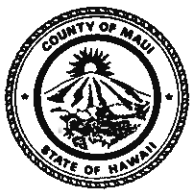
CHARMAINE TAVARES
Mayor

CHERYL K. OKUMA
Director

GREGGORY R. KRESGE
Deputy Director



DAVID TAYLOR, P.E.
Wastewater Reclamation Division

TRACY TAKAMINE, P.E.
Solid Waste Division

COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
2200 MAIN STREET SUITE 100
WAILUKU, MAUI, HAWAII 96793

September 21, 2009

Mr. David Albright, Manager
Ground Water Office, WTR-9
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105

SUBJECT: **LAHAINA WASTEWATER RECLAMATION FACILITY**
UIC CLASS V PERMIT # HI50710003
COMMENTS ON REVISED DRAFT PERMIT
REQUEST TO CONTINUE THE PUBLIC COMMENT PERIOD

Dear Mr. Albright,

The County of Maui continues to object that EPA is exceeding its jurisdiction and statutory authority under the Safe Drinking Water Act and the State Department of Health requirements in imposing the proposed permit conditions. We continue to be unaware of any legal basis for permit limits on anticipated effects of nitrogen on the coastal environment (even if there were evidence in the record that such effects would occur). The purpose of underground injection programs is to "prevent underground injection which endangers drinking water sources." 42 U.S.C. 300h(b)(1). Even if one assumed for the sake of argument that there were legally sufficient evidence in the record that the injection wells might impact the coastal environment, that would not be a basis under the statute for imposing permit limits.

In addition, the Act provides that the purpose of underground injection programs is to protect "drinking water sources within the meaning of subsection (d)(2) of this section." Id. Subsection (d)(2) provides that endangerment of drinking water sources occurs if the injection may result in the presence of a contaminant in "any public water system" and the contaminant may result in that system's violation of national drinking water regulations or otherwise adversely affect health. 42 U.S.C. 300h(d)(2). The proposed Statement of Basis acknowledges that the only nearby public water systems are upgradient and will not be affected. It relies solely on a single proposed down-gradient well, to be used primarily for a cooling system and a "fraction" of which "would be put through a reverse osmosis system for potable use." This proposed well is not described with any specificity, but we are unaware of any finding that this proposed well would constitute a "public water system" under the statutory definition of that term. 42 U.S.C. 300f(4). Accordingly, there is no statutory basis for relying on this proposed down-gradient well as a basis for permit limitations.

In addition to the comments above, this letter supplements my correspondence dated September 18, 2007, April 14, 2009, June 23, 2009 and August 18, 2009 as well as Scott Rollins' e-mail to Nancy Rumrill dated March 9, 2009, to provide further information on the following issues: 1) the County's limited ability to significantly expand reuse distribution in the near future; and 2) the lack of any cost versus impact analysis by EPA regarding the proposed permit conditions. The County of Maui will be unable to comply with the current draft permit conditions for the reasons set forth in the letters previously sent to EPA, including this letter. We ask that this letter, and all of our previous correspondence, be made part of the record in this matter.

1. THE COUNTY'S POTENTIAL FOR REUSING EFFLUENT FROM THE LAHAINA WASTEWATER RECLAMATION FACILITY IS LIMITED

As stated by Mayor Charmaine Tavares at the August 20, 2009 public hearing, it is the County administration's goal to significantly increase water reuse in Maui County over the next ten years. This effort will require a multi-reuse strategy (e.g. irrigation, dust control, fire protection, alternative energy projects, gray water reuse) to achieve the desired results. To this end we are currently convening a Community Working Group to discuss wastewater issues and avenues to follow in the future. Among these issues will be water reuse and current injection well practices. This group consists of representatives of the scientific and engineering community, major land holders, industry stakeholders, environmental concern groups (such as DIRE) and the County. The goal of this process is to integrate solid community discussions into the overall considerations of wastewater as we move into the future.

In the immediate term, it is evident that the County cannot recycle all of the effluent treated at the Lahaina Wastewater Reclamation Facility on the EPA's proposed timetable. Major users (including the Kaanapali golf courses and agriculture) are already customers of this resource, and only smaller incremental users (multifamily projects, resorts and commercial sites) are currently available for reuse expansion. Our current estimate for potential additional reuse at existing properties is only slightly more than 1.4 million gallons/day, as opposed to the 3 million gallons/day assumed by the EPA. With substantial infrastructure investment, 1.4 million gallons/day is anticipated to be added by 2017. This volume could reliably reduce our current nitrogen discharge by about fifty percent.

Attached is a challenging yet potentially attainable scenario for the maximum build out of nearby irrigation reuse projects. Clearly the distribution system (piping, pumps, storage etc.) needs to be systematically expanded in order to reach and accommodate these users with a reliable service. This study includes property irrigation demand estimates, a construction cost estimate and construction time line to achieve all options. Total improvement cost is estimated at over $28 million dollars for design and construction. Because of the large amount of capital required to expand the system, all costs cannot be absorbed in a single year and implementation would be over a seven-year period.

The County has a limited budget that must accommodate the needs and requirements of the entire community. The Wastewater Division already has a $20-$30 million dollar a year Capital Improvement Plan (CIP) budget (30% of County funded CIP) for the next 10 years. This expenditure is required for on going maintenance and replacement of our aging collection

systems so as not to jeopardize our compliance with the EPA Consent Decree involving sewer spills. In addition, bonding limitations (approx. $50 million/year for all County projects) and ratings (which we provide to EPA annually) for the County are another funding consideration. The nation's current economic condition complicates the financial considerations. Finally, legal constraints require the County's fiscal year budgets to accommodate our construction planning and spending, thus adding time to the overall process. Ultimately, it is the County Council that has the authority to approve the CIP budget for Wastewater Division's capital improvement projects and to cover operational costs.

In consideration of all of these factors, phased construction that would correspond to County budget cycles and improvement sequence (*e.g.* UV facilities constructed so adequate volumes of R-1 can be made, then adequate storage is available, then distribution systems are in place) is required and can be seen in the enclosed Gantt chart. A final challenge, even after construction, is that all new users would need to retrofit their irrigation systems (at their expense) to accept the reclaimed water. This would be a financial hardship for any given the current economic climate. Under our County Code, the property owners would have only one year to complete the process once pressurized distribution lines fronted their property.

2. THE EPA HAS NOT GIVEN PROPER CONSIDERATION TO A COST VERSUS IMPACT ANALYSIS IN IMPOSING THE PROPOSED PERMIT CONDITIONS.

Our August 18, 2009 letter detailed procedural and legal requirements which must be complied with when developing any significant government project in the State of Hawaii. These requirements are factors in a proposed project's timeline. Detailed cost estimates for complex projects require engineering evaluations which are done by consultants and reviewed by the Division. To do such an evaluation requires more time than we have now; therefore, we are instead providing rough cost estimates for improvements required to meet the draft permit requirements. These estimates should be considered very preliminary and may change later. Cost estimates were based on experience with similar systems and projects. The anticipated expenditures are broken down by County of Maui Fiscal Years (FY) which runs from July 1st to June 30th of the following year. (The FY 2010 Budget was approved May 2009 and covers that period for July 1, 2009 to June 30, 2010):

FY10: Increased operational costs for chlorine disinfection $50,000 (assume permit takes effect on January 1, 2010, halfway through the FY). This cost is primarily for procurement of chlorine gas.

FY11: Increased operational costs for chlorine disinfection: $100,000 (full year)
Design/Permitting of 100% UV System: $500,000
Engineering Study for Nutrient Removal options: $300,000

FY12 Increased operational costs for chlorine disinfection: $100,000
Construction of 100% UV System: $5,000,000
Design/Permitting of nutrient removal process: $1,500,000

FY13 Increased operational costs for 100% UV disinfection: $200,000
Construction of nutrient removal process: $10,000,000 (assumes a large tank, chemical feed system, sludge disposal, etc...)

FY14 and beyond:
Increased operational costs for 100% UV disinfection: $200,000
Increased operational costs for nitrogen removal: $100,000

These costs are very preliminary based on past experience on projects. The current ultraviolet (UV) disinfection system was designed and built assuming no more than three channels would ever be required. Increasing the UV capability may require four or more channels. Design and implementation may be more complicated and expensive. We will not know until we proceed with the design. Current language in the draft permit requires "all" water to be treated to R-1 standards. If "all" includes peak wet weather (rainy periods) flows, the UV disinfection system will need a much higher capacity than ever anticipated. Such a design constraint could require a complete reconstruction of the disinfection process area. Costs for nutrient removal are rough estimates and could be much higher than the estimates noted above. If expansion of reuse is chosen over nutrient removal, the costs will almost certainly be much higher. Also, as we define the engineering details, we often run into issues such as on-site underground piping relocations, electrical and emergency generator capacity limitations, upgrades to current codes triggered by new additions, etc. On sites with limited area such as what we face at the Lahaina Plant, the costs tend to escalate quickly due to ancillary issues.

In addition, committing to higher quality R-1 water with reduced nutrient concentration means that we have to slow the flow through the plant in order increase treatment duration and thereby treat to that higher level. This means that the total plant capacity to treat flow is reduced. R-1 water is required to meet a 2NTU turbidity threshold before going through ultraviolet disinfection. Currently, during high wet weather (rainy periods) flow and process disruptions, the facility is not able to meet this threshold. When these events occur, the effluent does not meet R-1 standards and reuse systems are shut down; and all flow is directed to injection wells without ultraviolet disinfection (UV). The draft permit language indicates, the facility will have to meet R-1 standards at all times, including during peak flow periods (rainy periods.) Because treatment plant effluent quality decreases as flows increase, increasing treatment as indicated in the draft permit will reduce the reliable capacity of the facility. The result would be that we would exceed the draft permit requirements. Current and past plant analyses did not take into account all wet weather flows being treated to these proposed threshold levels.

Because of additional nutrient and R-1 processes required in the draft permit, we will have to build additional components to the plant at significant costs. Private developers hold approximately 1,160,000 gallons of reserved treatment capacity, meaning that they have already paid for treatment capacity and have this capacity "reserved" for their future projects. We will no longer have enough additional capacity at this facility if we commit to higher treatment standards, because we will have to increase treatment duration through the plant. We will not know the precise values until a detailed and thorough engineering analysis is completed. These are analyses that are typically compiled by our consultants. Our previous capacity study of the plant showed that the clarifiers are the limiting process due to flow volume. As the filtered effluent must meet 2 NTU to go through UV disinfection, meeting the draft permit

requirements will mean that we must have a higher level of treatment and reliability throughout the entire plant process regardless of flow volume (wet or dry weather flows.) In other words, the County of Maui would be paying costs to meet draft permit conditions that require treatment of storm runoff flows, something that occurs only once or twice a year in this area.

Major plant modifications will be required to meet the proposed permit requirements. It is not a simple "add on" which is easy to implement with obvious cost issues. A detailed Preliminary Engineering Report will determine the extent of issues and costs.

It is not apparent to the County that the EPA has considered the extent to which the cost of the improvements outweighs the benefit anticipated from the more stringent permit requirements. Although the County hopes to be able to increase re-use of its treated effluent over time, the proposed permit conditions and timetable are neither realistic nor warranted. Therefore, the County asks that the permit be renewed for 10 years with the conditions currently in force unchanged, with a 5- year review of the permit.

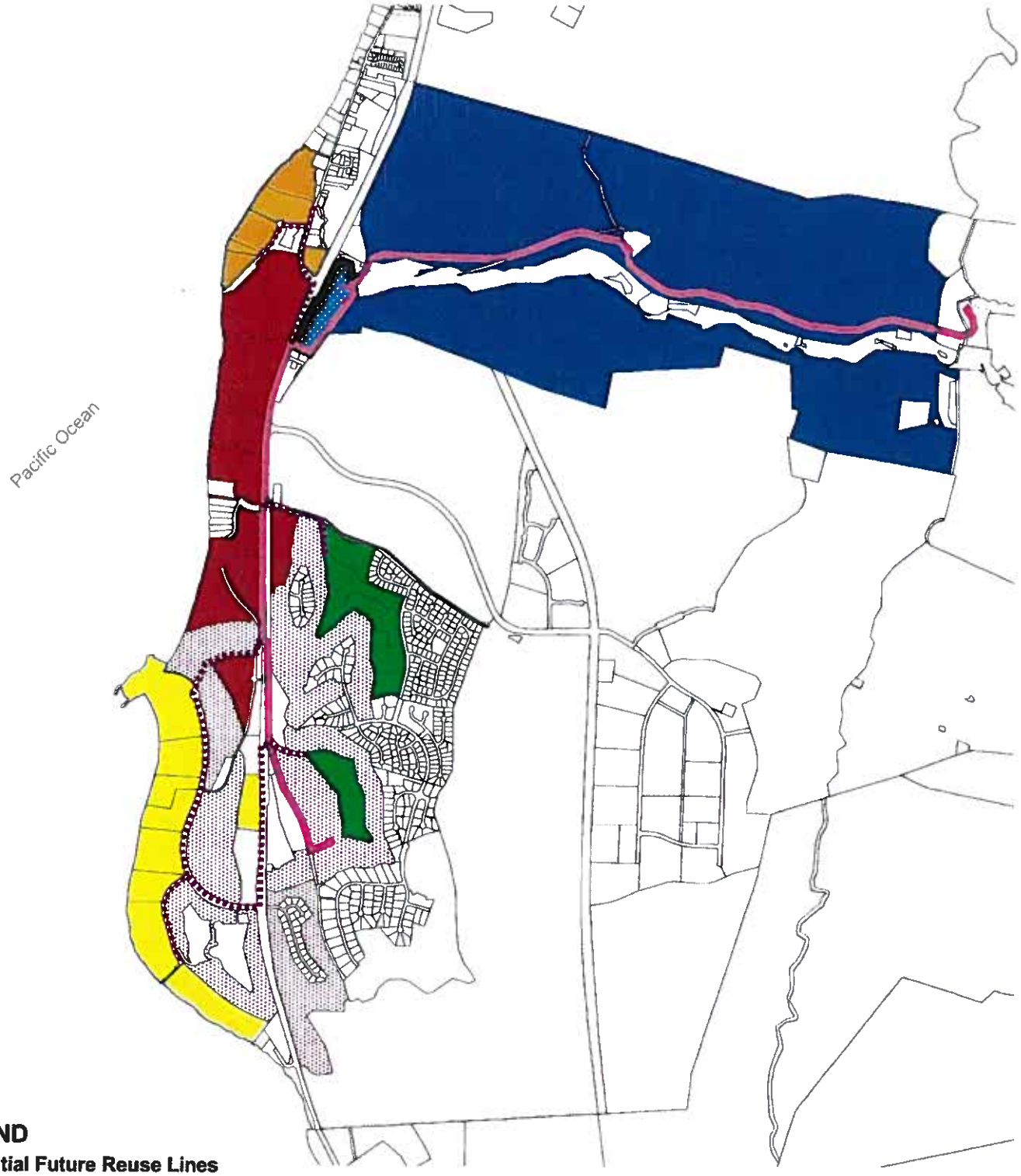
Please feel free to contact me at (808) 270-8230 or Wastewater Reclamation Division Chief Dave Taylor at (808) 270-7421 if you have any questions or require further information.

Sincerely,

Cheryl K. Okuma, Director
Department of Environmental Management

Attachments: Potential reuse map construction estimate

cc Mayor Charmaine Tavares
Managing Director Sheri Morrison
Dave Taylor, WWRD
Corporation Counsel Brian T. Moto



LEGEND

Potential Future Reuse Lines
Existing Reuse Lines

Reuse Phases

- Option 1
- Option 2
- Option 3
- Option 4
- Option 5
- Existing

WWRF Locations
TMK 2008

Lahaina Reuse Potential

N

5000 0 5000 Feet

April 2009

West Maui Potential Recycled Water Users

Option 1 - Elevated Storage - Pressurized System

Property	Estimated R-1 Water Demand (GPD)
Maui Kaanapali Villas	1,500
Royal Lahaina Resort	56,000
International Colony Club	5,200
Outrigger Maui Eldorado	16,100
Kaanapali Ocean Resort (North Beach Lot 1)	45,000
Kaanapali Ocean Resort (North Beach Lot 2)	35,000
Starwood (North Beach Lot 3)	43,000
Honua Kai (North Beach Lot 4)	185,000
Kaanapali Royal	19,200
County of Maui, Parks Dept. Shoreline Access	1,300
Total Phase 1	407,300

*Data from West Maui Reclaimed Water Master Plan w/exception of Honua Kai & Kaanapali Royal

Option 2 - Pipe Line within Kaanapali Resort and Appertunances

Property	Estimated R-1 Water Demand (GPD)
Hyatt	93,000
Kaanapali Ali`i	60,000
Kaanapali Beach Hotel	36,000
Maui Marriott	36,000
Westin Maui	60,000
Whalers Village	5,000
Whaler	20,000
Sheraton	30,000
Expand golf course irrigation (final 9 holes)	300,000
Total Phase 2	640,000

*Data from Kaanapali Operations Association w/exception of Whaler and Sheraton (estimates)

Option 3 - Pipeline to Lower Hoonapillani Road Condominiums and Appertunances

Property		Estimated R-1 Water Demand (GPD)
Papakea Resort	12.3	30,000
Resort Quest Kaanapali Shores	10.1	20,000
Kaanapali Beach Vacation Resort	7.6	25,000
Maui Kai	1.7	5,000
Mahana	5	10,000
Honokowai Shopping Center	3.5	4,000
Total Phase 2		94,000

**estimated existing development

Option 4 - Pipeline to Upper Kaanapali Condominiums and Appertunances

Property	Estimated R-1 Water Demand (GPD)
Kaanapali Plantation	63,000
Kaanapali Hillside	50,000
The Vintage	50,000
	163,000

Option 5 - Development of DHHL Commercial/Industrial Properties

Property	Estimated R-1 Water Demand (GPD)
DHHL Commercial - 50 acres (w/in 2 years)	110,000
DHHL Industrial - 40 acres (w/in 5 years)	25,000
Total Phase 3	135,000

SUMMARY

Total Phased\ R-1 Demand	
Option	Estimated R-1 Water Demand (GPD
1	407,300
2	640,000
3	94,000
4	163,000
5	135,000
Total All Options	1,439,300

West Maui Potential Recycled Water Users
Cost Estimate

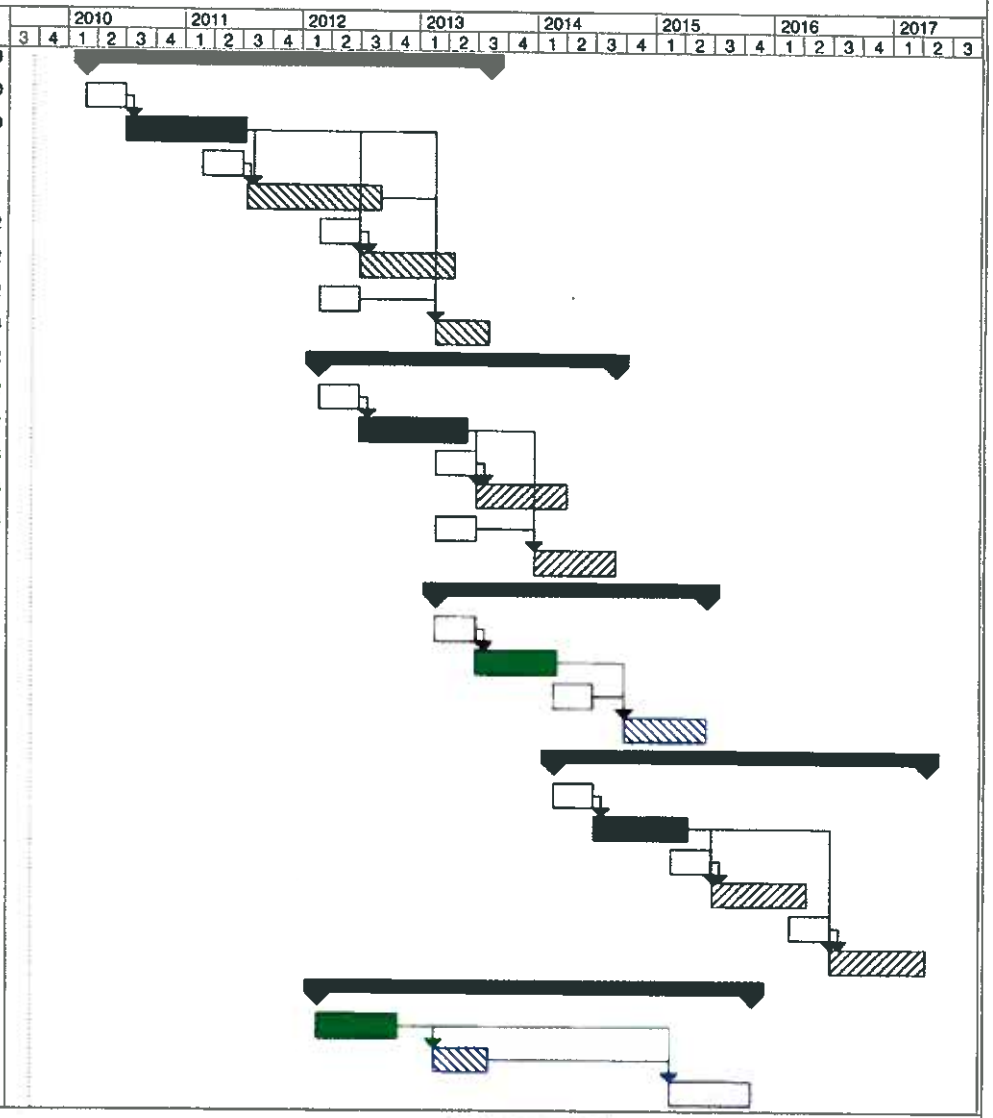
Item	Quantity	Units	Cost/Unit	Total	Phase
Option 1 - Elevated Storage - Pressurized System					
Design				$ 1,500,000.00	
Storage Tank (1 mg)	1	ea.		$ 2,650,000	A
Kaanapali Pond Valve upgrade	1	ea.		$ 50,000	A
UV Channel Upgrade and Cons	1	ea.		$ 1,000,000	A
UV Channel construction	2	ea.		$ 2,800,000	B
Service Laterals	6	ea.	$ 30,000	$ 180,000	C
16"/20" Force main interconnection				$ 150,000	B
Upgrade MLP Pumps	3	ea.	$ 100,000	$ 300,000	B
Electrical Upgrades				$ 150,000	A
					cost/gal
			Total	$ 8,780,000	21.56
Option 2 - Pipe Line within Kaanapali Resort and Appertunances					
Design				$ 600,000.00	
Pipe	10,800	l.f.	$ 400	$ 4,320,000	B
In Plant Storage Tank/Basin	1	ea.		$ 1,000,000	A
Service Laterals	8	ea.	$ 30,000	$ 240,000	B
Expand Golf Course Storage	1	ea.		$ 400,000	A
					cost/gal
			Total	$ 6,560,000	10.25
Option 3 - Pipeline to Lower Hoonapiilani Road Condominiums and Appertunances					
Design				$ 200,000.00	
Pipe	3,600	l.f	$ 500	$ 1,800,000	
Service Laterals	6	ea.	$ 30,000	$ 180,000	
					cost/gal
			Total	$ 2,180,000	23.19
Option 4 - Pipeline to Upper Kaanapali Condominiums and Appertunances					
Design				$ 1,300,000.00	
Pipe parallel	6,000	l.f.	$ 500	$ 3,000,000	B
Pipe new	2,300	l.f.	$ 500	$ 1,150,000	B
2nd Storage Tank (1 mg)	1	ea.		$ 2,650,000	A
Service Laterals	3	ea.	$ 30,000	$ 90,000	B
Booster station	1	ea.		$ 2,500,000	A
					cost/gal
			Total	$ 10,690,000	65.58
Option 5 - Development of DHHL Commercial/Industrial Properties					
Developer to fund					
			Total	$ -	

SUMMARY

Total Phased\ R-1 Cost	
Option	Estimated Cost
1	$ 8,780,000
2	$ 6,560,000
3	$ 2,180,000
4	$ 10,690,000
5	$ -
Total All Options	$ 28,210,000

PRELIMINARY WEST MAUI RECLAIMED WATER EXPANSION

ID	Task Name	Cost	Duration	Start
1	**Option 1**	**$8,780,000.00**	**900 days**	**Mon 3/1/10**
2	FY11 Council Budget Approval	$0.00	90 days	Mon 3/1/10
3	Option 1 Design/Permitting	$1,500,000.00	270 days	Mon 7/5/10
4	FY12 Council Budget Approval	$0.00	90 days	Tue 3/1/11
5	Option 1 Phase A Construction	$3,850,000.00	300 days	Mon 7/18/11
6	FY13 Council Budget Approval	$0.00	90 days	Thu 3/1/12
7	Opyion 1 Phase B Construction	$3,250,000.00	210 days	Thu 7/5/12
8	FY13 Council Budget Approval	$0.00	90 days	Thu 3/1/12
9	Option 1 Phase C Construction	$180,000.00	120 days	Mon 2/25/13
10	**Option 2**	**$6,560,000.00**	**659 days**	**Thu 3/1/12**
11	FY13 Council Budget Approval	$0.00	90 days	Thu 3/1/12
12	Option 2 Design/Permitting	$600,000.00	240 days	Thu 7/5/12
13	FY14 Council Budget Approval	$0.00	90 days	Fri 3/1/13
14	Option 2 Phase A Construction	$1,400,000.00	200 days	Fri 7/5/13
15	FY14 Council Budget Approval	$0.00	90 days	Fri 3/1/13
16	Option 2 Phase B Construction	$4,560,000.00	180 days	Wed 1/1/14
17	**Option 3**	**$2,180,000.00**	**600 days**	**Fri 3/1/13**
18	FY14 Council Budget Approval	$0.00	90 days	Fri 3/1/13
19	Option 3 Design/Permitting	$200,000.00	180 days	Fri 7/5/13
20	FY15 Council Budget Approval	$0.00	90 days	Mon 3/3/14
21	Option 3 Construction	$1,980,000.00	180 days	Fri 10/10/14
22	**Option 4**	**$10,690,000.00**	**821 days**	**Mon 3/3/14**
23	FY15 Council Budget Approval	$0.00	90 days	Mon 3/3/14
24	Option 4 Design/Permitting	$1,300,000.00	210 days	Mon 7/7/14
25	FY16 Council Budget Approval	$0.00	90 days	Mon 3/2/15
26	Option 4A Construction	$5,150,000.00	210 days	Mon 7/6/15
27	FY17 Council Budget Approval	$0.00	90 days	Tue 3/1/16
28	Option 4B Construction	$4,240,000.00	210 days	Tue 7/5/16
29	**Ooption 5**	**$0.00**	**962 days**	**Thu 3/1/12**
30	Option 5 Design/Permitting	$0.00	180 days	Thu 3/1/12
31	Phase 5A Construction	$0.00	120 days	Fri 3/1/13
32	Phase 5B Construction	$0.00	180 days	Mon 3/2/15



Project: West Side Reclaimed Water Expansion.mpp .
Date: Wed 9/16/09

Task — Milestone — External Tasks
Split — Summary — External Milestone
Progress — Project Summary — Deadline

Note that consultant/contractor selection, bidding, contract finalization and material/equipment procurment is included in the respective design or construction tasks.
Option 5 is based upon developers current construction schedule.