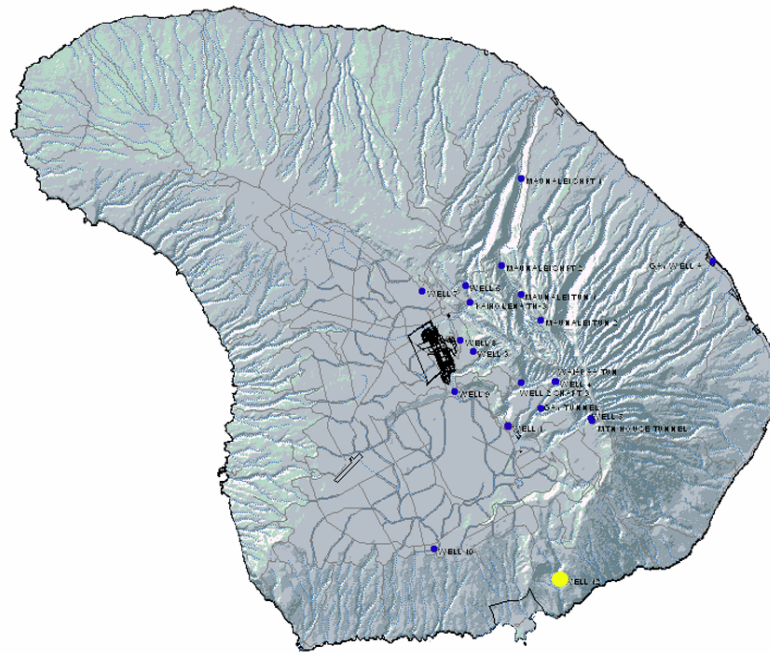


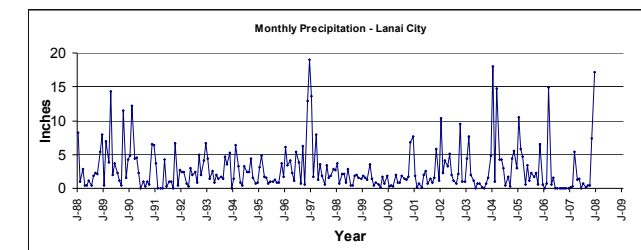
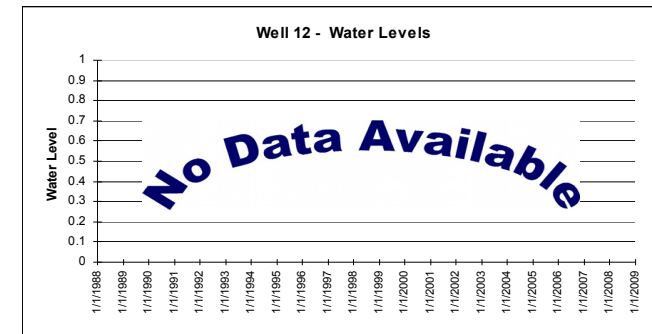
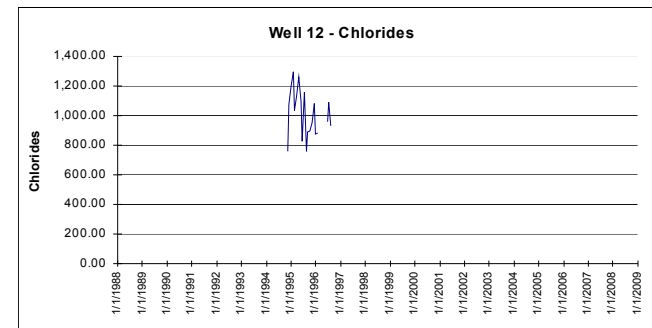
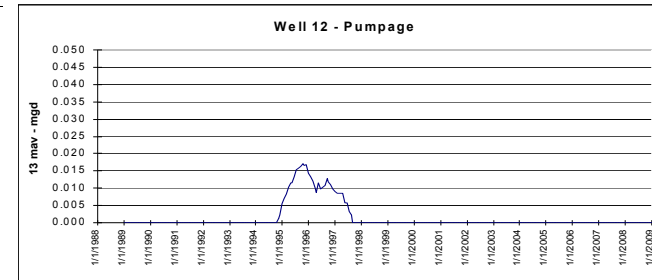
EXHIBIT "I-9"
PART E

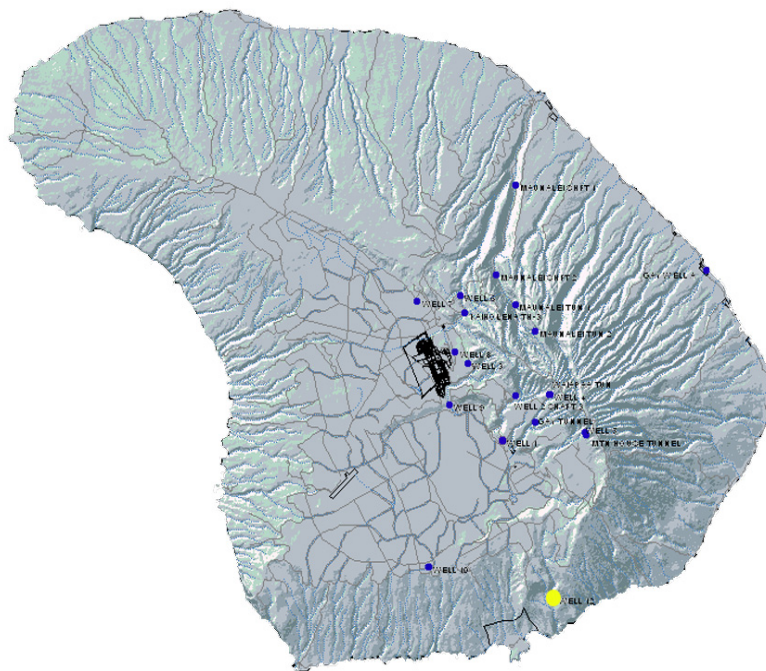
FIGURE 3-57. Well 12

**Well 12**

Well No.	4552-01
Drilled	1990
Ground Elevation	605'
Depth	630'
Bottom of Hole	-20'
Initial Water Level	55'
Initial Chlorides	708 mg/L
Pump	Was 100 GPM submersible Pflueger/Worthington 3600 RPM Pflueger 60 HP water-filled hi temp Winding F1 Amp 90 480 volt
Last Replaced	1993
Use	Not in use

Notes: Intended for Manele GC & landscape irrigation.





Well No.	4553-01
Drilled	1990
Ground Elevation	695'
Depth	750'
Bottom of Hole	- 5'
Initial Water Level	20'
Initial Chlorides	----- mg/L
Pump	-----
Last Replaced	
Use	Not in use

Notes:	Was Intended for Manele GC & landscape irrigation. Pump tests showed production capacity too low.
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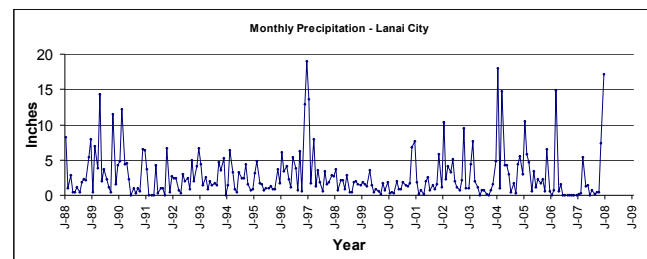
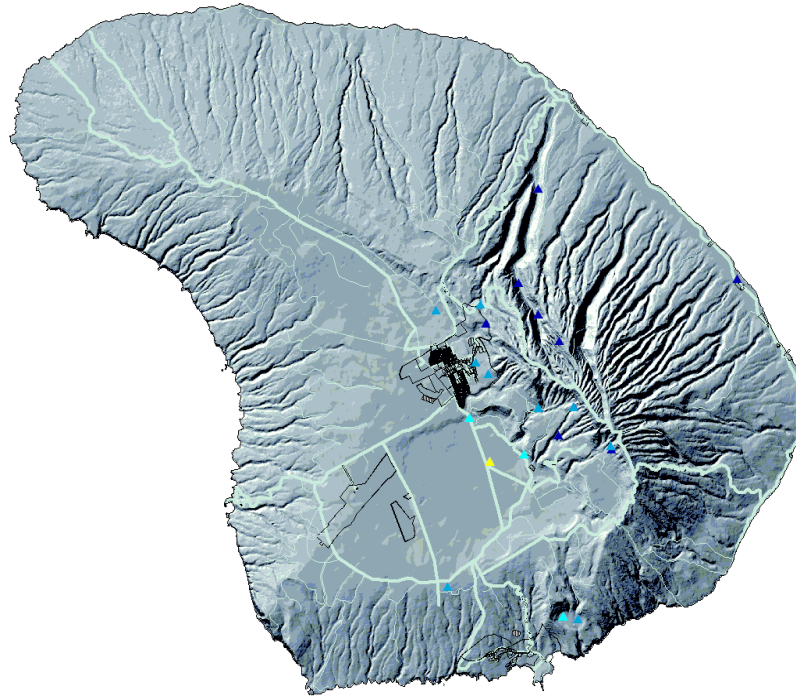
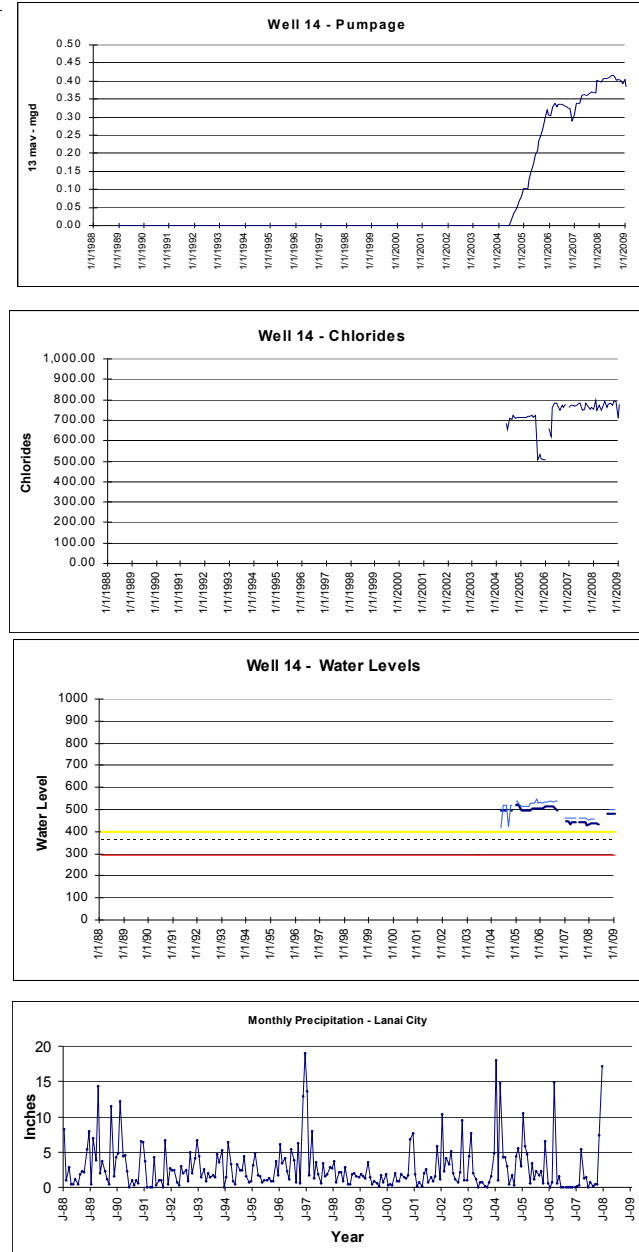


FIGURE 3-59. Well 14**Well 14**

Well No.	4854-02
Drilled	1995
Ground Elevation	1,193'
Depth	950'
Bottom of Hole	244'
Initial Water Level	551.1'
Initial Chlorides	710 mg/L
Pump	Submersible Byron Jackson 300 GPM, 125 HP Hitachi Motor 480 Volts
Last Replaced	2003
Use	Manele Irrigation

Notes:



System Finance And Economics

A cursory analysis of the financial situation of the Lana‘i Water Company reveals that existing rates and fees are not adequate to fully recover current operating and maintenance costs. Nor would they provide enough revenue to cover necessary plant replacements.

Rates and fees for potable water from the Lana‘i Water Company, Inc., Brackish Water System, and for wastewater from Manele Water Resources, LLC are provided in Figures 3-61 to 3-63. Income and Balance Statements are provided in Figures 3-64 through 3-68. Annual water revenues for LWCI have recently been estimated at roughly \$660,000. This represents only 46% of operating costs. Over half of the required revenues are borne by the parent company. These costs do not include most of the capital requirements for major asset replacements and additions delineated in this plan.

Both the Lana‘i Water Company, Inc. (LWCI), and Manele Water Resources, LLC are wholly owned subsidiaries of Lana‘i Holdings, Inc. (LHI). Source water production is metered and purchased by LWCI from LHI. A major cost component for LWCI operations, as shown in Figure 3-43 below, is purchase of source delivery. This was reflected in the 1995 PUC filing for potable water rates, as well as the 2008 PUC filing for brackish water rates. LWCI purchases water delivery from LHI at the following rates:

Potable water for Lana‘i City / Koele System 237	\$2.12 / 1,000 gallons
Potable water for Manele / Hulopo‘e System 238	\$2.12 / 1,000 gallons
Brackish water for Manele / Hulopo‘e System	\$2.93 / 1,000 gallons

The last rate case for the potable systems was in 1995. Costs reported for that rate case are shown in Figure 3-60. Revenues for plant replacement were not reflected in this breakdown. Existing rates do not provide recovery of all existing and anticipated system costs. The rates were not structured for full cost recovery, but with the intention that the water utility would be subsidized by the parent company. Recent filings for Non-Potable Water Service by LWCI, as well as for rates for Manele Water Resources, LLC, were also structured with intention that these systems would be subsidized by the parent company, rather than achieve full cost recovery. In addition, current rates do not reflect the need to replace broad areas of the system that are fully depreciated. Long stretches of pipe between the City and Kaunapali and within the Palawai Irrigation Grid are not only fully depreciated, but also in poor repair. Revenues going forward will need to accommodate replacement of plant facilities. Some system replacement may be provided for in the process of accommodating new or intensified development.

In order to evaluate the magnitude of system replacement needs, Department of Water Supply staff obtained maps of Lana‘i water systems and facilities and, with consultation from Lana‘i Water Company staff, entered this information into a GIS system with known data on age, material and condition. Based upon information provided, over thirty million dollars worth of replacement and expansion needs were identified over the next 30 years. These are described and discussed further in Chapter 5 of this document. These estimates are consistent in general magnitude with other estimates that have been discussed. Brown & Caldwell identified over \$15 million in asset replacement alone (not including expansion).

System Finance And Economics

sion) needed over the next twenty years (*DRAFT Lanai System Acquisition Appraisal*, Brown & Caldwell, May 29, 2009) , and an older plan by R.M. Towill Corporation identified \$10.45 million in a five year plan (*Castle and Cooke Resorts LLC's Proposed Water Supply and Demand Plan for the Island of Lana'i*, December 2004, RM Towill Corporation).

For the purpose of examining specific capital options and /or demand side management options, an effort was made to estimate the marginal costs of serving water from the various existing sources of the island. The marginal costs of production are the increase in total costs as a result of producing one extra unit. The weighted district marginal costs of production per thousand gallons, based on the calculations in the table in Figure 3-69, were about \$2.17 for Lana'i City and Koele districts, \$1.77 for Manele potable district, and about \$1.71 for the brackish Manele system. The estimated costs are lower than the costs charged, because they do not include all the costs of serving water from these wells, but only the marginal costs of production of the wells, primarily electrical power costs of pumping. Large capital replacements, administrative costs, "purchase of water" agreements and other costs are not reflected. What is reflected is the relative marginal cost of serving water based on elevation, water levels and system parameters. These relative costs are informative for resource planning and considering long term capital and operating investments discussed in Chapter 5.

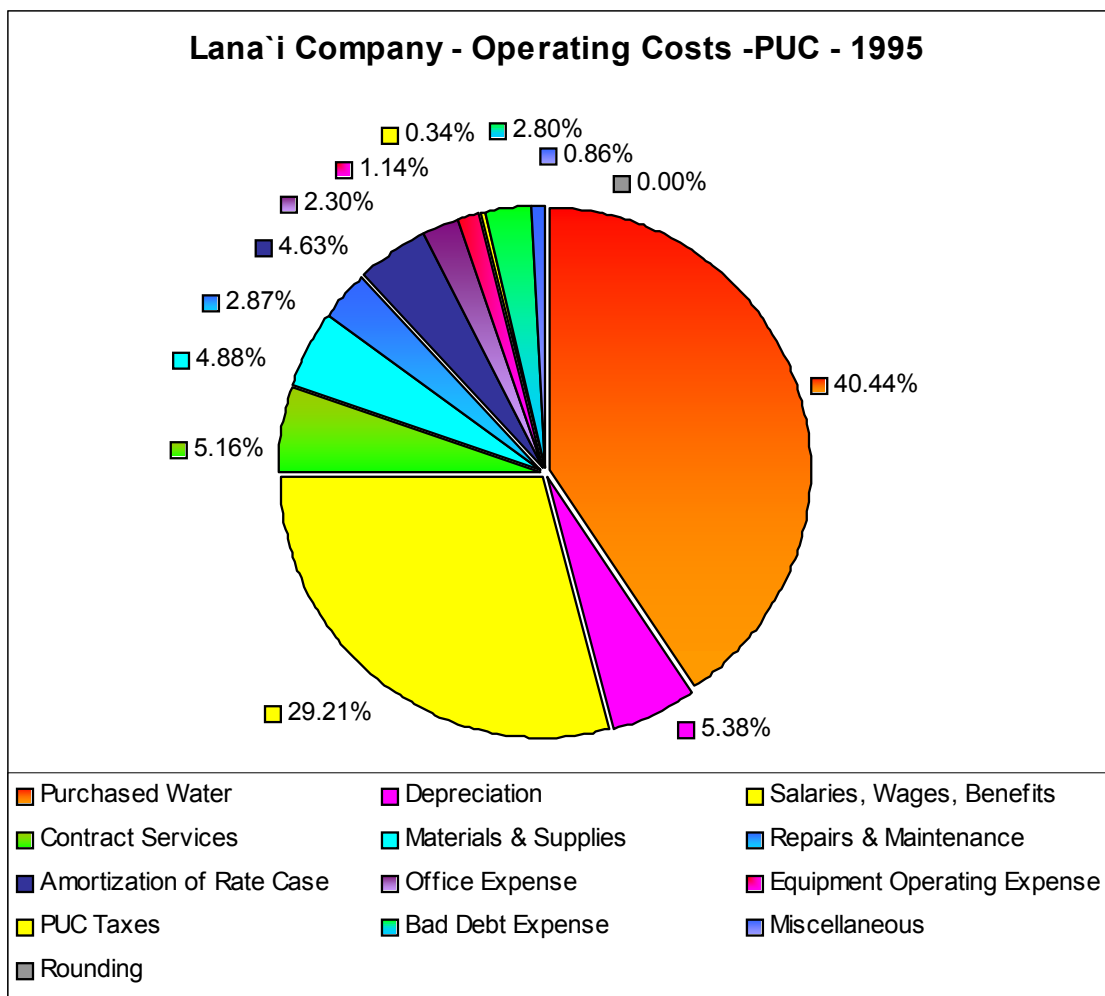
Costs of operating these wells are affected by energy costs, which have been volatile in recent years. In addition, the status of the aquifer itself can affect pumping costs. As water levels in an aquifer decline, water must be lifted greater distances to the surface. This results in increased pumping expenses. A comparison of Figure 3-9 (page 3-12) and Figure 3-69 (page 3-89) helps to illustrate this point. The blue columns on page 3-12 illustrate the pumping lift of each well. In general, the shorter the column, the more economical the well. As water levels decline, pumps are asked to produce a greater lift, (a longer column), so declining water levels render wells more expensive to pump. Figure 3-9 (page 3-12) is a snapshot of aquifer status at each well, showing high and low water levels as of Period 7, 2009. In contrast, the table in Figure 3-69, uses the the lowest water level reported in recent years. Since lower water levels increase pumping lift, the lowest water levels result in the most expensive actual pumpage on a given well, yielding a conservative estimate of marginal costs. Even with these differences, Figure 3-9 illustrates the crux of the information in Figure 3-89. Both figures indicate that Well 2 could be the most economical well to operate, if safety and other logistical issues were resolved.

Although water levels have been declining in several wells, in most cases they remain hundreds of feet from the levels which would trigger designation proceedings. Pumps at several wells are likely to be lowered again during the planning period. Costs of pumping will rise with increasing pump-depth as well as with increasing costs of electricity. If water levels were to reach designation triggers with the same pumping distribution and energy costs as 2008, cost of production would be \$2.95, rather than \$2.17 for Lana'i City, \$3.07, rather than \$1.77 for Manele and the Palawai Irrigation Grid, and \$2.02, rather than \$1.71 for brackish water.

With a small customer base, many miles of fully depreciated or nearly depreciated pipe needing replacement, and rising costs to provide source, it appears that LWCI will either need substantial financial subsidy from its affiliates or increased rates and fees, or both, in order to maintain a reasonable level of service over coming decades.

FIGURE 3-60. Lanai Company Operating Costs from PUC Rate Case 1995

Legend reads left to right, and refers to slices clockwise from right, starting with Purchased Water at 40.44%, Depreciation at 5.38%, Salaries, Wages and Benefits at 29.21%, Contract Services at 5.16%, etc.



System Finance And Economics

FIGURE 3-61. Current Rates & Charges - Potable Water

Use Charge (2 Month Billing Cycle)	Rate (per kgal)
First 25,000	\$1.10
Over 25,000	\$1.62

Tap-in-Charge per Connection	
Single Family Unit	\$600.00
Multi Family Unit	\$475.00
Commercial	\$600.00
5/8" meter	\$475.00
3/4" meter	\$5,400.00
1-1/2" meter	\$8,900.00
2" meter	\$17,800.00
3" meter	\$57,000.00
4" meter	\$89,100.00
6" meter	\$178,200.00
8" meter	\$285,100.00
Agriculture	
5/8" meter	\$700.00
3/4" meter	\$1,000.00
1 inch meter	\$1,700.00
1-1/2 inch meter	\$3,500.00
2 inch meter	\$5,700.00
Fee for inspection \$30	
Fee for meter reinstallation dependent upon costs to company.	

Service Charge per 2 Month Billing Cycle	Rate
5/8"	\$5.00
3/4"	\$5.00
1"	\$10.00
1-1/2"	\$10.00
2"	\$25.00
3"	\$50.00
4"	\$75.00
6"	\$150.00
8"	\$250.00
10"	\$250.00
Hydrant	\$80.00

FIGURE 3-62. Charges for Brackish Water - Manele-Hulopo'e As of July 31, 2009. PUC Docket 2008-0322.

Single Family		
Tier 1	<1,000 GPD per lot	\$3.57
Tier 2	>1,000 GPD, <2,500 GPD	\$4.64
Tier 3	>2,500 GPD	\$5.72
Multi Family		
Tier 1	<1,000 GPD per unit	\$3.57
Tier 2	>1,000 GPD, <2,500 GPD	\$4.64
Tier 3	>2,500 GPD	\$5.72
Homeowner's Association		
Tier 1	<1,000 GPD per acre	\$3.57
Tier 2	>1,000 GPD, <2,500 GPD	\$4.64
Tier 3	>2,500 GPD	\$5.72
All Other		
Tier 1	<1,000 GPD per acre	\$3.57
Tier 2	>1,000 GPD, <2,500 GPD	\$4.64
Tier 3	>2,500 GPD	\$5.72
Service Charge (meter reading) charge per meter per two month billing cycle		
Meter Size	Rate Every Two Months	
0.625	\$ 5.00	
0.75	\$ 5.00	
1.00	\$ 10.00	
1.50	\$ 10.00	
2.00	\$ 25.00	
3.00	\$ 50.00	
4.00	\$ 75.00	
6.00	\$150.00	
8.00	\$250.00	
10.00	\$250.00	
Water Facilities Capacity Charge Per Connection		
Single Family Lot	\$14,500	
Multi Family Unit	\$ 7,000	
All Other	\$14,500	

System Finance And Economics

FIGURE 3-63. Manele Water Resources, LLC. Fees for Sewer and Reclaimed Water As Of April 13, 2007. PUC Docket Number 2006-0166.

Monthly Flat Rate for Sewer Service

Residential

Single-Family	\$56.74/ Month Per Dwelling
Multi-Family	\$42.21/Month Per Dwelling
Hotel	\$92.12/Month per Guest room

Monthly Usage Charges:

Commercial/Recreational*

Non-Food Service	\$ 9.98 per 1,000 Gallons of Potable Water Used
Food Service	\$10.07 per 1,000 Gallons of Potable Water Used
Boat Harbor	\$10.05 per 1,000 Gallons of Wastewater Pumped from DLNR Station

* These customers will also be charged a fixed service charge of \$12.00 per month.

R-1 Reclaimed Water Sales

User Charge	\$0.25/1,000 Gallons
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FIGURE 3-64. Balance Sheet and Income Statement for Lana'i Water Company Inc. As Submitted for PUC Docket 2008-032

Applicant's Balance Sheet and Income Statement		Exhibit H Docket No. 2008-	
		10/31/2008	12/31/2007
LANAI WATER COMPANY			
Balance Sheet (unaudited)			
<u>ASSETS:</u>			
Cash	300.00		300.00
Accounts Receivable, net	83,297.57		211,440.39
Total Current Assets	83,597.57		211,740.39
Property, Plant & Equip	5,781,185.89		4,907,569.89
Accumulated Depreciation	1,260,213.36		1,194,784.79
Net Property, Plant & Equip	4,520,972.53		3,712,785.10
TOTAL ASSETS	4,604,570.10		3,924,525.49
<u>LIABILITIES & EQUITY:</u>			
Accounts Payable	12,176,318.77		10,791,983.25
Accrued Liabilities	29,772.42		41,553.25
Income Taxes Payable	(270,078.93)		(329,851.28)
Total Current Liabilities	11,936,012.26		10,503,685.22
Deferred Taxes	(2,869,874.75)		(2,540,023.47)
Total Noncurrent Liabilities	(2,869,874.75)		(2,540,023.47)
Capital Stock	1,000.00		1,000.00
Other Paid-in-Capital	2,594,531.23		2,594,531.23
Retained Earnings - Beginning	(8,513,490.49)		(7,997,569.29)
- current p&l	(422,431.15)		(515,921.20)
- other	1,878,823.00		1,878,823.00
Retained Earnings - Ending	(7,057,098.64)		(6,634,667.49)
Total Equity	(4,461,567.41)		(4,039,136.26)
TOTAL LIABILITIES & EQUITY	4,604,570.10		3,924,525.49
Income Statement (unaudited)			
Net Sales	478,790.98		660,932.22
Cost of Sales/Operations (excludes selling cost; include selling depr/amort)	1,171,301.06		1,506,704.70
Operating Profit	(692,510.08)		(845,772.48)
Income Tax Provision	(270,078.93)		(329,851.28)
Net Income (Loss)	(422,431.15)		(515,921.20)

System Finance And Economics

FIGURE 3-65. *Pro Forma* Statement of Income for Non-Potable Brackish Operations of Lana'i Water Company, Inc., As Submitted for PUC Docket 2008-03222.

Exhibit I
Docket No. 2008-_____

Applicant's *Pro Forma* Statement of Income (Non-Potable Operations)

OPERATING REVENUES		
Non-potable Water Revenues	\$	253,184
Service Charges		2,340
Total Operating Revenues		255,524
COST OF OPERATIONS		
Purchased Water		166,014
Depreciation		2,695
Contract Labor		23,549
Amortization of Rate Case		100,000
Bad Debt Expense		5,110
PUC Taxes		16,315
Community Education		18,000
Total Operating Expense		331,683
NET OPERATING INCOME (LOSS)		(76,159)
BEFORE INCOME TAXES		
Income Taxes		
NET OPERATING INCOME (LOSS)	\$	(76,159)
AVERAGE RATE BASE		45,362
RATE OF RETURN		-59.56%

FIGURE 3-66. Pro-Forma Balance Sheet - Lana'i Water Company Inc. Non-Potable Operations, As Submitted for PUC Docket 2008-0322

Exhibit J
Docket No. 2008-_____

Applicant's Pro Forma Balance Sheet (Non-Potable Operations)

ASSETS

UTILITY PLANT:

In service	\$ 53,896
Less accumulated depreciation	<u>(9,882)</u>
Total utility plant	44,014
Regulatory asset - net	200,000

TOTAL	<u>\$ 244,014</u>
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LIABILITIES AND MEMBER'S EQUITY

LIABILITIES - Payable to affiliates	\$ 320,173
MEMBER'S EQUITY	(76,159)
TOTAL	<u>\$ 244,014</u>

System Finance And Economics

FIGURE 3-67. Pro-Forma Income Statement for Manele Water Resources, LLC. As Submitted for PUC Docket 2006-0166

	<u>Proposed Rates</u>	<u>Reference</u>
OPERATING REVENUES:		
Sewer service revenues and applicable service charges	\$ 458,781	MWR-202
R-1 water revenues	6,951	MWR-202
Total Operating Revenues	<u>465,732</u>	
COST OF OPERATIONS:		
Aqua Engineers Contract	279,185	MWR-206
Utilities - Electric	155,420	MWR-205
Insurance - Property	79,760	MWR-207
Maintenance - Equipment	31,590	MWR-208
Maintenance - Sewer Line	19,306	MWR-209
Chemicals	14,277	MWR-210
PUC tax expense	29,737	MWR-211
Admin salary allocation	8,892	MWR-212
Taxes - RPT	7,362	MWR-213
Utilities - Water	7,957	MWR-215
Amortization of rate case	6,667	MWR-216
Depreciation expense	541,444	MWR-204
Contract labor	3,318	MWR-214
Total Operating Expenses	<u>1,184,915</u>	
NET OPERATING INCOME (LOSS) BEFORE INCOME TAXES	(719,182) [1]	
Income Tax Expense		
NET INCOME (LOSS)	<u>(719,182) [2]; (a)</u>	
AVERAGE RATE BASE	<u>2,105,933 [3]</u>	
RATE OF RETURN: NET OPERATING INCOME		
(LOSS) BEFORE DEPRECIATION & INCOME TAXES	-34.15% [1] / [3]	
RATE OF RETURN: NET INCOME (LOSS)	-34.15% [2] / [3]	

(a) Since MWR is not requesting to earn a return on a rate base in this filing, the net loss represents the revenue requirement deficiency.

FIGURE 3-68. Pro Forma Balance Sheet for Manele Water Resources, LLC. As Submitted for PUC Docket 2006-0166

Manele Water Resources, LLC
 Balance Sheet - Proforma
 For the twelve months ending June 30, 2007

Docket No. 2006-0166
 Exhibit H
 Page 1 of 1

ASSETS**UTILITY PLANT:**

In service	\$ 10,969,054
Less accumulated depreciation	<u>(9,133,843)</u>

Total utility plant	1,835,211
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Regulatory asset - net	13,333
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TOTAL	<u>\$ 1,848,544</u>
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LIABILITIES AND MEMBER'S EQUITY

LIABILITIES - Payable to affiliates	\$ 2,566,727
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MEMBER'S EQUITY	<u>(718,182)</u>
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TOTAL	<u>\$ 1,848,544</u>
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System Finance And Economics

FIGURE 3-69. Estimated Operational Costs By Well. (Well Production Only - Does Not Include All Costs).

Groundwater Wells													
Rough Operational Cost Estimates													
AREA OF USE -->	LANAI CITY & RELATED AREAS, KOELE PROJECT DISTRICT: POTABLE USES						MANELE PROJECT DISTRICT AND IRRIGATION GRID (PALAWA I BASIN & AREA MA KAI OF LANAI CITY AWWTF): POTABLE USES						MANELE PROJECT DISTRICT IRRIGATION
WELL NO. -->	6	3	8	7	4	2	3	5	1**	9	14	12	
2008 Annual Pumpage (gal/year)	119,360,000	0	100,788,000	Not Used	248,927,700	880,000	0	Not used	143,409,000	55,124,000	147,316,000	Not Used	
2008 Daily Pumpage (gal/day)	327,912	0	276,890	Not Used	682,000	2,000	0	Not used	393,000	151,000	404,000	Not used	
Design Pumping Rate (gpm)	550	900	850	500	900	1200	900	900	600/300	300	350	100	
Production Capacity Based on 16-Hour Operation (gal/day)	528,000	864,000	816,000	480,000	864,000	1,152,000	864,000	864,000	865,000	288,000	336,000	96,000	
Pump Setting (ft) (Pump Intake Elevation)	863	866	783		1253	1335	866	1253	516	466		-5	
Depth of Well (ft)	1320	1200	1489	1492	1178	(1) 812 (2) 596	1200	1122	1266	1450		620	
Low Water Level *	880	874	910	650	1441	1350	874	1496	555	591	433	5	
Ground El (GWRM)	1910	1850	1902	1775	2327	1510	1850	2296	1265	1411	1194	605	
Grnd. El. Dist. Tank	1942	2025	2025	1942	1810	1810	1791		1353	1353	1353		
Pumping Lift (ft.)	1062	1151	1115	1292	886	460	976	800	798	820	920	600	
(Kwh / kgal / kft)	5.00	5.00	5.00		5.00	5.00	5.00		5.00	5.00	5.00		
\$ per Kwh	\$0.400	\$0.400	\$0.400		\$0.400	\$0.400	\$0.400		\$0.400	\$0.400	\$0.400		
\$ per Kgal (electricity)	\$2.12	\$2.30	\$2.23		\$1.77	\$0.92	\$1.95		\$1.60	\$1.64	\$1.84		
Weighted District Cost	\$2.17				\$1.77				\$1.71				

