued over)

For Official Use Only:
Date received: ______ Date accepted: ______
Field checked by: ______ Date: ______ Latitude: ______ Hydrologic Unit: ______
Comments: ______ Longitude: ______ State Well No.: ______

References: Hawaii Revised Statutes, Chapter 174C.
Hawaii Administrative Rules, Chapters 13-167 to 13-171.
March 20, 1989

Mauna Lani Resort, Inc.
HCR-2, P.O. Box 4959 (Kohala Coast)
Kamuela, Hawaii 96743

Gentlemen:

I am pleased to inform you that the Commission on Water Resource Management approved your request for two well construction permits at its March 15, 1989 meeting.

Attached are your permits as well as the following forms that are required under the conditions of the permits:

Application for Pump Installation Permit
Well Completion Report

If you have any questions, please contact Mr. Dan Lum at 548-7643.

Sincerely,

[Signature]

MAHABU TAGOMORI
Deputy Director

ES:ko
Enc.
WELL CONSTRUCTION PERMIT

for

Mauna Lani Resort Well
State Well No. 5651-01
Waikoloa, South Kohala, Hawaii

TO: Mauna Lani Resort, Inc.
HCR-2, P.O. Box 4959 (Kohala Coast)
Kamuela, Hawaii 96743

In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", your application to construct and test State Well No. 5651-01 for golf course irrigation use within Tax Map Key: 6-8-22:32 is approved subject to the following conditions:

1. The Division of Water and Land Development (DOWALD), Geology-Hydrology Section, shall be notified at 548-7619, before any work covered by this permit commences.

2. The permit shall be for construction and testing only. No permanent pump may be installed and no water used from the well without the necessary pump installation permit from the Commission. Prior to any planned use, the well shall be pump tested to determine the safe yield and any potential impact on surrounding wells. A step drawdown test and a sustained rate pumping test of at least 72 hours shall be conducted for each well.

3. The following shall be submitted to DOWALD, P.O. Box 373, Honolulu, Hawaii 96809 within 30 days after completion of the well:

   a. Well Completion Report.
b. Ground elevation (referenced to mean sea level) determined by survey by a Hawaii-licensed surveyor. Static water level shall be measured by the driller using the survey data as reference.

c. As-built sectional drawing of the well.

d. Plot plan and map showing the exact location of the well.

e. Complete pumping test record; including time, pumping rate, drawdown, chloride content, and water quality data.

4. The applicant shall comply with all applicable laws, rules, and ordinances.

5. This permit may be revoked if work is not started within six months of date of issuance or if work is suspended or abandoned for six months. The work shall be completed within two years of the date of issuance.

MAR 23 1989
WILLIAM W. PATY
Date of Issuance

cc: USGS
Department of Health,
Drinking Water Program
Ground Water Protection Program
Maui Department of Water Supply
Belt Collins & Associates
Chairperson and Members
Commission on Water Resource Management
State of Hawaii
Honolulu, Hawaii

Gentlemen:

Mauna Lani Resort, Inc.
Application for Well Construction Permits
Mauna Lani Irrigation Wells, Waikoloa, South Kohala, Hawaii

Applicant: Mauna Lani Resort, Inc.
HCR-2, P.O. Box 4959
Kohala Coast, Hawaii 96743

Action Requested: Permission to construct and test two 12-inch
diameter, exploratory wells (State Well Nos. 5651-01 and 5750-03)
for golf course irrigation.

Well Location: The proposed well sites are in Waikoloa, South Kohala,
Hawaii, at Tax Map Keys: 6-8-22:32 and 6-8-01:52 (see attached
map).

Proposed Use of Well: To construct and test for two new sources of
water for golf course irrigation.

Well Description:

<table>
<thead>
<tr>
<th></th>
<th>Well 5651-01</th>
<th>Well 5750-03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground elevation:</td>
<td>125± ft.</td>
<td>90± ft.</td>
</tr>
<tr>
<td>Casing diameter:</td>
<td>12-inch I.D.</td>
<td>12-inch I.D.</td>
</tr>
<tr>
<td>Solid casing depth:</td>
<td>123± ft.</td>
<td>88± ft.</td>
</tr>
<tr>
<td>Screen casing depth:</td>
<td>10 ft.</td>
<td>10 ft.</td>
</tr>
<tr>
<td>Open hole:</td>
<td>2 ft.</td>
<td>2 ft.</td>
</tr>
<tr>
<td>Open hole diameter:</td>
<td>10 inches</td>
<td>10 inches</td>
</tr>
<tr>
<td>Total depth:</td>
<td>133 ft.</td>
<td>100 ft.</td>
</tr>
<tr>
<td>Grouted annulus:</td>
<td>0-100 ft.</td>
<td>0-80 ft.</td>
</tr>
<tr>
<td>Proposed pump capacities:</td>
<td>700 gpm</td>
<td>700 gpm</td>
</tr>
</tbody>
</table>

Agency Review: The application has been sent to the State Department
of Health (DOH), the Hawaii Department of Water Supply (DWS),
and the County Department of Public Works (DPW) for review.
DWS and DPW had no objections. DOH expressed concern that
portions of the golf course irrigated by the proposed wells appear
to be situated above the Underground Injection Control (UIC) line
and various golf course-associated activities should not be allowed
to contaminate groundwater. The applicant has informed staff that
no portion of the golf course is situated above the UIC line. DOH
also noted that Well 5651-01 is located above the UIC line and
should be designed and constructed to prevent the possibility of
groundwater contamination.

Analysis: The wells are expected to encounter a thin (3± ft.),
brackish basal lens.

The closest well to Well 5651-01 is approximately two miles southwest
along the coastline and is used for irrigation of the Waikoloa Beach
Resort golf course.
There are three existing wells within a mile and a half north of Well 5750-03. The closest (2,300 ft. away) is unused. Another (3,100 ft. away) is used intermittently for nursery irrigation, and the third (a mile and a half away) is used for golf course irrigation. All three wells are owned by Mauna Lani Resort, Inc.

There are two wells mauka of Well 5750-03. The closest (2 miles away) is unused. The other (3 miles away) is used for irrigation of the Waikoloa Village golf course.

RECOMMENDATION

That the Commission approve the issuance of a well construction permit for construction and testing of Mauna Lani Irrigation Wells, subject to the following conditions:

(1) The Division of Water and Land Development (DOWALD) shall be notified before work commences.

(2) The permit shall be for construction and testing only. No permanent pumps may be installed and no water used from the wells without the necessary pump installation permits. Prior to any planned use, the wells shall be pump tested to determine the safe yield and any potential impact on surrounding wells. A step drawdown test and a sustained rate pumping test of at least 72 hours shall be conducted for each well.

(3) The following shall be submitted to DOWALD within 30 days after completion of the wells:
   b. Ground elevations (referenced to mean sea level) determined by survey by a Hawaii-licensed surveyor. Static water levels shall be measured by the driller using the survey data as reference.
   c. As-built sectional drawings of the wells.
   d. Plot plans and map showing the exact locations of the wells.
   e. Complete pumping test record; including time, pumping rate, drawdown, chloride content, and water quality data.

(4) The applicant shall comply with all applicable laws, rules, and ordinances.

(5) The permit may be revoked if work is not started within six months of date of issuance or if work is suspended or abandoned for six months. The work shall be completed within two years of the date of issuance.

Respectfully submitted,

MANABU TAGOMORI
Deputy Director

Approval for Submittal:

WILLIAM W. PATY, Chairperson
February 17, 1989

The Honorable William W. Paty, Chairperson
Commission on Water Resource Management
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Paty:

SUBJECT: WELL CONSTRUCTION PERMIT APPLICATION
MAUNA LANI IRRIGATION WELLS
STATE WELL NOS. 5651-01 AND 5750-03
KOHALA COAST, HAWAII

Thank you for the opportunity to review the subject document. We have reviewed the application and have the following comments to offer:

1. The Department's Administrative Rules, Title 11, Chapter 20, "Potable Water Systems," are not applicable because the proposed wells are intended to be used only for irrigation.

2. Portions of the project site appear to be situated above the Underground Injection Control (UIC) line. Land areas above the UIC line are considered to contain underground sources of drinking water. Various activities associated with golf courses should not be allowed to contaminate groundwater. Activities of concern include:
   a. Application of biocides and fertilizers
   b. Storage of vehicles
   c. Maintenance of vehicles and equipment (cleaning, refueling, lubrication, etc.)
   d. Wastewater disposal

3. Since one of the proposed wells is located in above the UIC line, (State Well No. 5651-01) it is essential that it be designed and constructed to prevent the possibility of groundwater contamination. For example, the well should have a concrete well pad to prevent seepage or floodwaters from migrating down the well shaft.
4. Wastewater disposal activities must comply with all applicable rules and regulations in the event that the project does not connect to an existing, approved wastewater treatment works.

If you should have any questions, please contact the Drinking Water Program at 548-2235.

Very truly yours,

[Signature]

JOHN C. LEWIN, M.D.
Director of Health
Mona Lani Wells

5452 - 01  at Pine Land Co  2 miles from 5651 - 01 parallel to Castle

5648 - 01  2 miles upwind of 5750 - 03  Balsa-Cyma  WNW

5548 - 01  3 miles upwind from 5750 - 03 Balsa-Cyma  IRK (R.D. 1 to 2)

5750 - 01  Parker Ranch  IRK  3100 ft N of 03 (R.D. 1 to 2)

5849 - 01  1 1/2 miles from 03 Parker  IRK  2300 ft N of 03 (R.D. 1 to 2)
To: Ed Sakoda
From: Tom Hance

Subject: Wells in Mauzu Lani & Wai Koloa

I may have 5750-01 and -02 reversed. The other have correct use and locations are reasonable, though not exact.
January 31, 1989

MR MANABU TAGOMORI  DEPUTY DIRECTOR
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P O BOX 621
HONOLULU HI  96809

SUBJECT:  WELL CONSTRUCTION PERMIT APPLICATIONS
Mauna Lani Irrigation Wells
State Well Nos. 5651-01 and 5750-03
South Kohala, Hawaii

We have reviewed the permit application for the subject project and have
no objections to it.

HUGH Y. ONO, P.E.
Chief Engineer

STT:aa
January 30, 1989

Mr. Manabu Tagomori, Deputy Director
State of Hawaii
Department of Land and Natural Resources
Commission on Water Resource Management
P.O. Box 621
Honolulu, HI 96809

WELL CONSTRUCTION PERMIT APPLICATIONS
MAUNA LANI IRRIGATION WELLS
STATE WELL NOS. 5651-01 AND 5750-03, KOHALA COAST

We have no objections to the two (2) permit applications for irrigation wells.

H. William Sewake
Manager

...Water brings progress...
Honorabe John C. Lewin  
Director of Health  
Department of Health  
Honolulu, Hawaii  

ATTENTION: Mr. Tom Arizumi, Drinking Water Program  

Dear Dr. Lewin:

Well Construction Permit Applications  

In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-168-12(c), enclosed are the following well construction permit applications with maps for your review and comments:

(1) Barbers Point-Kalaeloa Wells, State Well Nos. 1805-04, 05  
(2) Kaneohe MCAS Monitor Test Holes, State Well Nos. 2644-01M to 08M, 2645-01M  
(3) Mauna Lani Irrigation Wells, State Well Nos. 5651-01 and 5750-03 (Kohala Coast)  
(4) Koloa Well E, State Well No. 5427-03 (Koloa, Kauai)  
(5) Bellows AFS Monitor Test Holes, State Well Nos. 2143-01M to 04M  

Please submit any comments to us, orally or in writing, within three weeks from the date of this letter. If you have any questions, please contact Manabu Tagomori at 548-7533.

Very truly yours,

WILLIAM W. PATY  

Enc.
January 23, 1989

Mr. William Sewake
Manager and Chief Engineer
Department of Water Supply
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. Sewake:

Well Construction Permit Applications
Mauna Lani Irrigation Wells
State Well Nos. 5651-01 and 5750-03, Kohala Coast

Enclosed are copies of two well construction permit applications submitted by Mauna Lani Resort, Inc.

Please review the applications and submit your comments to us, orally or in writing, at your earliest convenience. We would appreciate your comments within three weeks from the date of this letter.

If you have any questions, please contact Dan Lum at 548-7643.

Sincerely,

[Signature]
MANABU TAGOMORI
Deputy Director

Enc.
January 23, 1989

Mr. Hugh Y. Ono  
Chief Engineer  
Department of Public Works  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

Dear Mr. Ono:

Well Construction Permit Applications  
Mauna Lani Irrigation Wells  
State Well Nos. 5651-01 and 5750-03, Kohala Coast

Enclosed are copies of two well construction permit applications submitted by Mauna Lani Resort, Inc.

Please review the applications and submit your comments to us, orally or in writing, at your earliest convenience. We would appreciate your comments within three weeks from the date of this letter.

If you have any questions, please contact Dan Lum at 548-7643.

Sincerely,

[Signature]

MANABU TAGOMORI  
Deputy Director

Enc.
January 16, 1989

Mauna Lani Resort, Inc.
HCR-2, P.O. Box 4959
Kohala Coast, Hawaii 96743

Attention: Mr. Thomas H. Yamamoto

Gentlemen:

This is to acknowledge receipt of two well construction permit applications and accompanying $25.00 filing fees for Mauna Lani Wells 5651-01 and 5750-03, Kohala Coast, Hawaii.

My staff is processing the applications and will contact you should there be any questions.

Sincerely,

NAHABU TAGOMORI
Deputy Director

ES:ko
cc: Belt Collins & Associates
Mr. William Paty  
Division of Water Resource Management  
Department of Land & Natural Resources  
P. O. Box 373  
Honolulu, Hawaii 96809

Dear Mr. Paty:

Well Construction Permits for  
Future Irrigation Wells at Mauna Lani Resort

Enclosed for your review and approval are two well construction permits for future irrigation wells located at Mauna Lani Resort, North Kohala, Hawaii. Should you have any questions regarding these permits, please do not hesitate to call us.

Sincerely yours,

[Signature]

Tom Nance  

GF:ggk  

Enclosures
APPLICATION FOR
X WELL CONSTRUCTION PERMIT
___ PUMP INSTALLATION PERMIT

INSTRUCTIONS: Please print or type and send completed application with attachments to the Division of Water and Land Development, P.O. Box 373, Honolulu, Hawaii 96809. Application must be accompanied by a non-refundable filing fee of $50.00 payable to the Department of Land and Natural Resources. (Filing fee waived for government agencies.) If necessary, phone 548-7353. Hydrology/GeoLogic Section for assistance.

1. WELL LOCATION
Island Hawaii Tax Map Key 6-8-22:32
Address Within Mauna Lani Resort; will be Well No. 5561-01 (see attached map)
(Attach a USGS map (scale 1"=2000') and property tax map showing well location referenced to established property boundaries.)

2. WELL OWNER
Firm Name MAUNA LANI RESORT, INC.
Contact Person THOMAS H. YAMAMOTO
Address HCR-2, P.O. BOX 4959
KOHALA COAST, HAWAII 96743
Phone 885-6677

3. PROPOSED CONTRACTOR FOR: ✗ Well Drilling ☐ Pump Installation
Name Big Island Drilling
Address P.O. Box 2297
Kona, Hawaii 96745
Phone 882-7080
Contractor's License No. C 11456

4. PROPOSED WORK
[ ] Drill New Well [ ] Deepen [ ] Redrill
[ ] Alter [ ] Seal [ ] Abandon
[ ] Install New Pump [ ] Replace Pump [ ] Modify Pump
(Briefly describe the proposed work and fill in the diagram on the back of this form.)

5. PROPOSED USE
[ ] Municipal (including hotels, stores, etc.) [ ] Military
[ ] Domestic (individual, noncommercial water systems) [ ] Industrial
[ ] Irrigation (specify) Golf Course [ ] Other (specify)

6. PROPOSED AMOUNT OF WITHDRAWAL 700,000 gallons per day

7. PROPOSED PUMP INFORMATION
Pump Type: ✗ Vertical Turbine ☐ Submersible ☐ Centrifugal
Motor: ☐ Diesel ☐ Gas ☐ Electric: 40 Rated Horsepower
Rated Pump Capacity 700 gallons per minute (gpm)

Well Owner (print) MAUNA LANI RESORT, INC.
Signature _____________________________ Date NOVEMBER 30, 1988

Landowner (print) MAUNA LANI RESORT, INC.
Signature _____________________________ Date NOVEMBER 30, 1988

For Official Use Only:
Field Checked By _____________________________ Latitude ____________
Date _____________________________ Hydrologic Unit _____________________________
Longitude ____________ State Well No. 5651-01
Briefly describe the proposed work:

PROPOSED SECTION OF WELL

Elevation at top of casing

Ground Elev. 125 ft., msl*

Cement Grout 100 ft.

Hole Dia. 16 in.

Total Depth 135 ft.

Rock Packing None ft.

Solid Casing:
Material: Steel ASTM A-53
Length: 123 ft.
Diameter: 12 in.
Wall thickness: 0.3125 in.

Casing: /X/Perforated / /Screen
Material: Steel ASTM A-53
Length: 10 ft.
Diameter: 12 in.
Wall thickness: 0.3125 in.
Openings: 60 sq. in./L.F.

Open Hole:
Length: 2
Diameter: 10 in.

*Approximate elevation at time of filing application. Final elevation (msl) by a surveyor licensed by the State must be submitted at start of construction.
MAUNA LANI IRR WELL NO. 5651-01

ISLAND OF HAWAII