

Saddle Road Well
"A"



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

25 AUPUNI STREET • HILO, HAWAII 96720
TELEPHONE (808) 961-8660 • FAX (808) 961-8657

November 10, 1997

RECEIVED

'97 NOV 13 P12:19

OFF. OF ENVIRONMENTAL
QUALITY CONTROL

Mr. Gary Gill, Director
State of Hawaii
Office of Environmental Quality Control
State Office Tower, Suite 702
235 South Beretania Street
Honolulu, HI 96813

FINDING OF NO SIGNIFICANT IMPACT FOR SADDLE ROAD WELL "A", HILO, HAWAII

The Department of Water Supply has reviewed the comments received during the public review period which began on August 23, 1997. In accordance with the provisions of Hawaii Administrative Rules §11-200, we have determined that the construction, testing, and operation of the proposed Saddle Road Well "A" will not have a significant adverse effect on the environment. In accordance with this finding, we have issued a Finding of No Significant Impact for the project.

We have enclosed four (4) copies of the Final Environmental Assessment and a completed OEQC Publication Form. An electronic version of the publication form is also enclosed for your use.

If you have any questions, please contact our Water Resources and Planning Branch at 961-8660.

Milton D. Pavao, P.E.
Manager

KKO:gms

Encs.

copy - Mr. Perry White, Planning Solution, Inc.
Mr. Tom Nance, Tom Nance Water Resource Engineering

... *Water brings progress...*

115

1997-11-23-HI-~~FEA~~-Saddle Road
Well "A"

NOV 23 1997

FILE COPY

Final Environmental Assessment/
Finding of No Significant Impact

SADDLE ROAD WELL A

Prepared for:
Department of Water Supply

County of Hawaii



Prepared by:
Planning Solutions, Inc.

NOVEMBER 1997

Final Environmental Assessment/
Finding of No Significant Impact

SADDLE ROAD WELL A

Prepared for:
Department of Water Supply
County of Hawaii



Prepared by:
Planning Solutions, Inc.

NOVEMBER 1997

SUMMARY SHEET

Applicant: County of Hawaii
Department of Water Supply

Landowner: County of Hawaii

Proposing Agency: County of Hawaii
Department of Water Supply

Project Location: Hilo, Hawaii

Tax Map Key: 2-5-41:47

Land Area: 23,727 square feet

Chapter 343 Trigger: Proposed use of County land and funds

Proposed Use: The Department proposes to drill, outfit, test, and complete a new municipal water supply well on an existing 300,000-gallon reservoir site that extends between Saddle Road and Opalipali Street in the upper Ponahawai section of Hilo. Electrical power for the permanent pump motor will be drawn from an existing overhead power line along the Saddle Road. A single-story, 875 square-foot, control building will be constructed between the proposed well and the existing reservoir to house the motor control center and other electrical equipment needed to start and stop the well pump. Water from the well will be used initially as a substitute for water from the Ola'a Spring, which recent changes in State Department of Health water treatment regulations have made too expensive.

Determination: No significant impact.

Required Permits: Construction noise variance, State Department of Health
Building Permit, Hawaii County
Pump Installation Permit (granted administratively following receipt of pump test results), State Water Commission
Certification of Well for Drinking Water Use, State Department of Health

Parties Consulted: Comments were requested from nearly thirty public agencies and public interest groups. A list of those agencies, a copy of the letter that was used to solicit input, and copies of the comment and response letters are provided in this Final EA. Thirteen comment letters were received, the great majority of them indicating no comment.

TABLE OF CONTENTS

CHAPTER 1 — PROJECT DESCRIPTIONS.....	1-1
1.1 BACKGROUND.....	1-1
1.1.1 Need For Additional Water Supply Facilities.....	1-1
1.1.2 Location And Existing Use Of The Proposed Site.....	1-6
1.2 DESCRIPTION OF THE PROPOSED ACTION.....	1-6
1.2.1 Overview Of The Proposed Facilities And Activities.....	1-6
1.2.2 Technical Characteristics Of The Proposed Action.....	1-6
1.2.3 Economic Characteristics Of The Proposed Phase 1 Facilities.....	1-9
1.2.4 Implementation Schedule.....	1-11
CHAPTER 2 — EXISTING CONDITIONS.....	2-1
2.1 PHYSICAL ENVIRONMENT.....	2-1
2.1.1 Topography.....	2-1
2.1.2 Geology And Soils.....	2-1
2.1.3 Hydrology.....	2-1
2.1.4 Climate And Air Quality.....	2-2
2.1.5 Flora And Fauna.....	2-3
2.1.6 Noise.....	2-3
2.1.7 Aquatic Resources.....	2-3
2.1.8 Archaeological Features.....	2-3
2.1.9 Scenic And Aesthetic Resources.....	2-3
2.2 ECONOMIC AND CULTURAL ENVIRONMENT.....	2-4
2.3 EXISTING LAND USE.....	2-4
2.4 LAND USE CONTROLS.....	2-4
2.5 LAND OWNERSHIP.....	2-4
CHAPTER 3 — PROBABLE IMPACTS.....	3-1
3.1 PROBABLE IMPACTS ON THE PHYSICAL ENVIRONMENT.....	3-1
3.1.1 Topographic Impacts.....	3-1
3.1.2 Geologic And Soils Impacts.....	3-1
3.1.3 Hydrologic Impacts.....	3-1
3.1.4 Climate And Air Quality Impacts.....	3-2
3.1.5 Impacts On Flora And Fauna.....	3-3
3.1.6 Noise Impacts.....	3-3
3.1.7 Impact On Aquatic Resources.....	3-4
3.1.8 Impacts On Historic And Archaeological Features.....	3-4
3.1.9 Scenic And Aesthetic Resources.....	3-4
3.2 PROBABLE IMPACTS ON THE ECONOMIC AND CULTURAL ENVIRONMENT.....	3-4
3.2.1 Land Use.....	3-4
3.2.2 Population And Economic Activity.....	3-5
CHAPTER 4 - ALTERNATIVES CONSIDERED.....	4-1
4.1 NO-ACTION ALTERNATIVE.....	4-1
4.2 ENHANCED WATER CONSERVATION ALTERNATIVE.....	4-1
4.3 OTHER SOURCE DEVELOPMENT ALTERNATIVES.....	4-1
4.4 ALTERNATE TIME FRAMES.....	4-1

CHAPTER 5 - RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, & CONTROLS	5-1
CHAPTER 6 - DETERMINATION.....	6-1
6.1 SIGNIFICANCE CRITERIA	6-1
6.2 FINDINGS.....	6-1
6.2.1 Irrevocable Loss Or Destruction Of Valuable Resource	6-2
6.2.2 Curtails Beneficial Uses	6-2
6.2.3 Conflicts With Long-Term Environmental Policies Or Goals.....	6-2
6.2.4 Substantially Affects Economic Or Social Welfare.....	6-2
6.2.5 Public Health Effects.....	6-2
6.2.6 Produce Substantial Secondary Impacts.....	6-2
6.2.7 Substantially Degrade Environmental Quality	6-2
6.2.8 Cumulative Effects Or Commitment To A Larger Action.....	6-3
6.2.9 Affects A Rare, Threatened, Or Endangered Species.....	6-3
6.2.10 Affects Air Or Water Quality Or Ambient Noise Levels	6-3
6.2.11 Environmentally Sensitive Areas.....	6-3
6.2.12 Affects Scenic Vistas And Viewplanes	6-3
6.2.13 Requires Substantial Energy Consumption	6-3
6.3 DETERMINATION.....	6-4
CHAPTER 7 - REFERENCES	7-1
CHAPTER 8 - CONSULTATION.....	8-1
8.1 OEQC ANNOUNCEMENT.....	8-1
8.2 REVIEW OF THE DRAFT EA	8-1
8.3 COMMENT AND RESPONSE LETTERS	8-1
8.3.1 Department Of Hawaiian Home Lands Comments.....	8-1
8.3.2 Office Of Environmental Quality Control Comments	8-1

LIST OF FIGURES

Figure 1-1. Location of Existing Department of Water Supply Sources in Hilo	1-2
Figure 1-2. Service Area Boundaries, Reservoirs, and Water Transmission Mains	1-5
Figure 1-3. Existing and Proposed Facilities.....	1-7
Figure 1-4. Cross Section of Proposed Well	1-8
Figure 1-5. Seepage Pit Detail.....	1-10

LIST OF TABLES

Table 1-1. Average Water Withdrawals by Source in Hilo Water System: 1992-1996.....	1-3
Table 1-2. Characteristics of Department of Water Supply Wells Serving Hilo	1-4

CHAPTER 1 — PROJECT DESCRIPTION

1.1 BACKGROUND

1.1.1 NEED FOR ADDITIONAL WATER SUPPLY FACILITIES

1.1.1.1 Existing Sources and Water Use

The Hawaii County Department of Water Supply (DWS) is responsible for the development, operation, and maintenance of the municipal water systems throughout the Island of Hawaii. Its *Hawaii County Water Use and Development Plan* is DWS's long-range planning document. The Plan guides the County in carrying out its responsibilities under the State Water Code (Hawaii Revised Statutes, Chapter 174C).

Currently, the DWS supplies the needs of its Hilo customers using a combination of ground and surface water sources. The locations of the principal sources are shown on Figure 1-1. Table 1-1 summarizes average withdrawals from each of these sources over the past several years. Table 1-2 shows the general characteristics of each source.

As can be seen from the tabulation, most of the water used in Hilo in recent years is from the DWS' Pana'ewa and Pi'ihonua well fields. However, a substantial portion of the supply has come from the Ola'a Spring source.

Because it is a high-level source, water from the Ola'a Spring can be distributed at relatively low cost. Consequently, it has been particularly important to the DWS in meeting the needs of customers in the Ponahawai Homesteads and Kaumana Homesteads areas in Hilo's upper reaches. (See Figure 1-2 for the service area boundaries, reservoirs, and major water transmission mains in this area). Because it requires little pumping costs, water from the spring has been used to supply areas outside this service area as well. The existing system of reservoirs and pipelines is designed to facilitate this inter-area movement of water.

1.1.1.2 Purpose of the Proposed Action

The Federal Safe Drinking Water Act requires that all public water systems meet stringent water quality standards. These standards cover a long list of potential chemical, radiological and biological contaminants. The standards distinguish between surface water and groundwater sources, with the testing and monitoring requirements for surface water sources being far greater than those for groundwater sources.

On June 27, 1994, the State Department of Health notified the DWS:

"... that the [State] Department of Health has determined that the Ola'a Flume is a groundwater source under the direct influence of surface water (GWUDI) that is subject to the Surface Water Treatment Rule (SWTR)..."

Your GWUDI must have a filtration facility built and in compliance with the SWTR requirements within 18 months after receipt of this letter. All GWUDI must meet the SWTR's filtration criteria, disinfection criteria, monitoring requirements, and reporting requirements. If the deadline cannot be met, you must apply for and justify the need for an exemption..

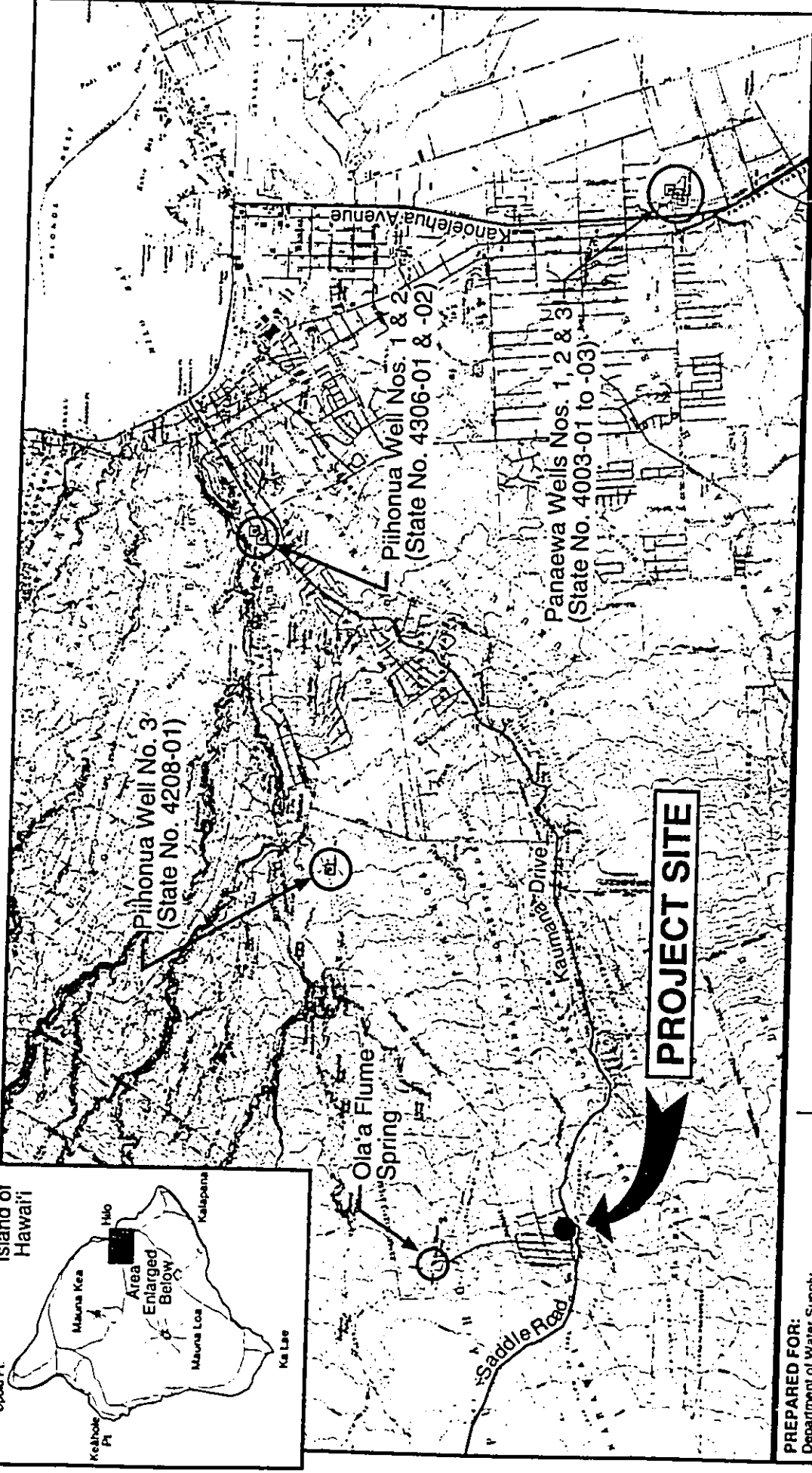
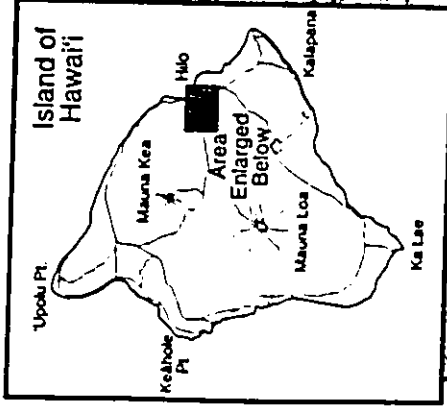


FIGURE 1-1:

Location of Existing Department of Water Supply Sources in Hilo

Environmental Assessment:
Saddle Road Well "A" Exploratory
Drilling and Pump Outfitting



PREPARED FOR:
Department of Water Supply
County of Hawaii

PREPARED BY:
Planning Solutions, Inc.
Pacific Data Digitizing

SOURCE:
USGS 7.5' Pihonua & Hilo Quadrangle, 1983
Tom Nance Water Resource Engineering

Table 1-1. Average Water Withdrawals by Source in Hilo Water System: 1992-1996.

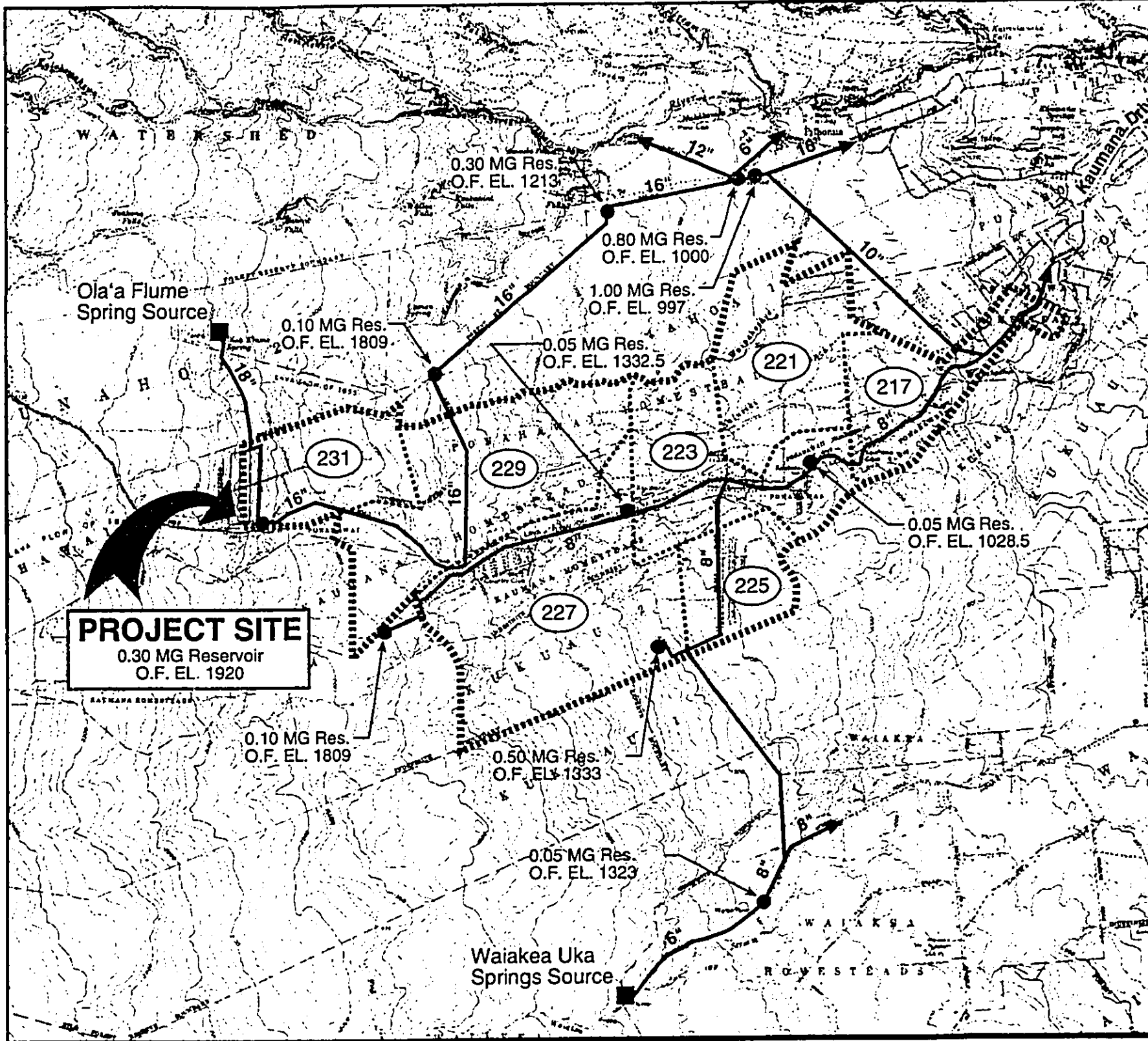
<i>Source Name</i>	Average Daily Pumping by Calendar Year (in MGD)				
	<i>1992</i>	<i>1993</i>	<i>1994</i>	<i>1995</i>	<i>1996</i>
Pana'ewa No. 1	2.309	2.356	2.285	2.332	2.415
Pana'ewa No. 2	2.642	2.653	2.783	3.036	1.886
Pana'ewa No. 3	1.205	1.020	0.703	0.753	1.150
<i>Pana'ewa Subtotal</i>	<i>6.156</i>	<i>6.029</i>	<i>5.771</i>	<i>6.121</i>	<i>5.451</i>
Pi'ihonua Well No. 1 (3A)	1.512	0.681	1.115	0.428	1.495
Pi'ihonua Well No. 2 (3B)	1.600	1.622	1.123	2.908	2.026
<i>Pi'ihonua Subtotal</i>	<i>3.112</i>	<i>2.303</i>	<i>2.238</i>	<i>3.336</i>	<i>3.521</i>
Ola'a Pump A	0.196	0.285	0.044	0.040	0.038
Ola'a Pump B	0.198	0.268	0.052	0.040	0.050
Ola'a Pump C	0.621	0.490	0.889	0.963	0.932
<i>Ola'a Subtotal</i>	<i>1.015</i>	<i>1.043</i>	<i>0.985</i>	<i>1.043</i>	<i>1.020</i>
GRAND TOTAL	10.283	9.375	8.994	10.500	9.992

Source: DWS well pumpage reports to the Commission On Water Resource Management.

Table 1-2. Characteristics of Department of Water Supply Wells Serving Hilo.

	<i>Pana'ewa 1</i>	<i>Pana'ewa 2</i>	<i>Pana'ewa 3</i>	<i>Pi'ihonua 1</i>	<i>Pi'ihonua 2</i>
Well No.	4003-01	4003-02	4003-03	4306-01	4306-02
Owner/User	Hawaii DWS	Hawaii DWS	Hawaii DWS	Hawaii DWS	Hawaii DWS
Year Drilled	1963	1968	1983	1973	1987
Casing Diameter (inches)	18	18	16	18	18
Ground Elevation (msl)	206	201	205	278	276
Bottom of Hole (msl)	-100	-101	-98	-145	-169
Bottom of Solid Casing (msl)	-14	-11	-17	68	-42
Bottom of Perf Casing (msl)	-100	-101	-98		
Static Head in Initial Test (ft. msl)	13.1	13.1	12.2	42.1	40.6
Chlorides in Initial Test (mg/l)	N/A.	N/A.	N/A.	2	2
Test Pump Rate (gpm)	2,200	N/A.	3,000	2,450	2,800
Test Draw Down (ft)	1.6	4.4	8.2	17.6	8.1
Specific Capacity in Test	1,375	N/A.	366	139	346
Chlorides in Test (mg/l)	8	8	3	2	3
Water Temperature (°C.)	20.0	19.5	20.6	17.8	17.2
Pump Capacity (MGD)	2.16	3.02		3.17	

Source: State of Hawaii Department of Land and Natural Resources, Division of Water Resource Management. Printout dated December 27, 1992.



PREPARED FOR:
 Department of Water Supply
 County of Hawaii

PREPARED BY:
 Planning Solutions, Inc.
 Pacific Data Digitizing

SOURCE:
 USGS 7.5' Puhonua & Hilo Quadrangle, 1983
 Hawaii County Department of Water Supply

LEGEND:

..... Service Area

● Water Reservoir

..... Sub Area

■ Spring Source

— Transmission Mains
 (Size in inches)

(227) Sub-Area
 Designation

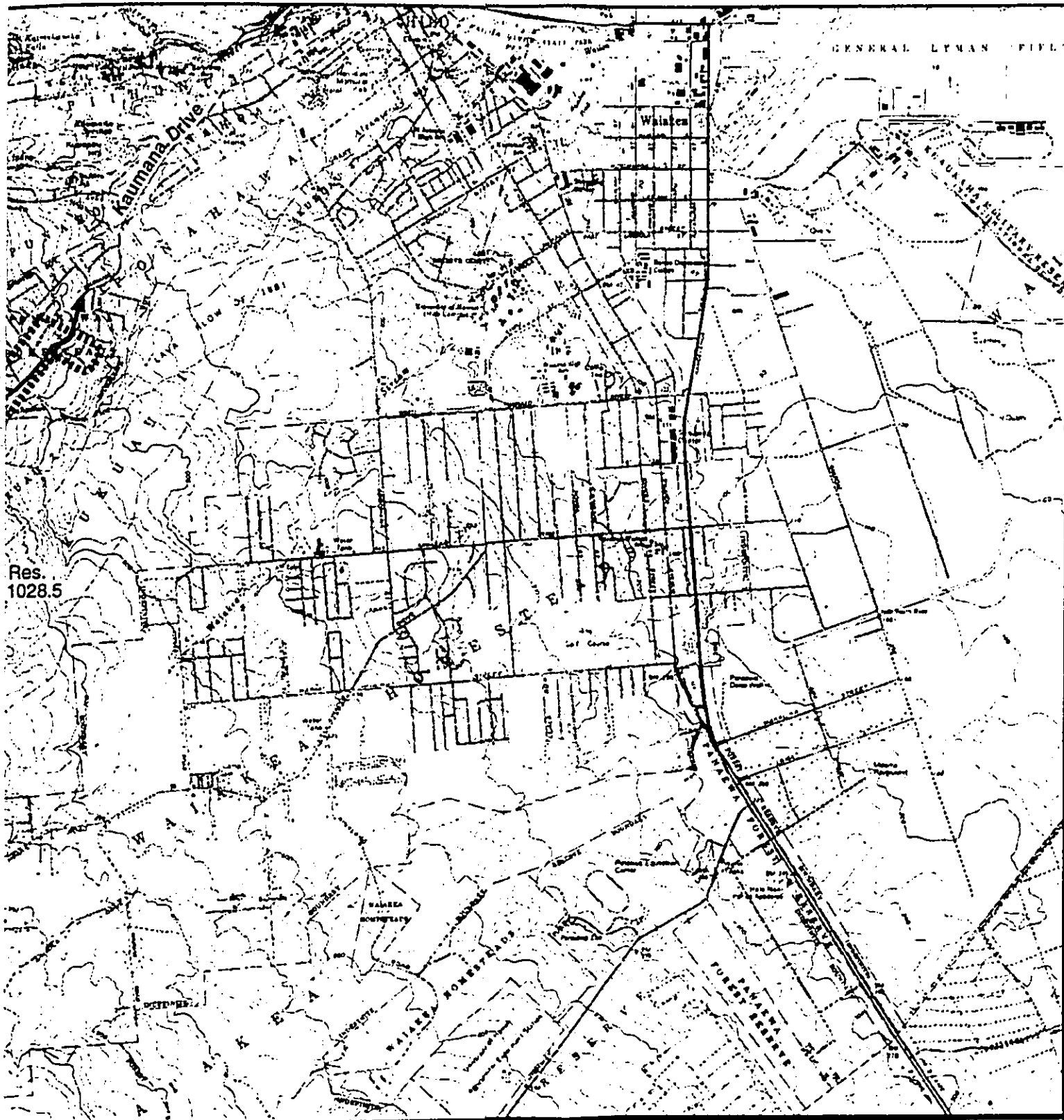


FIGURE 1-2:
**Service Area Boundaries, Reservoirs
 and Water Transmission Mains**

**Environmental Assessment:
 Saddle Road Well "A" Exploratory
 Drilling and Pump Outfitting**

Area
 gnation

0 1/2 1 Miles
 Contour Interval 20 Feet



10/12/01 10:00 AM 10/12/01 10:00 AM

After reviewing the cost implications of the SWTR requirements, the DWS determined that the most prudent course of action would be to replace the Ola'a Spring source with a deep groundwater source of equivalent capacity and free from possible GWUDI designation. It informed the Department of Health of this and began its efforts to develop that source. The Department of Health has allowed the DWS to continue to operate the Ola'a Flume source until the replacement can be brought into service.

1.1.1.3 Potential New Sources

After evaluating its options, the DWS decided to construct a new well in the Ponahawai Homesteads/Kaumana Homesteads area. As discussed in subsequent sections of this report, substantial flows of high quality groundwater are known to occur beneath the area. Data from an exploratory borehole in Kaumana and the recently completed Pi'ihonua Well Number 3 suggest that yields from a new well in this area would be sufficient to replace the Ola'a Spring and meet the forecast demand.

1.1.2 LOCATION AND EXISTING USE OF THE PROPOSED SITE

The proposed well would be constructed on TMK 2-5-41:47. This 23,727 square-foot parcel extends between Saddle Road and Opalipali Street in the upper Ponahawai section of Hilo. The DWS' existing 300,000 gallon reservoir occupies the southern third of the parcel. As shown in Figure 1-3, other small structures and equipment are situated there as well. A small control building on the northwest side of the reservoir is the only one that is presently used. A small seepage pit located between the reservoir and Saddle Road handles overflow from the reservoir. [Note: Pumps, controls, and other equipment were installed on the reservoir parcel to serve the portion of the subdivision *mauka* of the 0.3 MG tank. These have never been used and are in disrepair.]

1.2 DESCRIPTION OF THE PROPOSED ACTION

1.2.1 OVERVIEW OF THE PROPOSED FACILITIES AND ACTIVITIES

The DWS proposes to construct a new exploratory well on the northeastern corner of the property. After pump tests determine the well's yield, the DWS will install a permanent pump of appropriate size and connect it to the reservoir. Details concerning the well drilling, pump installation, testing, outfitting, and operation are provided below.

1.2.2 TECHNICAL CHARACTERISTICS OF THE PROPOSED ACTION

1.2.2.1 Design of the Proposed Facilities

Preliminary plans call for the well to be drilled to a depth of 1,300 feet below ground surface. The bore hole will have a diameter of 27 inches. As shown in Figure 1-4, solid steel casing 20 inches in diameter will be installed in the upper 1,100 feet of the hole. Below that will lie approximately 200 feet of perforated casing. The annulus space between the outside of the boring and the solid casing will be filled with cement grout. The design provides for an open hole a

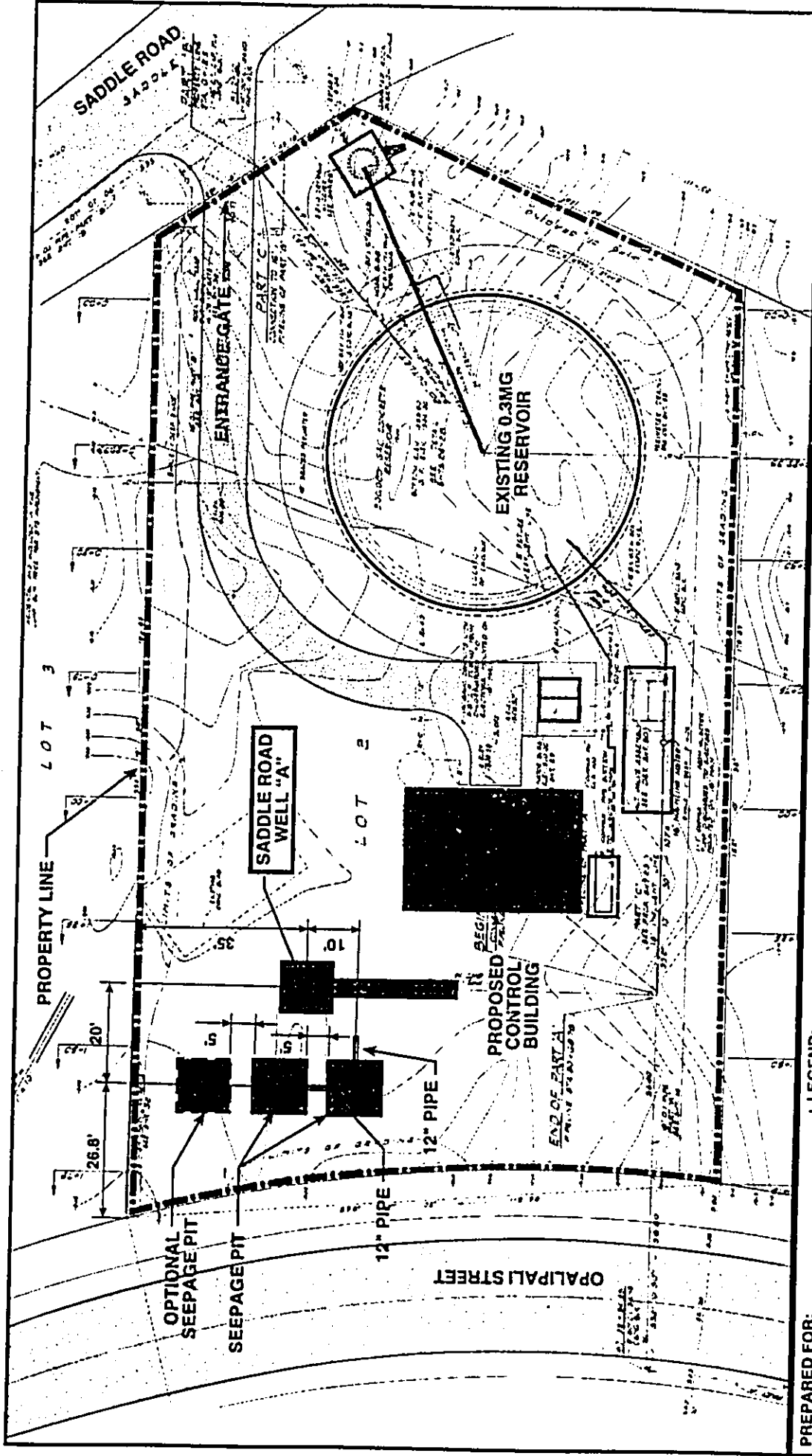


FIGURE 1-3:
Existing and Proposed Facilities

LEGEND:

- Proposed Facility
- Existing Facility
- Road
- Property Line

PREPARED FOR:
 Department of Water Supply
 County of Hawaii

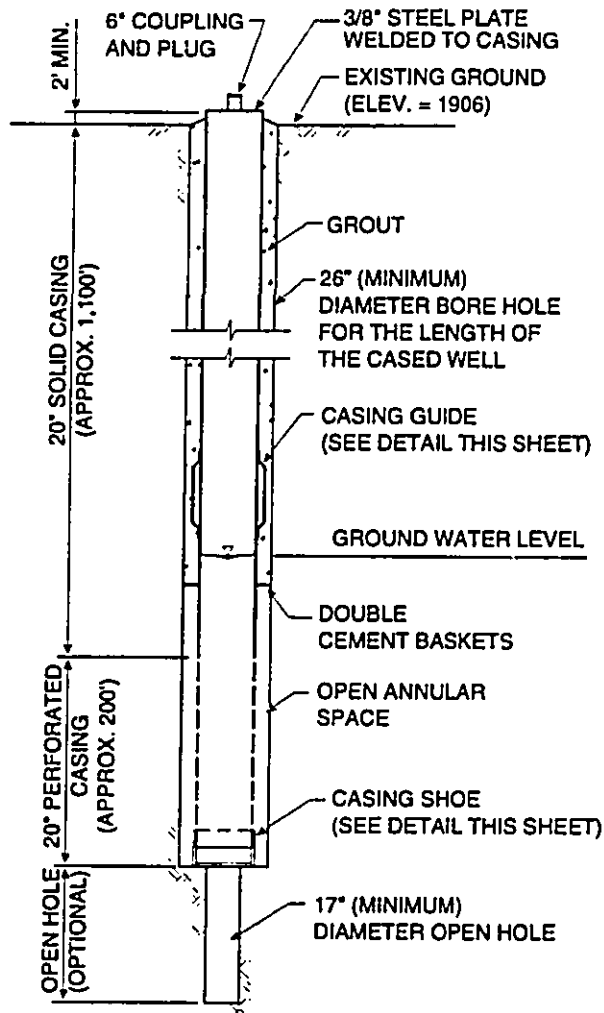
PREPARED BY:
 Planning Solutions, Inc.
 Pacific Data Digitizing

SOURCE:
 Tom Nance Water Resource Engineering

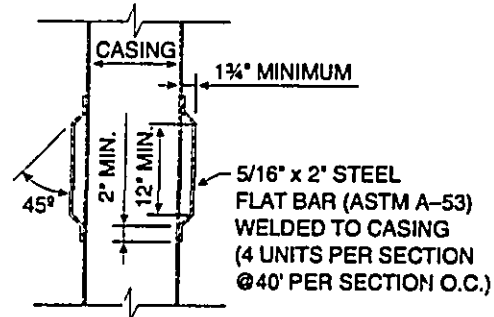
**Environmental Assessment:
 Saddle Road Well "A" Exploratory
 Drilling and Pump Outfitting**

0 30 60 Feet
 Contour Interval 1 Foot

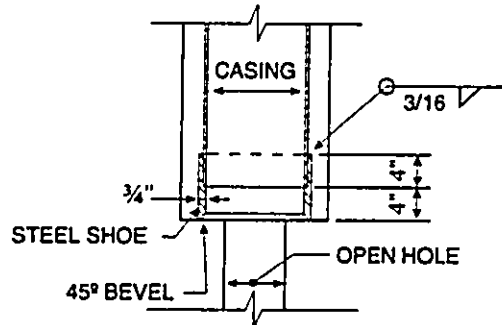
N



SECTION THRU WELL
NOT TO SCALE



CASING GUIDE DETAIL
NOT TO SCALE



CASING SHOE DETAIL
NOT TO SCALE

PREPARED FOR:
Department of Water Supply
County of Hawai'i

PREPARED BY:
Planning Solutions, Inc.
Pacific Data Digitizing

SOURCE:
Tom Nance Water Resource Engineering

FIGURE 1-4:

Cross Section of Proposed Well

**Environmental Assessment:
Saddle Road Well "A" Exploratory
Drilling and Pump Outfitting**

PROJECT DESCRIPTION

minimum of 17 inches in diameter beneath the cased portion; the length of this uncased hole will be determined in the field based on data obtained during drilling.

Electrical power for the permanent pump motor will be supplied by the Hawaii Electric Light Company (HELCO). This will be drawn from an overhead power line along the Saddle Road.

A single-story control building will be constructed between the proposed well and the existing reservoir. It will contain the motor control center and other electrical equipment to start and stop the well pump. The outside dimensions of the concrete-block structure will be approximately 25 feet by 35 feet, for a total enclosed area of approximately 875 square feet.

1.2.2.2 Well Construction and Pump Testing

It is anticipated that the well will be drilled by rotary methods with air and foam as the circulating medium. Drilling will begin with a 12-inch pilot borehole. Following this, the borehole will be reamed in one or more passes to its finished 27-inch diameter.

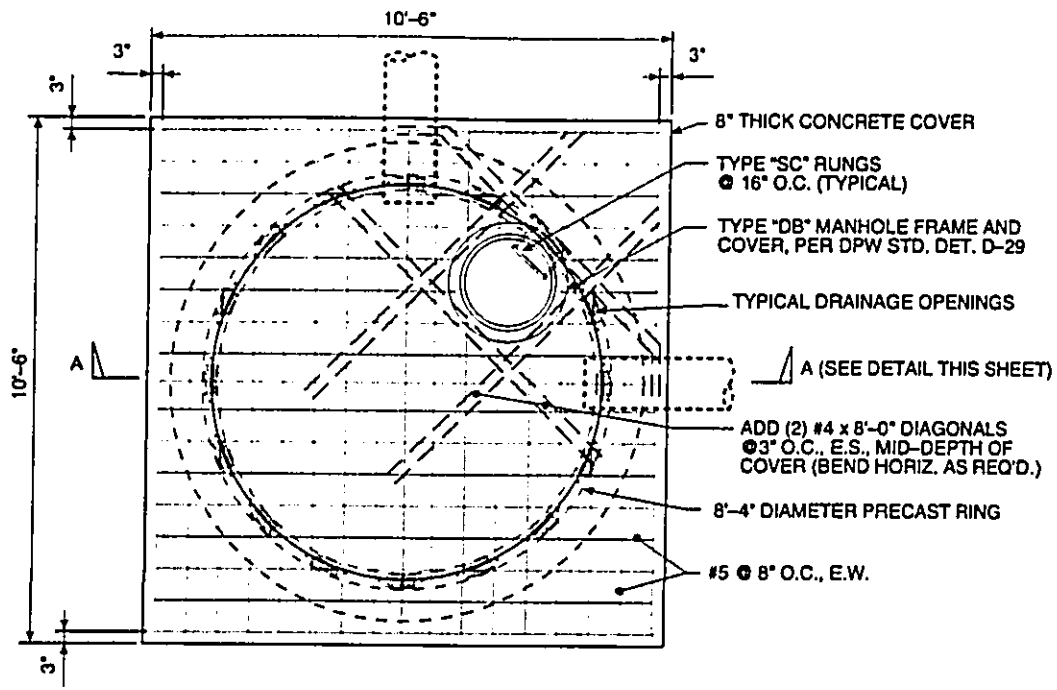
Including the casing installation and pump testing, a construction period of 10 months is expected. Pump testing will be at rates up to 2,100 gallons per minute and will extend from five to seven consecutive days. Pump test water will be disposed of in two or more on-site seepage pits. The pits will be approximately eight feet in diameter and seven feet deep (refer to Figure 1-5). The number constructed will depend upon their seepage capacity. The contractor may seek additional disposal of pumped water off-site, subject to being in compliance with all NPDES requirements of the State Department of Health.

1.2.3 ECONOMIC CHARACTERISTICS OF THE PROPOSED PHASE 1 FACILITIES

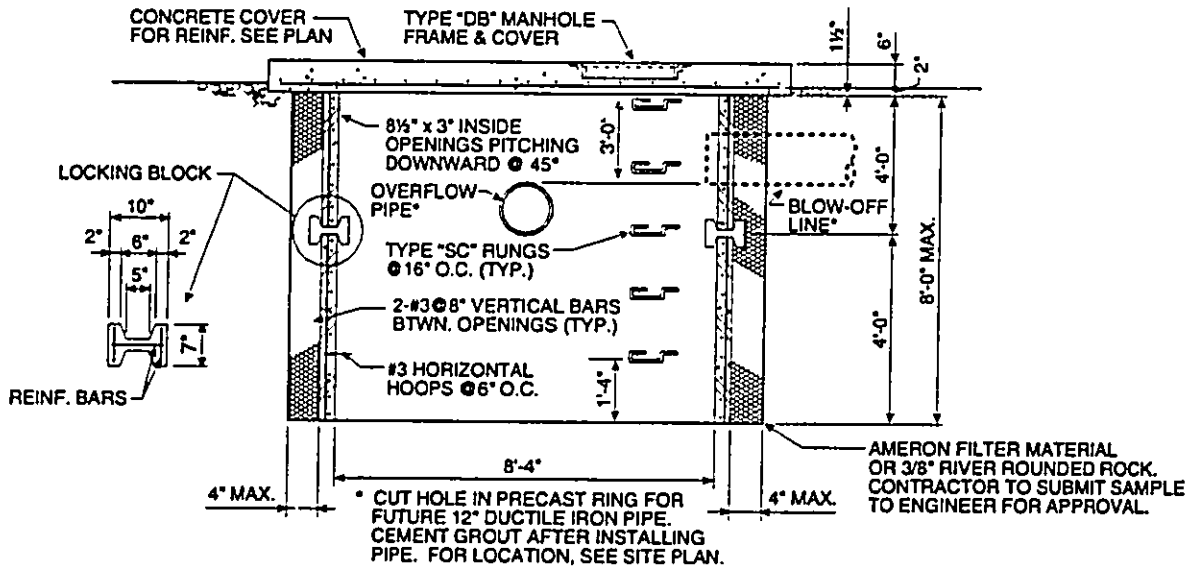
Preliminary estimates of project costs are tabulated below:

<i>Item</i>	<i>Estimated Cost</i>
Well Drilling Casing, and Pump Testing	\$1,220,000
Well Outfitting	\$840,000
HELCO Electrical Service Charge	\$120,000
GRAND TOTAL	\$2,180,000

The County Council has already appropriated funds for this.



COVER PLAN



SECTION "A-A" CYLINDER REINFORCING & DRAINAGE DETAILS

NOTE: 28 DAY COMPRESSIVE CONCRETE STRENGTH = 3000 PSI

SEEPAGE PIT DETAIL

NOT TO SCALE

PREPARED FOR:
Department of Water Supply
County of Hawaii

PREPARED BY:
Planning Solutions, Inc.
Pacific Data Digitizing

SOURCE:
Tom Nance Water Resource Engineering

FIGURE 1-5:

Seepage Pit Detail

Environmental Assessment:
Saddle Road Well "A" Exploratory
Drilling and Pump Outfitting

C:\0 Seepage Pit.dwg Fig 1.A.7.27

1.2.4 IMPLEMENTATION SCHEDULE

The County anticipates the following schedule for the proposed project:

- Award Construction Contract — December 1997
- Drill and Test Wells — February 1997 to December 1998
- Outfit Wells & Construct Control Facilities — March 1999 to December 1999
- Begin Full-Scale Operation — Late December 1999

CHAPTER 2 — EXISTING CONDITIONS

2.1 PHYSICAL ENVIRONMENT

2.1.1 TOPOGRAPHY

The ground elevation along the upper (western) side of the parcel on which the proposed well would be constructed is approximately 1,912 feet above mean sea level (msl). Its eastern boundary is about 10 feet lower. While the average slope is about 8 percent, most of the elevation change occurs on the western portion of the property. The area on which the well, control building, and seepage pits would be constructed is nearly level.

2.1.2 GEOLOGY AND SOILS

The Saddle Road runs between Mauna Loa and Mauna Kea, the largest of the island's five volcanoes. Mauna Kea, the northernmost, is the older of the two. Scientists believe it has probably not erupted for at least 2,000 years. However, it is not known for certain whether the volcano is extinct or simply dormant. Mauna Loa, the southernmost of the pair, is probably the largest volcanic mountain on earth. Lava flows from Mauna Loa lie on the surface at the project site. A major lava flow passed to the north of the site in 1855, and flows from Mauna Loa's eruption during the 1881-1882 period actually passed over the property.

Like all areas of the Big Island, the site also experiences periodic earthquakes. The largest earthquake in the Hawaiian Islands during historic times occurred on April 2, 1868. Its epicenter was near the southern tip of the island, and it had an estimated magnitude of 7.5 or greater. The largest earthquake during the 20th century was the magnitude 7.2 quake that occurred in November 1975. This quake was also centered along the southern coast of the island. Extensive subsidence occurred during both quakes.

The soils on the project site belong to the Kekake-Keel-Kilua association defined by the U.S. Soil Conservation Service (Sato *et al.*, December 1973). Because they are so thin and unsuited to cultivation, the SCS has conducted only a reconnaissance-level survey of the area. It categorized the site as "rLW", or pahoehoe lava flows.

2.1.3 HYDROLOGY

2.1.3.1 Surface Water

Because of the youthfulness of the lavas on which the site is located, there are no defined watercourses in the vicinity despite the relatively high rainfall. The nearest stream is the Wailuku River, which lies approximately nearly two miles to the North. The porous nature of the young lavas allows much of the rainfall to infiltrate. That which does not run off as overland flow. Storm runoff from the DWS' parcel flows generally across the site (i.e., from west to east). However the portions of the property closest to the adjoining roadways drain towards them.

2.1.3.2 Ground Water

The State Commission on Water Resource Management has categorized groundwater areas into separate aquifer systems. The Saddle Road well is in the Hilo Aquifer System (Code 80401) of the Northeast Mauna Loa Aquifer Sector. (George A. Yuen & Associates, March 1992). The *State Water Resources Protection Plan: Volume I* (George A. Yuen, March 1992:127) estimates

EXISTING CONDITIONS

the sustainable yield of the Hilo Aquifer System at 347 million gallons per day (MGD). It attributes this high yield to the high average annual rainfall (approximately 134 inches per year) which recharges the groundwater system. Due to only limited well development at present, essentially all of this discharges from the aquifer system into Hilo Bay.

At the present time, DWS operates two wells that draw water from this groundwater system. These wells are at the same a site approximately 0.25 mile above Hilo High School. They are Pi'ihonua Well No. 1 (State No. 4306-01) and Pi'ihonua Well No. 2 (State No. 4306-02) (see Figure 1-2). These two wells are approximately 5.5 miles *makai* of the project site. The head levels in these wells range from 40 to 42 feet above sea level. The chlorides are generally in the range of 2 to 3 milligrams per liter (mg/l) and the water temperature is 63° F. As indicated in Table 1-1, over the past five years average withdrawals from the two wells has varied from a low of 2.238 MGD to a high of 3.521 MGD.

The DWS is in the process of outfitting a third well, Pi'ihonua Well No. 3 (State No. 4208-01). It is expected to be operational by the end of the third quarter of 1997. This well, which is about half-way between Pi'ihonua Wells Nos. 1 & 2 and the project site, is situated approximately 0.5 mile south of the Wailuku River. The static water level in the well is approximately +260 feet msl. The chloride level and temperature of the water in this well are the same as in the other two Pi'ihonua wells. The relatively high level indicates that unknown geologic structures or features are retarding the movement of groundwater seaward.

In addition to these DWS wells, The U.S. Geological Survey has drilled a test hole at Kaumana (State No. 4010-01) approximately 0.9 mile southeast of the project site. The static water level in this well is approximately 1,000 feet above msl, substantially higher than at Pi'ihonua Well No. 3. Roughly the same water level is anticipated for the proposed Saddle Road well. The chloride level and water temperature are not known.

Ola'a Spring is located approximately one mile directly north of the project site. It is a perched water source, and the flow from it is variable. Minimum flow from the spring reported in the *Hawaii County Water Use and Development Plan* (Hawaii County Department of Water Supply, December 1989: Appendix C, page 804-1) is 0.05 MGD; the maximum flow/capacity reported in the same study is 3.0 MGD. The average withdrawal from the spring during 1996 was 2.502 MGD. From the viewpoint of the DWS, the principal advantage of this source is the fact that the spring's 1,975-foot elevation makes it possible to feed water from it throughout most of Hilo's water system by gravity. As a result, it is the most economical of all the DWS's sources. This is true even though DWS must purchase the water from the spring's owner (the Hawaii Conference of the United Church of Christ). However, this present cost advantage is outweighed by additional costs that DWS would incur if it continues to operate the source in compliance with the Surface Water Treatment Rules (SWTR).

Lyman Spring is about 1.5 miles to the north-northeast. Like the Ola'a Flume source, it has been classified as a groundwater source under the direct influence of surface water and is subject to the surface water treatment rules. DWS no longer regularly uses water from this source.

2.1.4 CLIMATE AND AIR QUALITY

Average annual precipitation at the project site is just under 250 inches per year. Monthly averages are 20 inches or higher eight months out of the year. Even in September, the driest month, rainfall averages 10 inches. These averages disguise considerable year-to-year variability, however. Rainfall has been less than 5 inches in virtually all months of the year. Rainfall varies

significantly according to time of day as well as time of year, with the mid-day being much drier than the nighttime.

Temperatures at the project site are moderate. Highs generally do not exceed the low 80s. Low temperatures are generally in the upper 50s and lower 60s. Relative humidity is typically between 60 and 90 percent.

Hilo's wind pattern reflects the influence that the island's large land mass has on the prevailing trade winds. During the daytime the winds normally blow out of the north to east. During the nighttime, the downslope movement of cool air reverses the direction and the wind most commonly blows out of the southwest. At an average of about 11 miles per hour, average wind speed during the nighttime is noticeably stronger than the average speed during the day (6 miles per hour).

2.1.5 FLORA AND FAUNA

The project site was completely graded during construction of the 0.3 MG tank and other facilities that are now located there. The only vegetation present is manicured grass in the open areas between the various facilities. While no faunal survey was conducted, it is believed that the only animals present are birds and small rodents. Given nature of the habitat, there is no reason to believe that any rare or endangered species might be present.

2.1.6 NOISE

No noise measurements have been made at the site. However, the relatively low wind speed, the absence of significant human noise sources on or around the site, and qualitative observations made during site visits indicate that average noise levels there are low. Passing trucks, motorcycles, and cars on the Saddle Road produce the highest noise levels at the present time. Considering the distance between the highway and the property line and typical noise emissions from trucks and automobiles, it is estimated that peak noise levels in the area at the present time approach 80 dBA. Average noise levels during periods of calm winds are probably on the order of 45 dBA or less.

2.1.7 AQUATIC RESOURCES

There are no standing or flowing bodies of water on or near the project site. Consequently, there are no aquatic resources.

2.1.8 ARCHAEOLOGICAL FEATURES

The entire surface of the site has been disturbed during construction of the existing facilities. In view of the shallowness of the soil and the fact that the area was covered by fresh lava flows during the middle of the nineteenth century, the potential for archaeological remains to be present is considered slight.

2.1.9 SCENIC AND AESTHETIC RESOURCES

The parcel on which the wells and related facilities would be constructed is located between two public roadways. Natural vegetation partially screens the facilities on the eastern and western sides of the property. The screening is less complete on the sides facing the Saddle Road and

EXISTING CONDITIONS

Opalipali Street. The proposed well site itself is positioned well away from Saddle Road, by far the busier of the two roadways. The appearance of both the existing site and the surrounding areas is typical of other areas in Kaumana.

2.2 ECONOMIC AND CULTURAL ENVIRONMENT

The well site is situated at the *mauka* end of the residential area of Hilo. There are no existing commercial, industrial, agricultural, or other economic activities in the vicinity.

The project site was graded during construction of the existing tank and other facilities. This, and the fact that it is located atop young lava flows, make it extremely unlikely that cultural remains are present.

2.3 EXISTING LAND USE

The parcel on which the proposed facilities would be constructed contains an existing 0.3 MG reservoir. The land on which the well and support facilities would be built is presently part of an open grassed yard. Adjacent properties are in single-family residential use.

2.4 LAND USE CONTROLS

The site is in the State Urban District. The County zoning is Residential. The proposed facilities are allowable uses in both these land use districts.

2.5 LAND OWNERSHIP

The parcel is owned by the County of Hawaii and is under the control of the Department of Water Supply. The immediately adjacent parcels on the are all small residential lots in private ownership.

CHAPTER 3 — PROBABLE IMPACTS

3.1 PROBABLE IMPACTS ON THE PHYSICAL ENVIRONMENT

3.1.1 TOPOGRAPHIC IMPACTS

The parcel was graded during construction of the existing reservoir and other water supply facilities. No additional general grading will be required.

The contractor will undertake minor finished grading and excavation for the control building and the well pump pad. In addition, each of the seepage pits will require the removal of approximately 25 cubic yards of material. This will not change the overall topography or drainage pattern of the site.

3.1.2 GEOLOGIC AND SOILS IMPACTS

The minor earth movement that is proposed will not alter the geology of the area or require the removal or alteration of valuable minerals. All of Hilo is subject to hazards from lava flows and other volcanic activity. However, it is no worse in this regard than other possible locations. Moreover, the nature of the facilities is such that their construction will not increase the number of people exposed to geologic hazards.

The site is already developed in such a way as to preclude agricultural use. Even if these were not the case, the thin soils are unsuited to most agricultural uses. Consequently, the proposed action will not have significant impacts on soils or geological resources.

3.1.3 HYDROLOGIC IMPACTS

3.1.3.1 Construction Phase

Construction of the proposed project will add from 1,000 to 1,200 square feet of impermeable surface to the site. Because of the permeable nature of the area that will remain, this will only change the volume of surface runoff under extremely heavy rainfall conditions. The effect of this on total runoff will be negligible.

During the well construction and pump testing, a temporary pump will be used to develop the well (i.e., to remove sediment and well cuttings that are a by-product of the drilling) and to determine its hydraulic capacity.

If the on-site seepage pits that are part of the design cannot handle the three million gallons per day produced on a continuous basis during test-pumping, the excess water can be diverted into a temporary pipe that will be placed in the drainage swale that runs along the southeastern side of Opalipali Street. The temporary pipe would carry water downhill past the residences that front that street. This water would eventually discharge into the large tract of undeveloped land on the north side of Saddle Road. This land consists of highly permeable lavas and is capable of absorbing the temporary discharge.

3.1.3.2 Operational Phase

After the well begins production, it will discharge approximately 10,000 gallons of water into the seepage pits each time it is started. This is done so that sediment entrained during start-up is not pumped into the water supply system. This arrangement helps assure that only high quality water is delivered to the Department of Water Supply's customers.

PROBABLE IMPACTS

DWS intends to use Well A as a replacement for the Ola'a Spring Source. Consequently, initial pumpage of the well may be at approximately the rates of Ola'a Spring as shown in Table 1-1. Since the aquifer's sustainable yield is estimated at 347 MGD, the anticipated pumpage of the well will have no significant effect on groundwater resources.

Groundwater is expected to be encountered about 1,000 feet above sea level. This is approximately 900 feet below the elevation of the beds of Wailuku Stream and other smaller watercourses in the vicinity of the well. Consequently, withdrawals from the proposed well will not affect surface water.

A corollary to the increased pumping from the proposed new well will be the cessation of withdrawals from the existing Ola'a source. The Ola'a Spring is a high level, perched water source. Although the exact nature of the perching formation is not known, it is most likely to be an ash layer beneath the lava flow of 1855.

The spring was first developed for use by the Ola'a Sugar Company. It constructed a 20-mile-long flume system fed by the spring. It used the system to transport sugarcane as well as for irrigation. Total spring flow for the only two years of record (January 1918 through April 1920) averaged 8.5 MGD. Beginning in 1976, a portion of the spring flow has been delivered to the DWS' 0.3 million gallon Saddle Road Reservoir on the project site. The unused portion of the flow from the Ola'a spring bypasses the DWS's pipe intake, flows a short distance in an open ditch, and then disappears into an opening in the porous *pahoehoe* lava.

When the Saddle Road Well "A" is brought into production, the DWS will abandon the diversion. At that time, the water that is presently being diverted will simply follow the same path that the unused portion of the spring discharge presently follows, disappearing into the natural opening in the lava. This would represent a return to the natural conditions that existed prior to construction of the diversion. The ultimate destination of this water is not known. It may percolate to groundwater at depth or it may reemerge down-gradient as surface water in Kahoama Stream.

3.1.4 CLIMATE AND AIR QUALITY IMPACTS

3.1.4.1 Construction Phase

Only minor amounts of grading and excavation are contemplated as part of the project. This, and the wet climate, mean that fugitive dust is unlikely to be a problem during construction.

It is anticipated that a diesel-driven drill rig will be used to construct the well and that a diesel-driven pump will be used for well development and testing. Emissions from the diesels will slightly degrade air quality for the short period of time they are in operation. All applicable emission standards will be met, and no violation of ambient air quality standards is anticipated. Consequently, no adverse health effects from this source are anticipated. However, depending upon meteorological conditions during the testing period, it is possible that odor from the diesel exhaust may be noticeable in nearby homes.

3.1.4.2 Operational Phase

Normal operation of the proposed facilities will not produce on-site air emissions, will not alter air flow in the vicinity, and will have no other measurable effect on the area's micro-climate. The electrical power consumed in the operation of the wells will require additional power generation (and, therefore, fuel consumption and gaseous emissions) by the Hawaii Electric Light Company.

The increase represents such a small portion of total power use that its effect not be significant in and of itself.

3.1.5 IMPACTS ON FLORA AND FAUNA

Construction of the proposed facilities will affect only a few hundred square feet of existing lawn. The lawn itself consists of introduced species and is mowed regularly. It does not constitute habitat for any rare or endangered species.

3.1.6 NOISE IMPACTS

3.1.6.1 Construction Phase

Well drilling will involve the operation of diesel-powered drilling equipment for a period of up to 10 months. Noise source levels from unmuffled equipment of this sort could be as high as 80 to 85 dBA measured at a distance of 50 feet. This could result in sound levels of over 85 dBA at the property line and up to 80 dBA at the outside wall of the nearest residence. Proper sound attenuation of the equipment reduces this substantially. Noise levels on other properties would be significantly lower.

Well development requires repeatedly surging the pump to help remove drilling residue from the hole. Electric pumps are poorly suited to this kind of operation; consequently, diesel-powered pumps are generally used. The diesel engines are about as noisy as the drilling equipment.

Well testing requires continuous (i.e., 24-hour-per-day) pumping for a period of at least five to seven days. Noise from the diesel engine that would normally be used to power the pump would, therefore, extend through the night. Due to cost constraints, it is not likely to be practical to switch from the diesel engine that must be used for well development to an electric pump for extended pump testing.

Hawaii Administrative Rules §11-46 (Community Noise Control) establishes noise limits for construction, agricultural, and industrial activities. The noise limits for "Class A Districts" [which §11-46-3(1) defines as "...all areas equivalent to lands zoned residential, conservation, preservation, public space, open space, or similar type], is 55 dBA between 7:00 a.m. and 10:00 p.m. and 45 dBA between 10:00 p.m. and 7:00 a.m. The limit is applicable at the property line. Noise emissions in excess of this limit require a permit or variance from the Director of the Department of Health issued in accordance with §11-46-7.

The contractor will be required to muffle his pump testing equipment. Nonetheless, the noise may still exceed these limits. Consequently, a permit and/or variance will be needed from the Department of Health.

Drilling and well development will not be undertaken during nighttime hours or on Sundays or holidays. It is expected that 4 to 5 months will be spent actually drilling. Given the noise level and duration of this activity, residents of nearby homes who are home during the day may find the noise irritating. The permit issued by the Department of Health will specify the noise reduction measures that must be undertaken by the contractor. It is important that these be strictly adhered to in order to avoid significant adverse noise impacts during this phase of the work.

Well testing involves noise emissions during nighttime and weekend hours that are not normally allowed under a permit. Consequently, a variance will be needed as provided for in §11-46-8. To obtain this permit, the applicant must demonstrate to the Director's satisfaction that:

- the activity that generates the noise is in the public interest;

PROBABLE IMPACTS

- the noise from the proposed activity would not substantially endanger human health or safety; and
- compliance with the normal noise limits would create a serious hardship without equal or greater benefits to the public.

Mitigation Measures. The forecast noise levels given above indicate a significant potential for adverse noise impacts during construction and testing of the proposed facilities. Specification of muffled engines for the drilling operations may be sufficient to reduce the impacts to acceptable levels. It is possible that stringent mitigation measures, including the construction of sound enclosures around the diesel engines, may reduce noise levels during the testing phase to acceptable levels as well. If this proves unfeasible, a combination of quieting and temporary relocation of the nearest residents may be needed. The exact combination of measures that will be employed must be determined as the permit and variance applications are developed.

3.1.6.2 Operational Phase

The permanent pump and motor will operate quietly. A submersible pump and motor will be used, limiting above-ground noise to the hum of the transformer. Consequently, the noise level at the property boundary from this equipment is expected to be approximately 35 to 42 dBA when the well is in operation.¹

3.1.7 IMPACT ON AQUATIC RESOURCES

The proposed well will draw from a high level water source. Information presently available indicates that pumping from it will not alter groundwater discharge into surface water bodies. In view of the high volume of groundwater that flows through the aquifer sector, the limited amount of pumping that is planned cannot have a significant effect on groundwater discharge at the shoreline. Consequently, there is no potential for effect on marine resources.

3.1.8 IMPACTS ON HISTORIC AND ARCHAEOLOGICAL FEATURES

Because there are no historic or archaeological features on the project site, the proposed action does not have the potential to affect these resources.

3.1.9 SCENIC AND AESTHETIC RESOURCES

The planned facilities will not alter the existing character of the site. Because of their low height and limited bulk, they will not have a significant adverse effect on views or other aesthetic resources.

3.2 PROBABLE IMPACTS ON THE ECONOMIC AND CULTURAL ENVIRONMENT

3.2.1 LAND USE

The proposed use is compatible with, and will complement, the existing use of the parcel. The addition of the well and control facilities to the site will not affect the value of adjacent land

¹ This is based on an estimated 50 dBA at 50 feet less a minimum of 8-15 dBA attenuation from the walls of the structure within which the noisiest equipment is housed.

PROBABLE IMPACTS

uses. Noise produced by the drilling operations has the potential to disturb nearby residents. However, the fact that the activity will be limited to daytime hours Monday through Saturday will help mitigate this effect.

Because noise from testing will continue through the night, it is more problematic. Depending upon the equipment that is available, it is possible that providing alternative lodging for the nearest residents during the course of the pump tests may be needed to mitigate the adverse effects. This will be decided when more information is available.

The permanent pump will be very quiet during its operation. Consequently, no significant adverse effect on adjacent land uses is anticipated over the long run.

3.2.2 POPULATION AND ECONOMIC ACTIVITY

The proposed well is needed to replace an existing surface water source. Water from the well will be more costly than at present. However, it will be less costly than it would be if the County were to install and operate the water treatment facilities needed to water from the present source to meet existing Federal and Department of Health standards. The increased cost is not sufficient to significantly affect the economic viability of the Department of Water Supply's customers. It will not have a significant direct or indirect effect on population.

CHAPTER 4 - ALTERNATIVES CONSIDERED

4.1 NO-ACTION ALTERNATIVE

"No Action" is not a feasible alternative. The Department of Health has directed the DWS to cease use of the existing Ola'a Source. Consequently, in order to continue service to the homes presently receiving water from that source, it must either construct a new source or draw more water from its lower-elevation Pi'ihonua Wells and use booster pumps to lift that water to its *mauka* customers.

4.2 ENHANCED WATER CONSERVATION ALTERNATIVE

The proposed new well is not intended to offset an increase in demand. Rather, it will serve as a substitute for water that is presently being provided by a spring source that the DWS has determined is uneconomic to operate in compliance with increased treatment requirements resulting from its designation as a groundwater source under the direct influence of surface water.

Decreasing water use in the proposed well's primary service area would not eliminate the need to find a substitute source. If successful, increased water conservation throughout the DWS system could allow the DWS to meet the total demand with the existing well system. However, this would entail pumping substantial amounts of water from lower elevations to reservoirs within the service area. The DWS does not believe it is a viable alternative.

4.3 OTHER SOURCE DEVELOPMENT ALTERNATIVES

Because of the high groundwater flux through the area, it is likely that wells drilled in other locations would also be productive. However, the proposed project has several characteristics that make it unlikely that these alternatives would be superior from an operational viewpoint. These include:

- the fact that it is located on land that the County already owns, eliminating the need for additional property acquisition;
- its location adjacent to an existing 0.3 MG reservoir that can serve as a head tank for the well, avoiding the need for new tank construction; and
- the well's proximity to the existing water transmission and distribution system, avoiding the need for new water line construction.

4.4 ALTERNATE TIME FRAMES

There is an urgent need to cease operation of the Ola'a source. Consequently, delaying the project is not a viable alternative. Similarly, the project is already funded and on a fast-track construction timetable. Consequently, accelerating development is not practicable.

CHAPTER 5 - RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, & CONTROLS

The proposed project is intended to allow the DWS to continue to meet the needs of the people of Hilo when it discontinues use of the Ola'a Spring Source. While it will be capable of producing more water than is immediately needed, water supply is not presently a limiting factor on development plans in Hilo. Consequently, the availability of the water that it would produce will not stimulate additional development. Neither will it direct development in geographic areas where it would not otherwise take place.

The proposed well and ancillary facilities are located on a site that is already part of the DWS's system. They are allowable under existing State and County zoning and development regulations. Operation of the well is compatible with the adjacent development.

CHAPTER 6 - DETERMINATION

6.1 SIGNIFICANCE CRITERIA

Hawaii Administrative Rules §11-200-11.2 establishes procedures for determining if an environmental impact statement (EIS) should be prepared or if a finding of no significant impact is warranted. §11-200-11.2 (1) provides that proposing agencies should issue an environmental impact statement preparation notice (EISPN) for actions that it determines may have a significant effect on the environment. Hawaii Administrative Rules §11-200-12 lists the following criteria to be used in making that determination:

In most instances, an action shall be determined to have a significant effect on the environment if it:

- (1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;*
- (2) Curtails the range of beneficial uses of the environment;*
- (3) Conflicts with the State's long-term environmental policies or goals as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders;*
- (4) Substantially affects the economic or social welfare of the community or State;*
- (5) Substantially affects public health;*
- (6) Involves substantial secondary impacts, such as population changes or effects on public facilities;*
- (7) Involves a substantial degradation of environmental quality;*
- (8) Is individually limited but cumulatively has considerable effect on the environment or involves a commitment for larger actions;*
- (9) Substantially affects a rare, threatened, or endangered species, or its habitat;*
- (10) Detrimentially affects air or water quality or ambient noise levels;*
- (11) Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;*
- (12) Substantially affects scenic vistas and viewplanes identified in county or state plans or studies; or,*
- (13) Requires substantial energy consumption.*

6.2 FINDINGS

The potential effects of drilling, testing, and operating the proposed Saddle Road Well described earlier in this document were evaluated using these significance criteria. The findings with respect to each criteria are summarized below:

6.2.1 IRREVOCABLE LOSS OR DESTRUCTION OF VALUABLE RESOURCE

The proposed project would be constructed within the boundary of an existing Department of Water Supply facility. It does not involve the loss or destruction of any significant cultural or natural resources. The site will appear much the same following development as it does at present.

6.2.2 CURTAILS BENEFICIAL USES

Construction, testing, and operation will not curtail beneficial uses of the site. In fact, it will enhance the usefulness of the public property on which it would be located. The water that would be withdrawn is a small fraction of the developable yield of the aquifer and its removal from the groundwater flow into the ocean will not have a measurable effect on ocean or groundwater quality.

6.2.3 CONFLICTS WITH LONG-TERM ENVIRONMENTAL POLICIES OR GOALS

The proposed project is consistent with the State's long-term environmental policies and goals as expressed in Chapter 344, Hawaii Revised statutes and elsewhere in State law. In fact, the primary reason the County is seeking to develop it at this time is the desire to reduce withdrawals from a source that is considered to be at greater risk of pollution.

6.2.4 SUBSTANTIALLY AFFECTS ECONOMIC OR SOCIAL WELFARE

The proposed well is intended to provide a continuing supply of water to existing residents of upper Hilo. It will not have a substantial adverse effect on economic or social welfare except insofar as it allows the DWS to assure its customers that they are receiving the best quality water at the lowest consistent with the maintenance of environmental quality.

6.2.5 PUBLIC HEALTH EFFECTS

The proposed project will not adversely affect air or water quality. Neither will it generate solid waste or produce other emissions that will have a significant adverse effect on public health. Construction noise has the potential to exceed noise standards at the property line, but the potential adverse effects of this can be mitigated by the noise abatement and attenuation measures that the County will require of the construction contractor.

6.2.6 PRODUCE SUBSTANTIAL SECONDARY IMPACTS

The proposed project will not produce significant secondary impacts. It is not designed to foster population growth or to promote economic development.

6.2.7 SUBSTANTIALLY DEGRADE ENVIRONMENTAL QUALITY

The proposed project will not have substantial long-term environmental effects. Noise from construction and pump testing is the only impact of note, and it will be of limited duration.

So long as adequate measures are taken to control the intensity of the drilling noise and the time of day during which it will occur, its effects on nearby residents can be managed. Mitigation of adverse noise effects during the 5- to 7-day period during which pump-testing will occur will

require more stringent measures. These could include temporary voluntary relocation of residents of the nearest homes at the driller's expense during. Moreover, measures will be taken to mitigate potential noise effects to the point where they are no longer significant.

6.2.8 CUMULATIVE EFFECTS OR COMMITMENT TO A LARGER ACTION

Construction and operation of the proposed well is not a commitment to a larger action and is not intended to facilitate substantial population growth. Instead, it is intended primarily to replace an existing water source the SWTR have made uneconomic.

While the well is part of a larger system of wells that the DWS uses to serve Hilo, the groundwater resources of the area are so rich that withdrawal from the well will not significantly reduce groundwater flow. Moreover, to the extent that it simply replaces the Ola'a Spring Source, it will not initially increase overall groundwater use.

6.2.9 AFFECTS A RARE, THREATENED, OR ENDANGERED SPECIES

The proposed project will be constructed on an already developed site. It will not utilize a resource needed for the protection of rare, threatened, or endangered species.

6.2.10 AFFECTS AIR OR WATER QUALITY OR AMBIENT NOISE LEVELS

Construction and operation of the proposed well will not have a measurable effect on air or water quality. Neither will it have a long-term effect on noise levels.

The project does have the potential to increase noise levels during the construction phase. Adequate mitigation measures will be taken to limit these to reasonable levels. Where appropriate, temporary relocation of the most-affected residents for the 5- to 7- day duration of the well testing will be provided.

6.2.11 ENVIRONMENTALLY SENSITIVE AREAS

There are no environmentally sensitive areas or resources in the vicinity of the proposed project. While Hilo as a whole is subject to certain geologic hazards, such as earthquakes and lava flows, the project site is no more susceptible to these than the users it would serve.

6.2.12 AFFECTS SCENIC VISTAS AND VIEWPLANES

The proposed well and equipment building are small and in keeping with the existing character of the site. They are not part of a designated scenic area. They will not significantly alter the visual character of the site or change views across it.

6.2.13 REQUIRES SUBSTANTIAL ENERGY CONSUMPTION

Operation of the wells will require more energy than is used for the existing Ola'a Flume source. The increase is relatively small, however. Moreover, no other sources could be used that would require significantly less energy.

6.3 DETERMINATION

In view of the foregoing, the DWS concluded that the proposed project would not have a significant adverse impact on the environment. Consequently, it announced its proposal to issue a Negative Declaration for the proposed action in the Draft Environmental Assessment for the proposed project.

As documented in Chapter 8 of this report, all of the organizations and individuals who responded after reviewing the Draft EA either had no comments or agreed that there would be no significant adverse effects. Consequently, the Department has confirmed its Finding Of No Significant Impact.

CHAPTER 7 - REFERENCES

- Commission on Water Resource Management, Department of Land and Natural Resources, State of Hawaii, February 1992. *Hawaii County Water Use and Development Plan, Review Draft*. Honolulu: Author.
- Department of Business, Economic Development, and Tourism, 1995. *State of Hawaii Data Book*. Honolulu: Author.
- Department of Geography, University of Hawaii. 1993. *Atlas of Hawaii, Second Edition*. Honolulu, University of Hawaii Press.
- Department of Water Supply, County off Hawaii. ND Printout of *1993 Big Island Well Pumpage Report*.
- Department of Water Supply, County off Hawaii. ND Printout of *1994 Big Island Well Pumpage Report*.
- Department of Water Supply, County off Hawaii. ND Printout of *1995 Big Island Well Pumpage Report*.
- Division of Water Resource Management, Department of Land and Natural Resources, State of Hawaii, December 27 1992. *Printout of Groundwater Summary - Hawaii Code 8*. Honolulu: Author. Pages. 5 and 7.
- Furumoto, Augustine S., W. M. Adams, and E. Herrero-Bevera (1988). *Earthquake Risk and Hazard Potential of the Hawaiian Islands*. Honolulu: State of Hawaii Department of Defense.
- Bolt, Beranek, and Newman, 1971. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. Prepared for the U.S. Environmental protection Agency, Office of Noise Abatement and Control, Washington, D.C.
- MacDonald, G. A. A. T. Abbott, and F. L. Peterson (1983). Sewake, R. William, April 20, 1992. Letter from Department of Water Supply to Mr. Manabu Tagamori, Division of Water and Land Development, Department of Land and Natural Resources, State of Hawaii. *Big Island Well Pumpage Report, January 1991 through December 1991*.
- Pavao, Milton D., February 28, 1997. Letter from the Department of Water Supply, County of Hawaii, to Mr. Tom Nance, Tom Nance Water Resource Engineering. Letter provides water consumption data for the Saddle Road Well A Service Area.
- Sewake, R. William, October 11, 1991. Letter from Department of Water Supply to Mr. Manabu Tagamori, Division of Water and Land Development, Department of Land and Natural Resources, State of Hawaii. *Big Island Well Pumpage Report, July 1990 through June 1991*.
- Sewake, R. William, April 20, 1992. Letter from Department of Water Supply to Mr. Manabu Tagamori, Division of Water and Land Development, Department of Land and Natural Resources, State of Hawaii. *Big Island Well Pumpage Report, January 1991 through December 1991*.
- Sewake, R. William, April 8, 1993. Letter from Department of Water Supply to Mr. Manabu Tagamori, Division of Water and Land Development, Department of Land and Natural Resources, State of Hawaii. *Big Island Well Pumpage Report, January 1992 through December 1992*.

REFERENCES

Sybinski, Peter A., June 27, 1994. Letter Concerning Public Water System No. 101, Ola'a Flume, from Department of Health to Mr. H. William Sewake, Manager, Department of Water Supply, County of Hawaii.

U.S. Department of Agriculture, 1973. *Soil Survey of the Island of Hawaii*. Washington, D.C.: U.S. Government Printing Office.

CHAPTER 8 CONSULTATION

8.1 OEQC ANNOUNCEMENT

An announcement of the availability of the Draft EA/Proposed Negative Determination was first published in the August 23, 1997, edition of *The Environmental Notice*. The official public review period ended on September 22, 1997.

8.2 REVIEW OF THE DRAFT EA

The Department of Water Supply's consultant sent copies of the Draft Environmental Assessment to the individuals and organizations listed in Table 8-1. A copy of the text of the letter used to transmit the document and solicit comments is reproduced as Figure 8-1.

8.3 COMMENT AND RESPONSE LETTERS

Copies of the comment letters that were received and the response that was sent to each of them are reproduced in Appendix A. Only two of the letters, one from the Department of Hawaiian Home Lands and the other from the Office of Environmental Quality Control, asked for changes to the Draft EA. The nature of the comments and the Department's overall response are summarized below.

8.3.1 DEPARTMENT OF HAWAIIAN HOME LANDS' COMMENTS

The Department of Hawaiian Home Lands asked that the Final Environmental Assessment contain some analysis and discussion of what would happen to the water that has historically been withdrawn from the Ola'a Spring source. Section 3.1.3 of the EA has been revised to include a discussion of what will happen at the Ola'a Spring Source when the Department of Water Supply stops withdrawing water from that source.

8.3.2 OFFICE OF ENVIRONMENTAL QUALITY CONTROL'S COMMENTS

The Office of Environmental Quality Control (OEQC) did not have any specific comments on the Draft EA. However, it did provide the substance of draft content guidelines for water well development projects and asked that the Department include appropriate information in its Final EA. As indicated in the Department's response to OEQC, the information identified in the draft guidelines that is relevant to proposed Saddle Road Well has been included in the EA.

Table 8-1. Parties From Whom Comments on the Draft EA/FONSI Were Requested.**U. S. Government**

- (1) United States Environmental Protection Agency, Region IX
- (2) Directorate of Facilities Engineering, United States Army Support Command Hawaii
- (3) Pacific Islands Contact Office, Environmental Protection Agency
- (4) State Conservationist, Soil Conservation Service, Department of Agriculture
- (5) District Engineer, U.S. Army Engineer District, Honolulu
- (6) Pacific Island Ecoregion, U.S. Fish and Wildlife Service, Department of the Interior
- (7) District Chief, Geological Survey, Department of the Interior

State of Hawaii

- (1) Department of Agriculture, State of Hawaii
- (2) Department of Accounting and General Services
- (3) Department of Defense
- (4) Department of Education
- (5) Department of Hawaiian Home Lands
- (6) Environmental Health Administration, Department of Health
- (7) Department of Land and Natural Resources
- (8) State Historic Preservation Division, Department of Land and Natural Resources
- (9) Department of Business and Economic Development & Tourism
- (10) Housing Finance and Development Corporation
- (11) Energy Resources & Technology Division, Department of Business, Economic Development, & Tourism
- (12) Environmental Center, University of Hawaii
- (13) Water Resources Research Center, University of Hawaii
- (14) Librarian, University of Hawaii, Hilo Campus Library
- (15) Administrator, Office of Hawaiian Affairs

County of Hawaii

- (1) Planning Department
- (2) Department of Parks and Recreation
- (3) Fire Department
- (4) Chief Engineer, Department of Public Works
- (5) Department of Research and Development

Other Organizations and Individuals

- (1) Editor, *Honolulu Advertiser*
- (2) Editor, *Hawaii Tribune Herald*
- (3) Editor, *West Hawaii Today*
- (4) Director of Environmental Health, American Lung Association

Figure 8-1. Text of Letter Requesting Comments on the Draft EA/FONSI.

August 21, 1997

**Subject: Saddle Road Well "A":
Draft Environmental Assessment/Anticipated Finding of No Significant Impact**

A copy of the Draft Environmental Assessment (DEA) for the proposed Saddle Road Well "A" project is attached. An announcement of its availability appeared in the August 23, 1997, edition of The Environmental Notice published by the State Office of Environmental Quality Control (OEQC).

The Hawai'i County Department of Water Supply's proposed Saddle Road Well "A" project involves the drilling, outfitting, testing, and completion of a new municipal water supply well. The proposed well and appurtenant facilities would be constructed on an existing 300,000-gallon reservoir site that extends between Saddle Road and Opalipali Street in the upper Ponahawai section of Hilo. Water from the well would be used initially as a substitute for water from the Ola'a Spring. The substitution is necessitated by recent changes in State Department of Health water treatment regulations for ground water sources under the influence of surface water.

As indicated in the DEA, the Department of Water Supply has concluded that construction and operation of the well would not have significant adverse impacts on the environment. It proposes to mitigate short-term construction impacts on nearby residents by requiring the selected contractor to incorporate rigorous mitigation measures in its work program. Consequently, it anticipates a Finding of No Significant Impact (FONSI) for the project.

We would appreciate it if you would review the DEA/Anticipated FONSI and write to us with any comments or suggestions. If you have any questions or would like additional information before reaching a conclusion, please call Ms. Esme Corbett-Suzuki or me at 593-1288.

Sincerely,

Perry J. White

*cc: Office of Environmental Quality Control (w/o Attachment)
Mr. Milton D. Pavao, Hawaii County DWS*

APPENDIX A

COPIES OF COMMENT AND RESPONSE LETTERS

The following parties submitted written comments on the Draft EA/FONSI for the Saddle Road Well A project:

- (1) Department of Research and Development, County of Hawai'i
- (2) Director of Environmental Health, American Lung Association
- (3) Administrator, Office of Hawaiian Affairs, State of Hawai'i
- (4) State Historic Preservation Division, Department of Land and Natural Resources, State of Hawai'i
- (5) Housing Finance and Development Corporation, State of Hawai'i
- (6) Department of Hawaiian Home Lands
- (7) Chief Engineer, Department of Public Works, County of Hawai'i
- (8) Department of Accounting and General Services, State of Hawai'i
- (9) Environmental Health Administration, Department of Health, State of Hawai'i
- (10) Office of Environmental Quality Control, State of Hawai'i
- (11) Land Division, Department of Land and Natural Resources, State of Hawai'i
- (12) Planning Department, County of Hawai'i
- (13) Department of Business, Economic Development, & Tourism, State of Hawai'i

Copies of the Comment letters and the Department of Water Supply's responses to them are reproduced below.

Stephen K. Yamashiro
Mayor



County of Hawaii

DEPARTMENT OF RESEARCH AND DEVELOPMENT
25 Aupuni Street, Room 219 • Hilo, Hawaii 96720-2252 • (808) 941-4344 • Fax (808) 935-1205
KONA • (808) 328-3224 • Fax (808) 328-3443
E-mail: chrad@hawaii.net

August 25, 1997

Mr. Perry J. White
Planning Solutions
1210 Auahi Street, Suite 221
Honolulu, HI 96814

Dear Mr. White:

Subject: Saddle Road Well "A" Draft Environmental Assessment

Thank you for the opportunity to review the referenced Draft Environmental Assessment/Anticipated Finding of No Significant Impact.

We have no comments to make at this time.

Yours truly,

Raymond Carr
Economic Development Specialist

xc: Diane Quitiquit, Director

Diane S. Quitiquit
Director



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII
25 AUPUNI STREET • HILO, HAWAII 96720
TELEPHONE (808) 961-8660 • FAX (808) 961-8637

November 4, 1997

TO: Ms. Diane S. Quitiquit, Director
Department of Research and Development

FROM: Hilton D. Pavao, Manager

SUBJECT: Saddle Road Well "A"
Draft Environmental Assessment/Anticipated Finding of No Significant Impact

Thank you for your August 25, 1997 letter concerning the *Draft Environmental Assessment/Finding of No Significant Impact* for this Department's proposed Saddle Road Well "A" project. We appreciate the time you and your staff spent reviewing the document.

Should you need additional information, please contact our Water Resources and Planning Branch at 961-8660.

Hilton D. Pavao, P.E.
Manager

KKO:gms

copy - Office of Environmental Quality Control
Mr. Perry White, Planning Solutions, Inc. ✓

... Water brings progress...

American Lung Association
of Hawaii
245 N. Kalia Street
Suite 100
Honolulu, HI 96817-3951
Fax: (808) 537-5971
Phone: (808) 537-5946

 AMERICAN
LUNG
ASSOCIATION.
of Hawaii

25 August, 1997

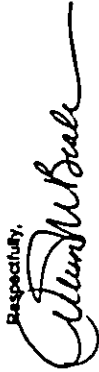
Perry J. White
Planning Solutions
1210 Auahi Street Suite 221
Honolulu HI 96814

RE: Draft Environmental Assessment/Anticipated Finding of No Significant Impact for:
Saddle Road Well "A" proposed by the Hawaii County Department of Water
Supply.

Dear Mr. White:

Thank you for the opportunity to provide comments on the above referenced Draft
Environmental Assessment/Anticipated Finding of No Significant Impact. The American
Lung Association of Hawaii (ALAH) has reviewed this document and has no comments at
this time.

Respectfully,



Allison M. Beale
Environmental Toxicologist
Director of Environmental Health



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII
25 AUPUNI STREET • HILO, HAWAII 96720
TELEPHONE (808) 961-8650 • FAX (808) 961-8657

November 4, 1997

Ms. Allison M. Beale
Director of Environmental Health
American Lung Association
245 North Kukul Street
Honolulu, HI 96817-3951

Saddle Road Well "A"
Draft Environmental Assessment/Anticipated Finding of No Significant Impact

Thank you for your August 25, 1997 letter concerning the *Draft Environmental Assessment/Finding of No Significant Impact* for this Department's proposed Saddle Road Well "A" project. We appreciate the time you and your staff spent reviewing the document.

Should you need additional information, please contact our Water Resources and Planning Branch at 961-8660.



Hilton D. Pavao, P.E.
Manager

KKO:gms

copy - Office of Environmental Quality Control
Mr. Perry White, Planning Solutions, Inc. ✓

When You Can't
Breathe,
Nothing Else
Matters®

Founded in 1904, the American Lung Association includes affiliated associations throughout the U.S. and a medical center, the American Thoracic Society.

... Water brings progress...



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPOLAHU BOULEVARD SUITE 900
HONOLULU, HAWAII 96813-5248
PHONE (808) 584-1888
FAX (808) 584-1885

August 27, 1997

Mr. Perry J. White
Planning Solutions
1210 Auahi Street, Suite 221
Honolulu, HI 96814

Subject: Draft Environmental Assessment/Negative Declaration for Saddle Road Well,
Hilo, Island of Hawaii.

Dear Mr. White.

Thank you for the opportunity to review the Draft Environmental Assessment/Negative Declaration for Saddle Road Well, Hilo, Island of Hawaii. The County of Hawaii proposes to drill, case, test, and complete a new municipal water supply well on an existing 300,000-gallon reservoir in the upper Ponahawaii section of Hilo. The Saddle Road Well is in the Hilo Aquifer System of the Northeast Mauna Loa Aquifer Sector. The sustainable yield of the Hilo Aquifer System is estimated at 347 million gallons per day. The purpose of the project appears to be the need to replace a surface water resource vulnerable to contamination with a safer groundwater resource

The Office of Hawaiian Affairs has no objections at this time to the proposed well development. Based on information contained in the DEA, the project apparently bears no significant long-term adverse impacts on adjacent areas nor upon existing flora or fauna habitats. Furthermore, no known archaeological remains exist and the proposed well case will not significantly affect scenic resources

Letter to Mr. White
Page two

Please contact Lynn Lee, Acting Officer of the Land and Natural Resources Division, or Luis A. Manrique, should you have any questions on this matter.

Sincerely yours,

Randall Ogata
Administrator

Lynn Lee
Acting Officer,
Land and Natural
Resources Division

LM:lm

cc Trustee Clayton Hee, Board Chair
Trustee Abraham Aiona, Board Vice-Chair
Trustee Rowena Akana, Land & Sovereignty Chair
Trustee Haunani Apoliona
Trustee Billie Beamr
Trustee Frenchy DeSoto
Trustee Moses Keale
Trustee Colette Machado
Trustee Hannah Springer
CAC, Island of Hawaii



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

25 AUPUNI STREET • HILO, HAWAII 98720
TELEPHONE (808) 961-8660 • FAX (808) 961-9657

November 4, 1997

Mr. Randall Ogata, Administrator
State of Hawaii
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, HI 96813

Saddle Road Well "A"
Draft Environmental Assessment/Anticipated Finding of No Significant Impact

Thank you for your August 27, 1997 letter concerning the *Draft Environmental Assessment/Finding of No Significant Impact* for this Department's proposed Saddle Road Well "A" project. We appreciate the time you and your staff spent reviewing the document.

Should you need additional information, please contact our Water Resources and Planning Branch at 961-8660.

Milton D. Pavao, P.E.
Manager

KKO:gms

copy • Office of Environmental Quality Control
Ms. Lynn Lee, Acting Officer, OHA LHR Division
Mr. Perry White, Planning Solutions, Inc.

... *Water brings progress*...



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, SIXTH FLOOR
HONOLULU, HAWAII 96813

ARCHITECTURAL REVIEW BOARD
BOARD OF LAND AND NATURAL RESOURCES

MEMBER

Gilbert Calmes-Agresta

- ARCHITECTURAL DEVELOPMENT PROGRAM
- ADULT SERVICES
- COMMUNITY DEVELOPMENT
- CONSERVATION AND RESTORATION
- RECREATION SERVICES
- CONTRACTS
- FOOD AND NUTRITION SERVICES
- PLANNING AND DEVELOPMENT
- LAND MANAGEMENT
- PLANNING AND DEVELOPMENT
- WATER AND LAND DEVELOPMENT

August 28, 1997

Mr. Perry J. White
Planning Solutions
1210 Auahi Street, Suite 221
Honolulu, Hawaii 96814

Dear Mr. White:

SUBJECT: Draft Environmental Assessment for Saddle Road Well "A"
Ponahawai, South Hilo, Hawaii Island
TMK: 2-5-41:47

LOG NO: 20017 ✓
DOC NO: 9708PM10

Thank you for your letter of August 21, 1997 and the opportunity to review and comment on the Draft EA for the subject project.

The description of the project area indicates that the ground surface was altered during the construction of the existing facilities. This, combined with the fact that it is located on a mid-nineteenth century lava flow, makes it highly unlikely that significant historic sites would be found on this piece of land. Based on this information we believe that the proposed well construction will have "no effect" on significant historic sites.

Sincerely,

DON HIBBARD, Administrator
State Historic Preservation Division

PMT: ds



DEPARTMENT OF WATER SUPPLY - COUNTY OF HAWAII

25 AUPUNI STREET - HILO, HAWAII 96720
TELEPHONE (808) 981-8660 • FAX (808) 981-8657

November 4, 1997

Dr. Don Hibbard, Administrator
State of Hawaii
Department of Land and Natural Resources
State Historic Preservation Division
33 South King Street, Sixth Floor
Honolulu, HI 96813

Saddle Road Well "A"
Draft Environmental Assessment/Anticipated Finding of No Significant Impact

Thank you for your August 28, 1997 letter (your reference LOG No. 20017/DOC No. 9708PM10) concerning the *Draft Environmental Assessment/Finding of No Significant Impact* for this Department's proposed Saddle Road Well "A" project. We appreciate the time you and your staff spent reviewing the document.

Should you need additional information, please contact our Water Resources and Planning Branch at 961-8660.

HILTON D. PAVAO, P.E.
Manager

KKO:gms

cc - Office of Environmental Quality Control
Mr. Perry White, Planning Solutions, Inc. ✓

ALL 29 1997

... Water brings progress...

DEBRA J. CARLSON
Assistant



STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
HOUSING FINANCE AND DEVELOPMENT CORPORATION
877 QUEEN STREET, SUITE 300
HONOLULU, HAWAII 96813
FAX (808) 587-8637

ROY S. OSHIRO
EXECUTIVE DIRECTOR

TELEPHONE NO.

97:DEV/3476

August 29, 1997

Mr. Perry J. White
Planning Solutions, Inc.
1210 Auahi Street, Suite 221
Honolulu, Hawaii 96814

Dear Mr. White:

SUBJECT: Saddle Road Well "A"
Draft Environmental Assessment/Anticipated Finding
of No Significant Impact

We acknowledge receipt of the above subject Draft Environmental Assessment/Negative Declaration (EA) for the Saddle Road Well "A" done by Planning Solutions, Inc. dated August 1997. We understand that the proposed project is to be used initially as a substitute for water from the Ola'a Spring, which is necessitated due to recent changes in the State Department of Health water treatment regulations applicable to the Ola'a Spring water source influenced by surface water.

The Housing Finance and Development Corporation has no comments to the draft EA or proposed project.

Should there be any questions or comments regarding this matter, please contact Stan Fujimoto, Project Coordinator, at 587-0539.

Sincerely,

ROY S. OSHIRO
Executive Director

cc: Janice Takahashi, HFDC Chief Planner



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII
25 AUPUKI STREET • HILO, HAWAII 98720
TELEPHONE (808) 961-8880 • FAX (808) 961-8637

November 4, 1997

Mr. Roy S. Oshiro, Executive Director
State of Hawaii
Housing Finance and Development Corporation
677 Queen Street, Suite 300
Honolulu, HI 96813

Saddle Road Well "A"
Draft Environmental Assessment/Anticipated Finding of No Significant Impact

Thank you for your August 29, 1997 letter concerning the *Draft Environmental Assessment/Anticipated Finding of No Significant Impact* for this Department's Saddle Road Well "A" project. We appreciate the time you and your staff spent reviewing the document and responding to us.

Should you need additional information, please contact our Water Resources and Planning Branch at 961-8660.

Hilton D. Pavao, P.E.
Manager

KKO:gms

copy - Office of Environmental Quality Control
Mr. Perry White, Planning Solutions, Inc. ✓

... Water brings progress...

4389L25

MAUNALO A CASTLAND
LAW OFFICE
PART OF MAUNALO A



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P.O. BOX 1379
HONOLULU, HAWAII 96810

KALI WATSON
CHAIRMAN
HAWAIIAN HOMES COMMISSION
ATTORNEY AT LAW
P.O. BOX 1879
HONOLULU, HAWAII 96810



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII
25 AUPUNI STREET • HILO, HAWAII 98720
TELEPHONE (808) 981-8660 • FAX (808) 981-8637

November 4, 1997

August 29, 1997

Mr. Perry J. White
Planning Solutions
1210 Auahi Street, Suite 221
Honolulu, Hawaii 96814

Dear Mr. White:

Subject: Saddle Road Well "A": Draft EA/Anticipated FONSI

We concur that construction and operation of the proposed well will improve the quality of drinking water in Hilo and should have no significant adverse impacts on the environment.

We suggest that the environmental assessment include some analysis and discussion of what will happen to the water that is now withdrawn from the Ola'a Spring Source (average 2.52 MGD in 1996; page 2-2) which would no longer be used in the County domestic system.

Thank you for the opportunity to review and comment on the proposed project. If you have any questions, please call Joe Chu of our Planning Office at 586-3836.

Aloha,

Kali Watson

KALI WATSON, Chairman
Hawaiian Homes Commission

Mr. Kali K. Watson, Chairman
Hawaiian Homes Commission
State of Hawaii
Department of Hawaiian Home Land
P.O. Box 1879
Honolulu, HI 96805

Saddle Road Well "A"
Draft Environmental Assessment/Anticipated Finding of No Significant Impact

Thank you for your August 29, 1997 letter concerning the Draft Environmental Assessment/Anticipated Finding of No Significant Impact for this Department's Saddle Road Well "A" project. We appreciate the time you and your staff spent reviewing the document and preparing the letter.

In response to your request, we have expanded the environmental assessment's discussion of the effect that implementation of the project would have on water that would no longer be needed from the Ola'a Spring Source.

Should you need additional information, please contact our Water Resources and Planning Branch at 961-8660.

Milton D. Pavao

Mr. Milton D. Pavao, P.E.
Manager

KKO:gms

copy - Office of Environmental Quality Control
Planning Solutions, Inc.

... Water brings progress...

Stephen K. Yamashiro
Mayor



County of Hawaii
DEPARTMENT OF PUBLIC WORKS
25 Aupuni Street, Room 202 • Hilo, Hawaii 96720-4252
(808) 961-4021 • Fax (808) 961-4630

September 2, 1997

MR. PERRY J. WHITE
PLANNING SOLUTIONS
1210 ALAHI STREET SUITE 221
HONOLULU HAWAII 96814

Donna Fay K. Kiyosaki
Chief Engineer

Jiro A. Suzuki
Deputy Chief Engineer

7



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII
25 AUPUNI STREET • HILO, HAWAII 96720
TELEPHONE (808) 961-8880 • FAX (808) 961-8637

November 4, 1997

TO: Mr. Galen M. Kuba, Chief
Engineering Division, Department of Public Works

FROM: Hilton D. Pavao, Manager

SUBJECT: Saddle Road Well "A"
Draft Environmental Assessment/Anticipated Finding of No Significant Impact

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
Saddle Road Well "A"
Ponahawai, South Hilo, Hawaii
TMK. 312-5-41.47

We acknowledge receipt of your letter concerning the subject matter, and provide you with our comments as follows:

1. Any building construction shall conform to all requirements of code and statutes of the County of Hawaii
2. All development generated runoff shall be disposed on site and shall not be directed toward any adjacent properties.
3. All earthwork and grading shall be in conformance with Chapter 10, Erosion and Sediment Control, of the Hawaii County Code.
4. Any work within the County right-of-way shall be in conformance with Chapter 22, Streets and Sidewalks, of the Hawaii County Code.
5. The subject properties are found within Flood Zone "X", according to the Flood Insurance Rate Map dated September 18, 1988
6. Improvements shall be located beyond the future road widening setback established by the Planning Department.

Should there be any questions concerning this matter, please feel free to contact Mr. Casey Yanagihara in our Engineering Division at (808)961-8327.

Galen M. Kuba, Division Chief
Engineering Division

CKY

Thank you for your September 2, 1997 letter concerning the *Draft Environmental Assessment/Anticipated Finding of No Significant Impact* for the proposed Saddle Road Well "A" project. We appreciate the time you and your staff spent reviewing the document and preparing the letter. Specific responses to your numbered comments follow below:

1. All building construction will conform to County codes and statutes.
2. All development-generated storm runoff will be disposed of on site. It will not be directed toward any adjacent properties.
3. All earthwork and grading will conform to the provisions of Chapter 10, Erosion and Sediment Control, of the Hawaii County Code.
4. No work is anticipated within the County road right-of-way. Should this become necessary, it will be conducted in conformance with Chapter 22, Streets and Sidewalks, of the Hawaii County Code.
5. Thank you for confirming that the site is outside the 500-year flood zone.
6. The proposed improvements are located well within the perimeter of the parcel. They are not affected by a known road widening setback established by the Planning Department.

If you have any further questions, please contact Mr. Keith Okamoto of our staff at 961-8660.

Hilton D. Pavao, P.E.

KKO:gms

copy - Office of Environmental Quality Control
Planning Solutions, Inc.

... Water brings progress...

BRANDON J. CAFFREY
COUNTY ENGINEER



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P O BOX 110 HONOLULU HAWAII 96810

SAM CALLOO
COMPTROLLER

MARY PATRICK WATERHOUSE
DEPUTY COMPTROLLER

JAN 1997 (P) 1569.7

DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII
25 AUPUNI STREET • HILO, HAWAII 96720
TELEPHONE (808) 981-8660 • FAX (808) 981-8657



November 4, 1997

SEP 4 1997

Mr. Perry J. White
Planning Solutions
1210 Auahi Street, Suite 221
Honolulu, Hawaii 96814

Dear Mr. White:

Subject: Saddle Road Well "A"
Hilo, Hawaii
Draft Environmental Assessment
Anticipated Finding of No Significant Impact

Thank you for the opportunity to review the subject document.
We have no comments to offer.

If there are any questions, please have your staff contact
Mr. Ronald Ching of the Planning Branch at 586-0490.

Sincerely,

GORDON MATSUOKA
State Public Works Engineer

RC:jy
C: OEQC
Mr. Milton D. Pavao

Mr. Gordon Matsuoka, State Public Works Engineer
State of Hawaii
Department of Accounting and General Services
P.O. Box 119
Honolulu, HI 96810

Saddle Road Well "A"
Draft Environmental Assessment/Anticipated Finding of No Significant Impact

Thank you for your September 4, 1997 letter concerning the *Draft Environmental Assessment (DEA)/Anticipated Finding of No Significant Impact* for the proposed Saddle Road Well "A" project. We appreciate the time you and your staff spent reviewing the document and preparing the letter.

Should you need additional information, please contact our Water Resources and Planning Branch at 961-8660.

Milton D. Pavao, P.E.
Manager
KKO:gms

copy - Office of Environmental Quality Control
Planning Solutions, Inc.

... Water brings progress...



STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96811

September 23, 1997

97-180/epo

LAWRENCE BIRKE
DIRECTOR OF HEALTH

In reply, please refer to

Mr. Perry J. White
Planning Solutions
1210 Auhai Street, Suite 221
Honolulu, Hawaii 96814

Dear Mr. White:

Subject: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)
Project: Saddle Road Well "A"
Location: Hilo, Hawaii
TRK: (3) 2-5-41: 47

Thank you for allowing us to review and comment on the subject project. We have the following comments to offer:

Safe Drinking Water Branch

1. Federal and state regulations define a public water system as a system that serves 25 or more individuals at least 60 days per year or has at least 15 service connections. All public water system owners and operators are required to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, "Rules Relating to Potable Water Systems."
2. HAR, Section 11-20-30 requires that new or substantially modified distribution systems for public water systems be approved by the Director of Health. However, if the water system is under the jurisdiction of the County of Hawaii, the Hawaii Department of Water Supply will be responsible for the review and approval of the plans.
3. HAR, Section 11-20-29 requires that all new sources of potable water serving a public water system be approved by the Director of Health prior to its use. Such an approval is based primarily upon the submission of a satisfactory engineering report which addresses the requirements set in Section 11-20-29.

Mr. Perry J. White
September 23, 1997
Page 2

97-180/epo

4. The engineering report must identify all potential sources of contamination and evaluate alternative control measures which could be implemented to reduce or eliminate the potential for contamination, including treatment of the water source. In addition, water quality analyses, performed by a laboratory certified in the State of Hawaii, must be submitted as part of the report to demonstrate compliance with all drinking water standards. Additional tests may be required by the Director of Health upon his review of the information submitted.

If you should have any questions regarding these comments, please contact Ms. Queenie Komori of the Safe Drinking Water Branch at 586-4259.

Sincerely,

BRUCE S. ANDERSON, Ph.D.
Deputy Director for Environmental Health

c: SDWB



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

23 AUPUNI STREET • HILO, HAWAII 98720
TELEPHONE (808) 961-8660 • FAX (808) 961-8657

November 4, 1997


Dr. Bruce S. Anderson, Deputy Director
State of Hawaii
Department of Health
Environmental Health Administration
P.O. Box 3378
Honolulu, HI 96801

Saddle Road Well "A"
Draft Environmental Assessment/Anticipated Finding of No Significant Impact

Thank you for your September 23, 1997, letter (your Reference No. 97-180/epa) concerning the *Draft Environmental Assessment/Anticipated Finding of No Significant Impact* for the proposed Saddle Road Well "A" project. We appreciate the time you and your staff spent reviewing the document and preparing your comments. Specific responses to your numbered comments follow below:

1. The Department of Water Supply understands that the proposed well is part of a system that is subject to Hawaii Administrative Rules (HAR) §11-20. We will operate it in compliance with that chapter.
2. The Department of Water Supply will review and approve the plans for the proposed project.
3. We understand the need to obtain Department of Health approval of all new sources of potable water before connecting them to the public water system which we operate. We will submit an engineering report which addresses the requirements set forth in HAR §11-20-29.
4. We do not believe that there are potential sources of pollution in the vicinity of the proposed well. However, we will perform water quality tests to confirm that water from the well meets all drinking water standards. The results of these tests will be included in the engineering report.

Thank you again for your helpful comments. If you have any further questions, please call Mr. Keith Okamoto of our staff at 961-8660.


Milton D. Pavao, P. E.
Manager

KKO:qms

Copy - Office of Environmental Quality Control
Mr. Perry White, Planning Solutions, Inc.
... *Water brings progress...*

BENJAMIN J. CASTIANO



STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

120 SOUTH BERTANCA STREET
SUITE 701
HONOLULU, HAWAII 96813
TELEPHONE (808) 548-4106
FACSIMILE (808) 548-4108

DAVID OLL
DIRECTOR

September 22, 1997

Mr. Milton D. Pavao, P.E., Manager
Department of Water Supply, County of Hawaii
25 Aupua Street
Hilo, Hawaii 96720

Dear Mr. Pavao:

Thank you for your August 11, 1997, letter submitting a draft environmental assessment (DEA) for the Saddle Road Well A, Hilo, Hawaii, TRUC: 2-5-41-47. The Office of Environmental Quality Control published notice of availability of this DEA in the August 23, 1997, edition of the *Environmental Notice*. We submit for your response the following comments on the DEA.

In recent months, OEQC has been working on a draft content guidelines for water well development projects. The purpose of the guidelines are to encourage uniform and complete disclosure of impacts that may be caused by the development of water wells. Please review the draft guidelines as presented below and incorporate any appropriate information not contained in the draft EA. We welcome any comments you may have on the contents or format of the draft guidelines.

DRAFT CONTENT GUIDELINES FOR WATER WELL DEVELOPMENT PROJECTS

The purpose of these draft guidelines is to provide preparers and reviewers a general standard of completeness to apply for any EA or EIS relating to well development.

NOTE: Pursuant to HAR 11-200-8(a)(5), basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource may be exempt from preparing an environmental assessment. Accordingly, drilling of monitor wells as defined by the CWRM (provided the well shall not be capable of being used or intended to be used to withdraw groundwater for the purposes of exploring or developing ground water) may be exempt.

Environmental assessments for exploratory wells should not need to comply with all the information requirements below because some of the information will not be available until the well is tested. Should the exploratory well yield positive results and demonstrate production capability, a second environmental assessment for the production well should be prepared to comply with all the information requirements.

Please include the following in the final environmental assessment and notice of determination.

Mr. Milton D. Pavao, P.E.
County of Hawaii - Dept. of Water Supply
September 22, 1997
Page 2

1. ORIENTATION MAPS

Please include maps with the appropriate scale and coverage (to analyze the aquifer or hydrologic unit) that show the following:

- a) General information: location of proposed well, TRUC or land ownership maps, location of existing and future wells in the affected aquifer or hydrologic unit, and general references such as roads, schools, etc.
- b) Hydrologic information: aquifer or hydrologic unit boundary, nearby streams and wetlands, known or assumed groundwater flowpaths, known or assumed water level contours.
- c) Contamination information: Points or regions of known contamination, points of potential contamination (landfills, individual wastewater disposal systems (cesspools, septic tanks, searation units), hazardous waste sites, dry wells and injection wells), known or assumed chloride levels at specified depths in relation to nearest or adjacent wells, likely wellhead protection area for the proposed well.

2. AQUIFER OR HYDROLOGIC UNIT STATUS

Please include a description of the aquifer or hydrologic unit status that includes the following:

- Sustainable yields or other measures of water availability
- Authorized water use by the Commission on Water Resource Management (for Water Management Areas only)
- Data table presenting the following information as appropriate
 - Current water use totals, including subtotals for individual users
 - Current installed capacity including subtotals for individual wells and/or groups of wells.
 - Pending installed capacity and/or use for the proposed well and subtotals for individual wells and/or groups of wells within the aquifer

3. CONTAMINATION ANALYSIS

Please include a record of contamination problems in the aquifer or hydrologic unit including but not limited to saltwater intrusion, turbidity, heavy metals, inorganic and organic chemicals, microbiological agents, water quality parameters (such as pH, alkalinity, calcium, conductivity and temperature), and radioactivity. If contamination exists, the sources and duration of the contamination should be listed. Water quality data from nearby wells should be presented as well as any anticipated need for treatment or filtering systems. Discuss past and existing land uses within the likely wellhead protection area and the potential for future contamination from those uses.

Any hazardous materials used and/or produced during drilling and treatment should be described. The method of handling these hazardous materials should also be disclosed.

4. HYDROLOGIC IMPACT ANALYSIS

Please include a discussion of the potential effects the well development may have on affiliated groundwater and surface water (e.g., streams and wetlands). Relevant hydrologic, physical, chemical, and biological data for potentially affected waters should be included. If potential impacts exist, a monitoring

Mr. Milton D. Pavao, P.E.
County of Hawaii - Dept. of Water Supply
September 22, 1997
Page 4

- hydrology of the source and/or end-use area
- An assessment of the well's impact on the major land owners in the region and a declaration if ceded lands are involved.
- An assessment of any impact the well development may have on small landowners or water users including farmers and kuleana residents.

9. ALTERNATIVES ANALYSIS


Please include a list of alternatives to new groundwater development and discussion of their related costs and benefits. The list should include but not be limited to wastewater reuse, rainfall catchment, conservation, and existing potable and nonpotable water supplies.

10. IMPACTS OF ACCESSORY FACILITIES

Please include a description of impacts associated with the well's permanent production facilities including pumps, distribution pipelines, control devices, storage facilities, access roads and accessory structures

Please include this letter and your response to it in the final environmental assessment for this project. If there are any questions, please call Mr. Leslie Segundo, Environmental Health Specialist, at 586-4185. Thank you for the opportunity to comment.

Sincerely,


GARY GILL
Director

c -> Mr. Perry White, Planning Solutions, Inc.
Mr. Keith Okamoto, County of Hawaii Dept. of Water Supply

Mr. Milton D. Pavao, P.E.
County of Hawaii - Dept. of Water Supply
September 22, 1997
Page 3

The EA should include pump test data on water level, extraction rates, and water quality. Similar data from nearby wells should also be included. The precise criteria used to determine if the well should be converted to production should be described. Any provisions for future use and monitoring of wells not placed into production should also be described.

5. BIOLOGICAL ASSESSMENT

Please include a floral and faunal survey for sites in biologically sensitive areas.

NOTE: Items 6, 7 and 8 listed below generally fall under the category of social impacts.

6. ARCHAEOLOGICAL AND CULTURAL IMPACT ASSESSMENT

Please include a description of the archaeological and cultural significance of the region, including an on-site survey as well as consultations with Native Hawaiian groups such as Department of Hawaiian Homes Land, Office of Hawaiian Affairs, and local community associations. (The Environmental Council's draft guidelines for assessing cultural impacts are enclosed and should be used for this purpose.)

7. FINANCIAL AND INSTITUTIONAL ARRANGEMENTS

In some instances, a well is developed by private financing, the transfer of public lands to government or private developers, or in return for a water allocation credit to supply an urban development. The EA should include a full discussion of any institutional, financial or land use arrangements or commitments related to developing the well and delivering water to end users.

These arrangements may include the formation of public utility companies and subsequent rate-setting, the establishment of county water commitments, the co-funding of state or county water system development, an executive order or other set-aside of state lands, and purchase of land or easements by public entities.

All permits or governmental approvals required to fulfill these commitments should be listed, along with the status of each permit/approval.

8. WATERSHED AND LAND USE ANALYSIS

Please include a discussion of how waters from the well will be used, and an analysis of how the proposed well development may affect land and water uses on the island and in the region. The analysis should include a discussion of the following (prohibited materials may be referenced):

- Hawaii State Water Plan and its component parts
- County General Development and/or Community Plans
- Plans for future water development within the aquifer
- Any related water, wastewater, drainage or erosion control plans
- Soil and Water Conservation Plans for agricultural lands
- Historical water supply and demand figures for the region
- How the well may affect existing water sources
- Any secondary or cumulative impacts caused by promoting land uses that alter the

Program for the surface waters should be included. A description of the affected sector within the watershed and groundwater recharge area should also be provided.

The EA should include pump test data on water level, extraction rates, and water quality. Similar data from nearby wells should also be included. The precise criteria used to determine if the well should be converted to production should be described. Any provisions for future use and monitoring of wells not placed into production should also be described.

- Hawaii State Water Plan and its component parts
- County General Development and/or Community Plans
- Plans for future water development within the aquifer
- Any related water, wastewater, drainage or erosion control plans
- Soil and Water Conservation Plans for agricultural lands
- Historical water supply and demand figures for the region
- How the well may affect existing water sources
- Any secondary or cumulative impacts caused by promoting land uses that alter the



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

23 AUPUNI STREET • HILO, HAWAII 96720
TELEPHONE (808) 961-8860 • FAX (808) 961-8657

November 4, 1997

Mr. Gary Gill, Director
State of Hawaii
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Saddle Road Well "A"
Draft Environmental Assessment (DEA)/Anticipated Finding of No Significant Impact (FONSI)

Thank you for your September 22, 1997 letter concerning the *DEA/Anticipated FONSI* for the proposed Saddle Road Well "A" project. We appreciate the time you and your staff spent reviewing the document and preparing your comments.

GENERAL

This letter addresses the draft content guidelines only as they relate to the Saddle Road Well "A" project. However, I can say that we believe that having to prepare two environmental assessments for each well, one before the exploratory well is constructed and a second before the well is put into production, is unreasonable. It would add at least five months to the time that it takes to bring a new source on line and add considerably to the cost of each well. Consequently, we believe that a separate environmental assessment should be prepared after the results of pump tests are available only when those test suggest that conditions are considerably different than those anticipated when the environmental documentation for the exploratory well was prepared. In the case of the Saddle Road Well "A", we think this is highly unlikely.

SPECIFIC COMMENT SUGGESTIONS

The bulk of your letter addressed ten content areas that your office believes should be addressed in environmental documentation for water well development projects. You asked that information on these items be included in the Final Environmental Assessment and Notice of Determination.

... *Water brings progress...*

Mr. Gary Gill, Director
Page 2
November 4, 1997

In a telephone conversation with Mr. Perry White of Planning Solutions, Inc., Mr. Leslie Segundo of your staff said he recognized that the *DEA/Anticipated FONSI* addressed most, and possibly all of these issues. Thus, he agreed that the listing in your letter could function as a kind of checklist. Mr. Segundo also indicated that providing references to the parts of the *DEA/Anticipated FONSI* that address each item would constitute a satisfactory response. The following tabulation is based on that direction:

1. Orientation Maps and Information

Information on the well location, land ownership, location of other wells, and general references is provided in Section 1.1 of the *DEA/Anticipated FONSI*. Information on the area's hydrology is contained in Section 2.1.3, as well as in Section 1.1. There are no known points of contamination that are relevant to the proposed project.

2. Aquifer or Hydrologic Unit Status

Information on the aquifer that would be tapped by the proposed well is provided in Sections 1.1 and 2.1.3 of the *DEA/Anticipated FONSI*. Tables 1-1 and 1-2 tabulate information on other sources in the area.

3. Contamination Analysis

As indicated previously in this letter, we are not aware of any contamination problems that would affect the proposed well. Existing uses in the vicinity of the proposed project are shown on the figures included in the *DEA/Anticipated FONSI* and discussed in Sections 2.2, 2.3, and elsewhere.

4. Hydrologic Impact Analysis

The project's hydrologic impacts are discussed in Section 3.1.3 of the *DEA/Anticipated FONSI*. Because the project involves the construction of a combined exploratory/production well, pump test data for it are not yet available. However, data from tests of other similar wells has been used in preparing the assessment. The exploratory well will be converted to a production well so long as tests show that the water meets the State's Drinking Water Standards.

Mr. Gary Gill, Director
Page 3
November 4, 1997

5. Biological Assessment

As discussed in Section 2.1.5 of the *DEA/Anticipated FOWSI*, the proposed well and ancillary facilities would be constructed on grassed and paved areas of an existing Department of Water Supply reservoir site. It is not a biologically sensitive area.

6. Archaeological and Cultural Impact Assessment

As described in Sections 2.1.8 and 3.1.8 of the *DEA/Anticipated FOWSI*, there are no archaeological or cultural remains on the project site. The State Historic Preservation Division's letter commenting on the *DEA/Anticipated FOWSI* confirms that it would have "no effect" on these values.

7. Financial and Institutional Arrangements

As described in Section 1.1 of the *DEA/Anticipated FOWSI*, the proposed project is intended to replace an existing Department of Water Supply source that has been declared a ground water source under the influence of surface water. The County of Hawaii will pay for the cost of constructing it. The County Council has already appropriated the necessary funds. Costs will be recovered through charges to the Department's customers.

8. Watershed and Land Use Analysis

As indicated above, water from the well will be used to replace an existing Department of Water Supply source. It is consistent with the provisions of the State Water Plan, the County of Hawaii General Plan, and with other plans for water development within the aquifer (which is presently very underutilized). As described within the *DEA/Anticipated FOWSI*, it will not adversely affect existing water sources and it will not promote land uses that would alter the hydrology of the source and/or end-user area. The well does not involve the use of ceded lands. It would not affect major landowners or water rights or use of farmers or *kuleana* residents.

9. Alternatives Analysis

Chapter 4 of the *DEA/Anticipated FOWSI* describes the alternatives that were considered and the reasons why they were rejected in favor of the proposed project.

Mr. Gary Gill, Director
Page 4
November 4, 1997

10. Impacts of Accessory Facilities

Chapter 3 of the *DEA/Anticipated FOWSI* discusses the impacts associated with the well's permanent production facilities, as well as with the well construction and testing activities. The evaluation includes pumps, control devices, and accessory structures. The project does not entail the construction or operation of new distribution pipelines, storage facilities, or access roads.

Thank you again for your helpful comments. If you have any further questions, please call Mr. Keith Okamoto of our staff at 961-8660.



Hilton D. Pavao, P.E.
Manager

copy - Office of Environmental Quality Control
Mr. Perry White, Planning Solutions, Inc. ✓

KKO:gms



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

LAND DIVISION
P.O. BOX 521
HONOLULU, HAWAII 96809
SEP 24 1997

WATER RESOURCE MANAGEMENT
PROGRAM
WATER RESOURCES
DIVISION
WATER RESOURCE MANAGEMENT
PROGRAM
WATER RESOURCE MANAGEMENT
PROGRAM
WATER RESOURCE MANAGEMENT
PROGRAM

Mr. Perry J. White
Page 2

Thank you for the opportunity to review and provide comments on the subject Environmental Assessment. Should you have any questions, please contact Patu Miyashiro of our Honolulu Land Division Office at (808) 587-0430.

Very truly yours,

Dean Y. Uchida
Dean Y. Uchida
Administrator

c: Hawaii Board Member
Hawaii District Land Office

File No. PM-97-062

Ref.: LD-PEM
Mr. Perry J. White
Planning Solution
1210 Auahi Street, Suite 221
Honolulu, Hawaii 96814
Dear Mr. White:

SUBJECT: Request for Comments - Draft Environmental Assessment, Saddle Road Well
-A- Punaluu, Hilo, Hawaii, Tax Map Key: 2-5-41-47

We have reviewed the Draft Environmental Assessment for the subject project, and would like to offer the following comments:

Land Division - Engineering Branch

The proposed project site, according to FEMA Community Panel Map No. 155166 0870 C, is located in Zone X (No shading). This is an area determined to be outside the 500-year flood plain.

Commission on Water Resource Management (CWRM)

In general, the CWRM strongly promotes the efficient use of our water resources through conservation measures and use of alternative non-potable water resources whenever available, feasible, and there are no harmful effects to the ecosystem. Also, the CWRM encourages the protection of water recharge areas which are important for the maintenance of streams and the replenishment of aquifers.

We recommend coordination with the county government to incorporate this project into the county's Water Use and Development Plan.

A Well Construction Permit and a Pump Installation Permit from the CWRM would be required before ground water is developed as a source of supply for the project.



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

88 AUPUNI STREET • HILO, HAWAII 96720
TELEPHONE (808) 961-8888 • FAX (808) 961-8887

November 10, 1997

Mr. Dean Y. Uchida, Administrator
State of Hawaii
Department of Land & Natural Resources
Land Division
P.O. Box 621
Honolulu, HI 96809

SADDLE ROAD WELL "A" DRAFT ENVIRONMENTAL ASSESSMENT/
ANTICIPATED FINDING OF NO SIGNIFICANT IMPACT (FONSI)

Thank you for your September 24, 1997 letter (Reference No. PH-97-062) concerning the Draft Environmental Assessment (DEA)/Anticipated FONSI for the proposed Saddle Road Well "A" project. We appreciate the time you and your staff spent reviewing the document and preparing your comments. Specific responses to your comments follow below.

1. Land Division: Thank you for confirming that the site is outside the 500-year flood zone.
2. Commission on Water Resource Management (CWRM): The proposed well is in accordance with our Water Use and Development Plan. We have already obtained a well construction permit for the well from the Commission on Water Resource Management. We will obtain a pump installation permit after the well has been tested.

Thank you again for your comments. If you have any further questions, please call our Water Resources and Planning Branch at (808) 961-8660.

Milton D. Pavao, P. E.
Manager

KUD:grs

copy - Office of Environmental Quality Control
Mr. Perry White, Planning Solutions, Inc

4/2/98 88270N

Water Division 30140 NIMW SWD HCEB:IT 2651'01'40N

Stephen K. Yamashiro
Mayor



County of Hawaii

PLANNING DEPARTMENT
25 Aupuni Street, Room 109 • Hilo, Hawaii 96720-4113
(808) 941-4388 • Fax (808) 941-8743

Virginia Goldstein
Director
Russell Kokubun
Deputy Director

Mr. Perry J. White
PLANNING SOLUTIONS
Page 2
October 20, 1997

October 20, 1997

Mr. Perry J. White
PLANNING SOLUTIONS
1219 Auahi Street, Suite 221
Honolulu, HI 96814

Dear Mr. White:

RE: Saddle Road Well "A": New Replacement Well Site with Appurtenant Structures,
Hawaii County Department of Water Supply
Draft Environmental Assessment/Anticipated Finding of No Significant Impact
por. of Increment 1-B, Kaumana City Subd., Ponahawai, South Hilo, Hawaii
TMK: 2-5-41-47, Lot 2

Our comments for the above draft EA (DEA) is made below pursuant to Hawaii Administrative Rule 11-200-9(a)(1) as the county agency responsible for implementing the Hawaii County General Plan (GP). General Project Description. The County Department of Water Supply's (DWS) proposal is to develop a new replacement well on parcel 47 and have it connected to the existing on-site water reservoir. Development of this new well site is required to replace an existing water source. The replacement well will be a deep groundwater source that complies with federal and state safe drinking water quality standards required of public water systems.

For your information, we provide the following information for your consideration:

Land Use Zonings & Designations

According to the department's reference maps, the project site, parcel 47, is zoned or designated according to the following land use information. A discussion follows reviewing the consistency criteria of each designation with the proposed development.

- County Zoning: A-1a (Agricultural 1 acre)
- State Land Use: "A" ("Agricultural")
- Special Management Area (SMA):

The project site is not within the SMA zone; and therefore, an SMA assessment of this project is not required.

- HI County GP Land Use Designation: Orchards.
- Parcel 47's land use designation is according to the LUPAG (Land Use Pattern Allocation Guide) Map - Hawaii County GP, Ordinance No. 89-142 (effective: November 14, 1989).

1. County Zoning: Permitted Use - Public Use. According to county Zoning Code sec. 25-4-11(c), the development of the new replacement water supply well with accessory structures is a permitted public use and structure.

The landowner of the parcel is Hawaii County. Development and management of the replacement well and reservoir site is the responsibility of DWS; in addition, the purpose of the county's new well facility is twofold: To replace an existing spring water source because it does not comply with federal and state water quality standards. The replacement well will be a deep groundwater source. Secondly, the replacement well will provide municipal water service to the Ponahawai and Kaumana Homesteads of upper City of Hilo. Developing the replacement well is pursuant to the public policies of the Hawaii County Water Use and Development Plan, the State Water Code as well as to comply with the standards of the Federal Safe Drinking Water Act and the state Department of Health's 6/27/94 notification to DWS. These factors are all consistent with the Zoning Code's definition of public use, sec. 25-1-5(b)(86).

Plan Approval Requirement. Sec. 25-4-11(c) requires Plan Approval of the well site construction plans. An application form is enclosed. Please submit the application materials to the Planning Department.

2. State "A" District: Permitted Use. The project is a permitted use in the state "A" district and does not require a Special Permit.

The permissible uses in the state "A" district are defined by state law, HRS secs. 205-4.5 and 205-2(d). Public major water storage tanks, appurtenant small buildings, and buildings and uses directly accessory to the permitted uses of sec. 205-4.5 are deemed to be permitted uses. The connection of the new well to parcel 47's existing water reservoir constitutes a direct accessory use to the reservoir, consistent with requirements of sec. 205-4.5(a)(7) & (10).

Mr. Perry J. White
PLANNING SOLUTIONS
Page 3
October 20, 1997

3. Consistent with GP Goals, Policies, Standards & Courses of Action. The proposed replacement well is consistent with the GP's development goals, policies, and standards of the public utility and water element.

Development of this well site is consistent with ensuring that adequate, efficient, and dependable public water service is available to and meets users needs. The proposed deep groundwater well maximizes efficiency and economy because it will be on a site that is already a part of the DWS system.

a. Requirements: Public Utility Goals & Policies; Water Policies & Standards.

Stated below are certain design criteria specified in the GP's statement of development goals, policies, and standards of the public utilities and water element. These considerations will need to be incorporated into the design and construction plans of this project.

1. **Public Utilities Design Criteria.** The GP requires public utility facilities to be designed to fit into their surroundings or be concealed from public view; to complement adjacent land uses and operate so as to minimize pollution or disturbance; and, facilities shall be designed to minimize conflict with the environment and natural resources.
2. **Water System Design Criteria.** The GP requires water systems to be designed and built to DWS standards; water sources shall be adequately protected to prevent depletion and contamination from natural and man-made occurrences or events; and, water systems shall meet the requirements of DWS and the Subdivision Control Code.
3. **Natural & Scenic Beauty Element.** According to the GP Support Document's list of site examples of natural beauty in the South Hilo district, parcel 47 is not a site on this list; therefore, the goals and policies identified by the GP as the course of action for the natural beauty element do not apply to this development. The only design criteria that applies to this project are those in the GP for the public utilities and water system elements, discussed above at items 1 and 2.
4. **Fire.** The GP requires water distribution systems to coordinate with fire prevention systems to ensure water supplies for fire protection purposes.

Ms. Perry J. White
PLANNING SOLUTIONS
Page 4
October 20, 1997

- b. **Courses of Action: South Hilo Public Utilities: Water.** Developing a replacement well is consistent with the GP's South Hilo courses of action to improve the Hilo water system. Because it will provide a dependable and consistently clean water supply for the city. Secondly, the replacement well will begin with an exploratory well with pump tests to determine yield; and therefore, the exploratory development is consistent with the course of action to further investigate future ground water resources.

For any matter regarding the above information please discuss with either Daryn Arai or Earl Lucero of this office at 961-8288.

Sincerely,


VIRGINIA GOLDSTEIN
Planning Director

EML:pak
f:wp601white.eml

cc: Department of Water Supply

APPLICATION FOR PLAN APPROVAL
 COUNTY OF HAWAII
 PLANNING DEPARTMENT

APPLICANT: _____ DATE: _____
 APPLICANT'S SIGNATURE: _____
 ADDRESS: _____
 TELEPHONE NO.: _____
 APPLICANT'S INTEREST, if not recorded owner: _____

 RECORDED OWNER: _____
 OWNER'S SIGNATURE: _____ DATE: _____
 ADDRESS: _____
 TELEPHONE NO.: _____
 PROPOSED USE: _____
 TAX MAP KEY: _____
 STREET ADDRESS OF PROPERTY: _____
 STATE LAND USE DISTRICT: _____ LAND AREA: _____
 ZONING: _____

THIS APPLICATION MUST BE ACCOMPANIED BY A SITE PLAN, DRAWN TO SCALE AND FULLY DIMENSIONED INDICATING CLEARLY THE FOLLOWING INFORMATION:

- (1) The location and dimension of the building site;
- (2) The location, size, height, and use of all existing and proposed structures;
- (3) All yards and open spaces;
- (4) Location, height, and material of all fences and walls;
- (5) The standard of improvement and location, number, and size of spaces, arrangements and on-site circulation of all off-street parking and loading facilities including points of access thereto from adjoining streets;
- (6) The location, general nature, and type, and protection or shielding devices of all exterior lighting;
- (7) All proposed landscaping and planting;
- (8) All proposed street dedication and improvement, if any; and
- (9) Any other information required by the director.

THE PROJECT SHALL COMPLY WITH ALL REQUIREMENTS OF PERMITS/APPROVALS GRANTED BY THE PLANNING COMMISSION OR COUNTY COUNCIL.

FD-12764 (Rev. 10-1989)



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII
 23 AUPUNI STREET • HILO, HAWAII 96720
 TELEPHONE (808) 961-8830 • FAX (808) 961-8837

November 10, 1997

TO: Ms. Virginia Goldstein, Director
 Planning Department

FROM: Milton D. Pavao, Manager

SUBJECT: SADDLE ROAD WELL "A" DRAFT ENVIRONMENTAL ASSESSMENT/
 ANTICIPATED FINDING OF NO SIGNIFICANT IMPACT (FONSI)

Thank you for your October 20, 1997 letter concerning the *Draft Environmental Assessment (DEA)/Anticipated FONSI* for the proposed Saddle Road Well "A" project. We appreciate the time you and your staff spent reviewing the document and preparing your comments.

Based on the information you provided, it is our understanding that "Plan Approval" will be needed for the proposed facilities. We appreciate the application form that you provided and will complete and return it as required. Most of the information requested in the Plan Approval application is contained in the environmental assessment for the project. The remainder will be included in our submittal to you.

Thank you again for your comments. If you have any further questions, please call our Water Resources and Planning Branch at 961-8660.

Milton D. Pavao, P.E.
 Manager

KKO:gms

copy - Office of Environmental Quality Control
 Mr. Perry White, Planning Solutions, Inc.

8/3/97 0832'04 ... Water 671M 211100 N104 510 14620:1 2661'01'04



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

OFFICE OF PLANNING
225 South Beretania Street, 8th Fl., Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

BENJAMIN A. CADETANO
GOVERNOR
SEIJI F. NAYA
DIRECTOR
BRADLEY L. BROWN
COUNTY DIRECTOR
RICK EGGED
DIRECTOR, OFFICE OF PLANNING

Tel.: (808) 587-2848
Fax: (808) 587-2824

Ref. No. P-6919

September 3, 1997

Mr. Perry J. White
Planning Solutions
1210 Auahi Street, Suite 221
Honolulu, Hawaii 96814

Dear Mr. White:

Subject: Saddle Road Well "A," Draft Environmental Assessment/Anticipated Finding of
No Significant Impact

Your letter of August 21, 1997 to Dr. Seiji F. Naya was referred to us for review and
response. We do not have any comments to offer relative to the plans and programs of the
Department of Business, Economic Development and Tourism and our office.

If there are any questions, please contact Howard Fujimoto of our Coastal Zone
Management Program at 587-2898.

Sincerely,

Rick Egged,
Director
Office of Planning

c: Dr. Seiji F. Naya, DBEDT
Energy, Resources and Technology Division, DBEDT



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

88 AUPUHI STREET • HILO, HAWAII 96720
TELEPHONE (808) 931-8888 • FAX (808) 931-4837

November 10, 1997

Mr. Rick Egged, Director
Office of Planning
State of Hawaii
Department of Business Economic Development and Tourism
P.O. Box 2359
Honolulu, HI 96804

**SADDLE ROAD WELL "A" DRAFT ENVIRONMENTAL ASSESSMENT/
ANTICIPATED FINDING OF NO SIGNIFICANT IMPACT (FONSI)**

Thank you for your September 3, 1997 letter concerning the *Draft Environmental
Assessment (DEA)/Anticipated FONSI* for the proposed Saddle Road Well "A" project.
We appreciate the time you and your staff spent reviewing the document and
preparing your comments.

If you have any further questions, please call our Water Resources and Planning
Branch at 961-8660.

Milton D. Pavao, P.E.
Manager

KKD:gms

copy - Office of Environmental Quality Control
Mr. Perry White, Planning Solutions, Inc.