CITY COUNCIL
CITY AND COUNTY OF HONOLULU
530 SOUTH KING STREET, ROOM 202
HONOLULU, HAWAII 96813-3065
TELEPHONE: (808) 768-5010 • FAX: (808) 768-5011

District 1 Town Hall Meeting
Kapolei Hale, Conf. Rms A & B
Hosted by Councilmember Tom Berg

Subject: Sewer and Water Rates
Thursday, January 26, 2012
6:00 p.m. - 8:30 p.m.

Introduction
Welcome/Opening — Councilmember Tom Berg

AGENDA

I. OPEN DISCUSSION AND PUBLIC FORUM

II. Q & A

III. ADJOURNMENT

YOUR KOKUA NEEDED: ALL PERSPECTIVES ON THE ISSUES ARE WELCOMED AT THIS MEETING. ATTENDEES ARE ENCOURAGED TO PARTICIPATE AND PROVIDE THEIR COMMENTARY. ALL PERSONS SPEAKING SHALL BE HEARD AND RESPECTED IN THE SPIRIT OF ALOHA, WITHOUT FEAR OF INTIMIDATION.

ALL QUESTIONS AND ANSWERS INCLUDING COMMENTS MADE IN OPEN DISCUSSION ARE TO BE MADE WITHIN A 2-MINUTE TIME LIMIT TO ALLOW AS MANY PERSONS POSSIBLE TO SPEAK.

NOTE: THIS MEETING IS BEING RECORDED AND WILL BE AIRING ON COUNCILMAN TOM BERG'S TELEVISION SHOW **"FOR EWA TODAY"** ON MONDAYS AT 2:00 P.M., SECOND SUNDAY OF THE MONTH AT 6:00 P.M., OLELO CHANNEL 54.

SUBJECTS THE MEDIA WILL NOT COVER SO MORE MEETINGS ARE NEEDED

I am sponsoring the February 28th meeting while Senator Sam Slom is sponsoring the February 29th meeting. Schedule and agendas are as follows:

February 28, Kapolei * Kapolei Hale rooms A & B, 6:00 to 8:30 PM

West Oahu Development: Meat & Potatoes or Gravy Train?
Moderator: Panos Prevedouros
Wendell Cox: Oahu's Backlog of Infrastructure and Fiscal Liabilities
Adrian Moore: HOT Lanes Address Second City Growth and Needs
John Charles: Transit Oriented Development Explained
Randal O'Toole: Rail Transit Jobs - Myths and Facts
Randall Roth: Rail Project "Broken Trust"

February 29, Honolulu * Mission Memorial Auditorium, 12:30 to 4:30 PM

Sustainable Growth: Challenges & Solutions
12:30 to 2:15 PM - CHALLENGES
Moderator: Randall Roth
Wendell Cox: Oahu's Backlog of Infrastructure and Fiscal Liabilities
Panos Prevedouros: Agriculture & Energy
-BRIEF BREAK-
2:30 to 4:00 PM - SOLUTIONS
Moderator: Panos Prevedouros
Adrian Moore: HOT Lanes for Corridor Congestion
John Charles: Transit Oriented Development
Randal O'Toole: Urban Sprawl & Community Dev
Randall Roth: Closing Remarks

TOWN HALL MEETING

WHERE:

KAHUMANA ORGANIC FARM & CAFÉ

86-660 Lualualei Homestead Road, Waianae

Take Farrington Highway until Mailiilii Road where the Comprehensive Health Center is located. Turn down Mailiilii Road and go straight for 2 miles until you intersect with Puhawai Road.

WHEN:

MARCH 2nd FROM 6:00 TO 8:30 P.M.

DISCUSSION:

YOU HAVE THE RIGHT TO KNOW WHAT IS IN YOUR FOOD

ORGANIC FOOD VERSUS GENETICALLY MODIFIED ORGANISMS (GMO)

SHOULD FOOD WE BUY BE LABELED IF IT CONTAINS GMO'S?

THE ROLE OF AGRICULTURE & THE ECONOMY

Sponsored by COUNCILMAN TOM BERG – for more information call 768-5001

EMAIL: tberg@honolulu.gov WEBSITE: www.councilmanberg.com

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

January 18, 2012

The Honorable Tom Berg
Honolulu City Council
530 South King Street, Room 202
Honolulu, Hawaii 96813

Dear Councilmember Berg:

Subject: Water Rate Information

Thank you for your inquiry requesting additional information about the Board of Water Supply's (BWS) water rates and charges. Pursuant to your request, a PowerPoint presentation on the revised water rate schedule and addressing Oahu's aging water infrastructure has been provided to your office. Additional information is available on the BWS website at www.boardofwatersupply.com and can also be provided over the phone by calling the BWS Communications Office at 748-5041 or via email at contactus@hbws.org.

In regards to your question about past water rate increases over the last 10 years, there were no rate increases for 11 years from fiscal year (FY) 1996 to FY2006. A five year rate increase was approved for FY2007 through FY2011. The increases were 13 percent, 12 percent, 10 percent, 8 percent, and 5 percent, respectively. The additional revenue allowed the BWS to install, repair, and/or renovate more than 110 sites, which included 34.5 miles of pipeline, a new Ewa Shaft Granular Activated Carbon Treatment Facility, 64 Wells/Booster Stations, 45 Reservoirs (including a new 6 million gallon reservoir in Honouliuli), 3 shafts, and various renovation/repair projects across the island.

Anticipated water rate increases in the long term will be dependent on future water rate studies and conditional assessments. A new water rate study, which may be initiated in the second or third year of the current rate increase, will be used to determine what level of funding will be required to ensure continued delivery of a safe and dependable water supply to Oahu ratepayers.

Lastly, the perception that hotels and large corporations have discounted rates and no hookup fees is not true. Non-residential customers such as hotels pay a higher rate than the average residential customer for water consumption and are appropriately charged for all applicable fees.

Thank you again for your continued support and assistance. As communicated previously, the BWS unfortunately is unable to attend the scheduled Information Meeting on January 26, 2012. However, we are happy to respond to any unanswered questions that you may have regarding water rates and charges.

Very truly yours,

DEAN A. NAKANO
Acting Manager

APPROVED:

DOUGLAS S. CHIN
Managing Director

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2012 JAN 18 A 9:31
CITY COUNCIL
HONOLULU, HAWAII

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

January 10, 2012

The Honorable Tom Berg
Honolulu City Council
530 South King Street, Room 202
Honolulu, Hawaii 96813

Dear Councilmember Berg:

Subject: Water Rate Assistance Program

Thank you for your inquiry requesting the Board of Water Supply (BWS) to find a way to help low income families with a discounted water rate. The affordability of water rates and the impact upon all of our ratepayers is always taken into consideration when adopting a new rate schedule.

The BWS met with the City Department of Environmental Services and Community Services Department to discuss possible implementation of an assistance program including issues associated with such alternatives.

It was determined that efforts to identify eligible applicants for any assistance program should not replicate or deviate from what is already being done at the State level by the Department of Human Services. Any proposed assistance program should be coordinated through the State to properly evaluate the issue of affordability and to prevent potential abuse of the system.

The program costs required in support of discounted water rates for seniors, disabled or low-income families would ultimately need to be subsidized by the balance of customers not receiving such assistance. Therefore, the amount and availability of funding to support any assistance program must be further researched.

A "lifeline" or "hardship" subsidy study is already planned to be incorporated as part of the Department's next water rate study. Currently, the BWS is closely monitoring a "lifeline rate" being proposed by the Hawaiian Electric Company which will need to be reviewed and approved by the Public Utilities Commission.

Thank you again for taking the time to express your thoughts and concerns on this matter. As stewards of our water resources, we take our responsibilities seriously. We, too, are customers of our municipal water system, and we share the public's concern for the need to strike a proper balance between the impact of a rate increase on Oahu's residents and avoiding the effects of an aging infrastructure.

Very truly yours,

DEAN A. NAKANO
Acting Manager

APPROVED

DOUGLAS S. CHIN
Managing Director

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

February 28, 2011

The Honorable Tom Berg
Honolulu City Council
530 South King Street, Room 202
Honolulu, Hawaii 96813

Dear Councilmember Berg:

Subject: Water and Sewer Rates

Thank you for your email received on February 11, 2011, requesting information about the Board of Water Supply's (BWS) water charges. Enclosed is the BWS revised water rate schedule from fiscal year 2005 to the current fiscal year. Pursuant to your request, I have also included sewer rate information from the City Department of Environmental Service's (ENV) website. Sewer charges are established by the ENV, separately from water charges.

The BWS is currently in the process of conducting a cost of services [water rate] study to carefully review its operational and financial requirements. A proposed rate structure has not been determined at this time. However, I will continue to keep you and the other councilmembers apprised once a proposed rate structure is established. The [rate] study is being conducted in order to determine the cost of services necessary to renew our water system infrastructure to reduce main breaks and improve water service.

Water rates will need to consider the full cost of water service, while balancing the potential impacts on water rate payers. Establishment of a new rate structure will be subject to a public hearing and Board approval and will also include appropriate public outreach and communication.

If you have any additional questions, please contact Kurt Tsue, Acting Information Officer at 748-5320.

Sincerely,

WAYNE M. HASHIRO, P.E.
Manager and Chief Engineer

APPROVED:

Douglas S. Chin
Managing Director

Enclosures

BILLING CHARGE There is a billing charge each time a bill is rendered effective as follows:

July 1, 2005	October 1, 2006	July 1, 2007	July 1, 2008	July 1, 2009	July 1, 2010
$ 3.70	$ 4.18	$4.68	$5.15	$5.56	$5.84

QUANTITY CHARGE In addition to the billing charge, there is a charge for all water drawn for each 1,000 gallons effective as follows:

SINGLE FAMILY RESIDENTIAL (Monthly Per Unit)	July 1, 2005	October 1, 2006	July 1, 2007	July 1, 2008	July 1, 2009	July 1, 2010
Block 1 (Gallons) First 13,000 or any part thereof	$1.77	$2.00	$2.24	$2.46	$2.66	$2.79
Block 2 (Gallons) 13,001 to 30,000 or any part thereof	$2.12	$2.40	$2.69	$2.96	$3.20	$3.36
Block 3 (Gallons) Over 30,000	$3.18	$3.59	$4.02	$4.42	$4.77	$5.01

MULTI FAMILY RESIDENTIAL (Monthly Per Unit)	July 1, 2005	October 1, 2006	July 1, 2007	July 1, 2008	July 1, 2009	July 1, 2010
Block 1 (Gallons) First 9,000 or any part thereof	$1.77	$2.00	$2.24	$2.46	$2.66	$2.79
Block 2 (Gallons) 9,001 to 22,000 or any part thereof	$2.12	$2.40	$2.69	$2.96	$3.20	$3.36
Block 3 (Gallons) Over 22,000	$3.18	$3.59	$4.02	$4.42	$4.77	$5.01

NON-RESIDENTIAL (All Usage)	July 1, 2005	October 1, 2006	July 1, 2007	July 1, 2008	July 1, 2009	July 1, 2010
	$1.98	$2.24	$2.51	$2.76	$2.98	$3.13

AGRICULTURAL (Monthly Per Account)	July 1, 2005	October 1, 2006	July 1, 2007	July 1, 2008	July 1, 2009	July 1, 2010
Block 1 (Gallons) First 13,000 or any part thereof	$1.77	$2.00	$2.24	$2.46	$2.66	$2.79
Block 2 (Gallons) Over 13,000	$0.75	$0.85	$0.95	$1.05	$1.13	$1.19

NONPOTABLE (All Usage)	July 1, 2005	October 1, 2006	July 1, 2007	July 1, 2008	July 1, 2009	July 1, 2010
	$0.99	$1.12	$1.25	$1.38	$1.49	$1.56

Department of Environmental Services
City & County of Honolulu

NEW SEWER SERVICE CHARGES AS OF: July 1, 2010

RESIDENTIAL SEWER RATES:

Residential sewer rates consist of two (2) parts, a base charge and a sewer usage charge. The **base charge** represents our fixed expenses associated with operating and maintaining the municipal sewer system. The base charge is $68.39 per unit per month for single family/duplex residences. For multiple units, the base charge is $47.90 per unit per month.

The **sewer usage charge ($2.88 per 1000 gallons)** is based on your water consumption. Each customer is given two (2) deductions: a "lifeline allowance" and a water use credit.

> **"Lifeline Allowance"** - For the first 2,000 gallons of water usage each month, a household must pay only the base monthly charge. There is no extra charge for those customers who use only up to 2,000 gallons a month. This provides a "lifeline" of basic service, designed to assist "low users" of the system and others on a fixed income.
>
> **Water Use Credit** - The City has determined that about 18% of the water used by a household goes to watering yards or plants, washing cars or other non-sewage uses. That amount is subtracted from the water usage beyond the first 2,000 gallons of water used.

The total sewer service charge reflects the cost to collect and treat an average return of 82% (of the water used) back to the sewer system in the form of wastewater flow. These charges are computed to make them as fair as possible with a "pay-for-what-you-use" philosophy.

NON-RESIDENTIAL SEWER CHARGES:

Non-residential users are charged a service fee based on their metered water consumption. This charge reflects the cost to collect and treat an average return of 80% (of the water used) back to the sewer system in the form of wastewater flow.

If you have any questions or need further information, please write us at Department of Environmental Services, Office of Administrative Support, 1000 Uluohia Street, Suite 308, Kapolei, Hawaii 96707, or call us at 768-3330.

SEWER SERVICE CHARGES
(Effective July 1, 2010)

RESIDENTIAL	RATES
USERS SERVED BY CITY WATER SYSTEM:	
Single Family/Duplex MONTHLY Charge:	
Base Charge per unit	$68.39
Usage Charge per 1,000 gallons	
1st 2,000 gallons per unit (only base charge applicable)	Base Charge
Over 2,000 gallons (reduce consumption by 18% irrigation factor)	$2.88
Multiple Unit MONTHLY Charge:	
Base Charge per unit	$47.90
Usage Charge per 1,000 gallons	
1st 2,000 gallons per unit (only base charge applicable)	Base Charge
Over 2,000 gallons (reduce consumption by 18% irrigation factor)	$2.88
USERS NOT SERVED BY CITY WATER SYSTEM:	
Single Family/Duplex MONTHLY Charge	$84.19
Multiple Unit MONTHLY Charge	$64.81

Example for a Single Family **2-Month** Billing Period (26,000 gallons water consumption):

a. Sewer Base Charge:
   $68.39 (monthly base charge) x 2 months = **$136.78**
b. Sewer Usage Charge (No Charge 1st 2,000 gallons per unit per month, Lifeline Allowance):
   26,000 gallons – 4,000 gallons (2,000 gallons x 2 months) = 22,000 gallons
   22,000 gallons x 82% (reduce consumption by 18% Water Use Credit) = 18,040 or 18,000 gallons
   18,000 gallons x $2.88 per 1,000 gallons = **$51.84**
c. **Total Sewer Charges = $136.78 + $51.84 = $188.62**

NOTE: THE SEWER SERVICE CHARGES ON YOUR BOARD OF WATER SUPPLY BILL FOR RESIDENTIAL ACCOUNTS USUALLY REFLECT A TWO (2) MONTH BILLNG PERIOD.

NON-RESIDENTIAL	RATES
METERED WATER	
9,000 gallons or less per MONTH	
Base Charge per MONTH	$61.51
Usage Charge per 1,000 gallons	$ 3.13
More than 9,000 gallons per MONTH	
Usage Charge per 1,000 gallons	$9.96
METERED WASTEWATER	
7,000 gallons or less per MONTH	
Base Charge per MONTH	$61.51
Usage Charge per 1,000 gallons	$ 4.00
More than 7,000 gallons per MONTH	
Usage Charge per 1,000 gallons	$12.65
EXTRA STRENGTH	
Metered Water:	
(Formula) x Usage Charge	$9.96
Metered Wastewater:	
(Formula) x Usage Charge	$12.65

Rev.05/10

DEPARTMENT OF ENVIRONMENTAL SERVICES
Sewer Service Charge Rate Comparison

The comparison below is for a **2-month billing period** for a **single family residence** with a Board of Water Supply (BWS) **consumption of 26 thousand gallons**.

PAYMENTS / ADJUSTMENTS / CHARGES	July 1, 2009 Rate Increase		July 1, 2010 Rate Increase	
	AMOUNT	BALANCE	AMOUNT	BALANCE
Sewer Charge				
Sewer Base Charge	118.94		136.78	
Sewer Usage Charge (per 1000 gallons)	45.48		51.84	
4 @ 0.000 = 0.000 (Lifeline Allowance & Water Use Credit)				
18 @ 2.880 = 51.84				
Total Sewer Charges		**$164.12**		**$188.62**

Calculation for July 1, 2010 Rate Increase:

a. Sewer Base Charge:
   $68.39 (monthly base charge) x 2 months = **$136.78**
b. Sewer Usage Charge (No Charge 1st 2,000 gallons per unit per month Lifeline Allowance):
   26,000 gallons – 4,000 gallons (2,000 gallons x 2 months) = 22,000 gallons
   22,000 gallons x 82% (reduce consumption by 18% Water Use Credit) = 18,040 or 18,000 gallons
   18,000 gallons x $2.88 per 1,000 = **$51.84**
c. **Total Sewer Charges = $136.78 + $51.84 = $188.62**

Revenue
New Issue

City and County of Honolulu, Hawaii

Wastewater System

Ratings

New Issues

Revenue Bonds (First Bond Resolution), Senior Subseries 2010A and 2010B (Taxable Build America Bonds)	AA
Revenue Bonds (Second Bond Resolution), Junior Subseries 2010A	AA–

Outstanding Debt

Revenue Bonds (First Bond Resolution), Senior Series	AA
Revenue Bonds (Second Bond Resolution), Junior Series	AA–

Rating Outlook

Stable

Analysts

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+1 415 732-5622
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Douglas Scott
+1 512 215-3725
douglas.scott@fitchratings.com

New Issue Details

Sale Information: Approximately $26,000,000 Revenue Bonds (First Bond Resolution), Senior Subseries 2010A, and $177,000,000 Senior Subseries 2010B (Taxable Build America Bonds), as well as $103,000,000 Revenue Bonds (Second Bond Resolution), Junior Subseries 2010A, expected to price Oct. 25–26, depending on market conditions.
Purpose: Proceeds of the senior series 20010A and 20010B to fund ongoing components of the system's capital plan. Proceeds of the junior series 20010A bonds to refund outstanding bonds for savings.
Final Maturity: Senior series 2010A, 2021. Senior series 2010B, 2041.

Related Research

For information on Build America Bonds, visit www.fitchratings.com/BABs.

Applicable Criteria

- *Revenue-Supported Rating Criteria, Oct. 8, 2010*
- *Water and Sewer Revenue Bond Rating Guidelines, Aug. 6, 2008*

Rating Rationale

- The city of Honolulu provides wastewater service to 74% of the island of Oahu's population. The system has seen limited impact on revenues or delinquency rates from the current economic recession and a downturn in tourism.
- Two multiyear rate packages have resulted in substantial rate increases through fiscal 2011 but appear to have broad political and community support. The city plans to propose a third rate package that includes another six years of rate increases beginning in fiscal 2012.
- High residential rates with continued annual increases are projected in the future.
- The large capital improvement plan (CIP) has very strong financial metrics in the form of debt service coverage and a healthy pay-as-you-go component.
- The wastewater system has very high debt levels with substantial additional borrowing plans over the medium term to comply with required environmental mandates to address deferred maintenance.
- Substantial additional capital needs exist beyond the current CIP to rehabilitate the aging system, resulting from the decision by the Environmental Protection Agency (EPA) to require the wastewater system's two largest treatment plants to move from primary to secondary treatment. Continued rate flexibility will be critical.

Key Rating Drivers

- The City Council's passage of the next rate package is anticipated for implementation beginning in July 2011. Continued political and community support will be needed to support rate increases necessary to execute the CIP.
- Fitch Ratings views maintenance of the system's strong financial position as necessary at this rating level, given the size of the CIP and increasing debt burden.
- Compliance with the terms and timelines required by the new 2010 Consent Decree is critical to the credit profile.

Considerations for Taxable/Recovery Zone Economic Development Bonds Investors

This sector credit profile is provided as background for investors new to the municipal market.

Water and Sewer Utility Revenue Bonds
Municipal water and sewer utilities in the U.S. are enduring natural monopolies that typically have autonomous rate-setting ability and provide highly essential services. The bonds are secured by a pledge of net revenues generated by the water and/or sewer system and typically include structural legal protections such as rate covenants, debt service reserve requirements, and antidilution tests. As such, the sector exhibits extremely strong credit characteristics with minimal defaults. Reflective of this strong performance, the average water and sewer revenue bond rating is 'AA' with 86% at or above 'AA–' and approximately 2% rated 'BBB+' or below. Those with low investment-grade or below-investment-grade ratings generally have substantial capital programs, a high degree of leverage, or weak financial flexibility as reflected in low cash levels, narrow debt service coverage, and/or limited rate-raising flexibility.
For additional information on these ratings, see "Revenue-Supported Rating Criteria," dated Oct. 8, 2010, available on Fitch's Web site at www.fitchratings.com.

Rating History — Senior Series

Rating	Action	Outlook/ Watch	Date
AA	Affirmed	Stable	10/15/10
AA	Revised*	Stable	4/30/10
AA–	Affirmed	Stable	8/26/09
AA–	Affirmed	Negative	4/14/08
AA–	Affirmed	Negative	7/12/07
AA–	Affirmed	Stable	8/18/06
AA–	Affirmed	Stable	7/7/05
AA–	Affirmed	Stable	6/26/01
AA–	Assigned	—	12/7/98

*Reflects revision.

Rating History — Junior Series

Rating	Action	Outlook/ Watch	Date
AA–	Affirmed	Stable	10/15/10
AA–	Revised*	Stable	4/30/10
A+	Affirmed	Stable	8/26/09
A+	Affirmed	Negative	4/14/08
A+	Affirmed	Negative	7/12/07
A+	Affirmed	Stable	8/18/06
A+	Affirmed	Stable	7/7/05
A+	Affirmed	Stable	6/26/01
A+	Assigned	—	12/7/98

*Reflects revision.

Credit Summary

The ratings primarily reflect the very strong financial position of the system and the proactive steps taken by the political leadership and management team to address many years of delayed spending on system capital infrastructure, including adoption of two multiyear rate packages that extend through fiscal 2011. As a result of leadership's guidance, financial performance is expected to remain favorable over at least the near to medium term, despite sizable increased leveraging, primarily due to a healthy component of pay-as-you-go in the CIP. Other positive credit considerations include the regional economy, stable residential customer base, and overall community support of the double-digit annual rate increases needed to invest in the system's aging infrastructure. Credit concerns center on the substantial capital needs that have resulted in very high debt levels, high retail rates, and the need to sustain political momentum and community tolerance for future additional rate increases.

Security

Bondholders are secured by a net revenue pledge of the city and county of Honolulu's wastewater system.

Recent Developments

Regulatory Clarity

Sand Island and Honouliuli wastewater treatment plants (WWTPs) currently operate according to expired 301(h) waivers of the federal Clean Water Act, requiring only primary treatment prior to discharging to deep ocean outfalls. In January 2009, the EPA issued final decisions to deny the city's request for renewal of its 301(h) waiver for the two treatment plants. This was following the EPA's tentative decision to deny both waivers in 2007. In July 2010, agreement on a proposed consent decree was reached by the EPA, Honolulu, the state Department of Health, and four environmental organizations that had litigation pending over Honolulu's non-compliance with the Clean Water Act. The new consent decree outlines a timeline for Honolulu to bring the two plants up to secondary treatment standard. It also incorporates the terms and requirements of Honolulu's existing 1994 Consent Decree and 2007 Stipulated Order, as well as resolves pending litigation from 2004.

While the capital requirements and cost of compliance are substantial (initial estimates are $1.2 billion for the treatment plant upgrades alone), the timeline is longer than originally proposed by the EPA, and the new proposed consent decree brings all regulatory requirements under one document and timeline. This is a positive development since it appeared that the EPA's initial timeline would have potentially diverted capital spending and staff resources away from the much-needed infrastructure investments that currently make up the bulk of the CIP. Given the limited construction resources on the island of Oahu and the large public and private construction programs currently in progress, there may be a limit as to how much additional work the wastewater system can practically accomplish during a given period. The proposed consent decree allows 10 years to complete ongoing work on the collection system, 14 years for the upgrade of the Honouliuli WWTP to secondary treatment, and up to 25 years for the upgrade of the Sand Island WWTP to secondary treatment. For additional information on costs, see the Debt and Capital Improvement Plan section *(page 3)*.

Lower Rate Increases Possible

Honolulu has raised its rates 175% on a cumulative basis over the six-year period from fiscal years 2006–2011. The average monthly residential combined water and wastewater bill is now about $122, or 2.1% of median household income. Although the last rate increase of the City Council's proactive six-year rate package just became effective July 1, 2010, the system had been projecting continued double-digit increases for the next five years, given

ongoing uncertainty over the time requirement of moving to secondary treatment. Now, with the consent decree, as discussed above, management anticipates that potential rate increases in the next five years will be more moderate, in the range of 4%–5% annually. Management anticipates taking another six-year rate package to the City Council for approval in the spring of 2011, with the first increase of that package to become effective July 1, 2011. The financial forecast presented by management to Fitch included this level of assumed rate increases.

System

The city operates the wastewater system through the Department of Environmental Services. The department provides sewer services to a population of approximately 640,000, or 74% of the total population of the city and county of Honolulu. Of this amount, 74% are residential, lending stability to the customer base. The remaining customers generally are commercial in nature, primarily associated with the island of Oahu's hotel and tourism industry. Customer growth has been modest over the past five years, averaging less than 1% annually; this trend is expected to continue. Growth projections are modest at 0.3%. The downturn in tourism in the past year has not had a significant impact on wastewater revenues.

The wastewater system is divided into eight wastewater basins, each served by a WWTP. The system encompasses more than 600 square miles, with collection and transmission pipes leading into separate WWTPs. Aggregate daily flows averaged 106 millions of gallons per day (mgd) for fiscal 2010, approximately 70% of the 152 mgd combined treatment capacity. The system's two largest plants, Sand Island and Honouliuli, respectively, treat about 80% of the system's wastewater flows.

Debt and Capital Improvement Plan

The wastewater system is addressing substantial capital needs. The primary capital needs relate to the rehabilitation of an aging collection system, as required by the EPA. More than 80% of the overall $5.4 billion, 20-year CIP (fiscal years 2000–2020) is related to nondiscretionary projects that address safety and public health, protection of the environment, and regulatory compliance. Although many of the CIP projects were established by EPA consent decrees in 1995 and 1998, the city only began to move into the heavy construction phase of the CIP in 2007. As a result, the actual costs of the projects now that construction has begun are much higher than originally estimated. The cost of the 20-year CIP has increased dramatically from a 2005 estimate of $2.1 billion. Projected spending for the second half of the CIP (fiscal years 2011–2020) is approximately $3.65 billion. The wastewater system's five-year CIP is estimated at $1.5 billion and is a subset of the 20-year CIP. The five-year plan will be predominantly funded through revenue bonds and low-cost, state revolving fund loans (total debt funding of 78%).

Upon completion of the collection system needs in roughly 2020, the city will need to work towards compliance with the new consent decree requirements that require the upgrade of the Honouliuli WWTP to secondary treatment by 2024 and the upgrade of the Sand Island WWTP to secondary treatment by 2035. While the current CIP through 2010 includes some costs associated with the treatment plant upgrades, much of the costs will occur beyond 2020. Very early estimates are in the range of $1.7 billion for the treatment plan upgrades.

The system is already highly leveraged and debt levels will climb even further given the capital needs described above. Outstanding debt (all fixed rate) will increase to about $1.2 billion following this issuance, with another $1.0 billion in debt anticipated in the next five years. Debt per customer is projected to climb from about $9,500 currently to $15,000, compared with Fitch's 'AA' rating category median for water and wastewater utilities of about $2,000 per customer.

Rates

The department must seek City Council approval for any rate adjustments. In 2005, the mayor proposed, and the City Council adopted, a series of six annual rate increases designed to meet the rising costs associated with the CIP. In 2007, the City Council amended and raised the amount of the remaining four rate hikes to absorb the most recent CIP cost increases.

The approved and implemented rate increases were as follows:

- July 1, 2005 — 25%.
- July 1, 2006 — 10%.
- July 1, 2007 — 25%.
- July 1, 2008 — 18%.
- July 1, 2009 — 18%.
- July 1, 2010 — 15%.

The average monthly residential sewer bill has risen to approximately $87 in fiscal 2011, which is high compared with that of other utilities. Further annual rate increases beyond those already approved are necessary based on the amount of debt expected to be issued, although they will require approval by future city councils. Current projections indicate the average annual rate hike in the five-year period following the approved increases could be in the range of 4%–5% to fund the existing CIP. This is lower than the 11% rate increases anticipated a few years ago.

On an affordability scale, the combined water and sewer bill of approximately $121 per month is high at 2.1% of median household income. With the anticipated rate increases, the combined monthly bill could grow to 3% of median household income at the end of the five-year forecast, with additional rate pressure in later years to fund the upgrades to the treatment plants.

Fitch views the City Council's adoption in 2005 and 2007, and subsequent implementation of the series of rate increases, as an indication of Honolulu's high level of commitment in addressing needed improvements and available rate flexibility. The system has not experienced any change in its collection levels or significant community discontent following the rate hikes, as evidenced by the lack of opposition at public meetings. Concern exists that the longevity of the needed rate increases at the system will create rate fatigue.

Finances

The system's financial position is strong, with senior lien debt service coverage above 3.0x and total debt service coverage above 1.6x in the past five years, including unaudited results for fiscal 2010. Total debt service coverage includes the department's junior lien bonds, general obligation bonds, and state revolving fund loans. Coverage and liquidity levels continue to be strong as a result of recent rate increases implemented to support debt service that will ramp up over the next several fiscal years. Senior debt service coverage is projected to remain adequate at more than 2.0x through fiscal 2014. Total debt service coverage on all debt obligations is projected to remain above 1.4x through fiscal 2014. Projections for fiscal 2015, show performance declining below these levels, but this is not a rating concern at this time. The city's formal policy is to maintain debt service coverage of 1.6x on the senior lien bonds and 1.25x on combined senior and junior lien revenue bonds. However, the current rating anticipates maintenance of 2.0x on the senior bonds and 1.5x total debt service coverage, including system facility charges.

Financial Summary

($000, Fiscal Years Ended June 30)

	Audited				Unaudited	Projected				
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Balance Sheet										
Unrestricted Cash and Investments	46,700	45,746	78,200	63,275	155,766	226,311	229,355	223,240	208,651	190,690
Accounts Receivable	20,875	23,531	31,818	34,551	—	—	—	—	—	—
Other Current Unrestricted Assets	71,870	244,085	342,459	285,891	(155,766)	(226,311)	(229,355)	(223,240)	(208,651)	(190,690)
Current Liabilities Payable from Unrestricted Assets	(57,039)	(65,328)	(81,278)	(89,377)	—	—	—	—	—	—
Net Working Capital	82,406	248,034	371,199	294,340	—	—	—	—	—	—
Net Fixed Assets	1,513,603	1,616,817	1,699,154	1,873,156	—	—	—	—	—	—
Net Long-Term Debt Outstanding	931,310	1,173,635	1,341,478	1,361,308	—	—	—	—	—	—
Operating Statement										
Operating Revenue	142,167	160,963	225,104	251,953	302,316	328,452	342,709	356,981	372,075	391,056
Non-Operating Revenue	4,166	13,996	18,057	7,080	—	—	—	—	—	—
Connection Fees	—	4,691	5,025	1,555	6,686	8,870	9,131	9,405	9,686	9,978
Gross Revenue	146,333	179,650	248,186	260,588	309,002	337,322	351,840	366,386	381,761	401,034
Operating Expenses (Excluding Depreciation)	(82,962)	(83,773)	(115,058)	(102,594)	(105,128)	(132,853)	(137,660)	(142,049)	(146,595)	(151,303)
Depreciation	(31,439)	(35,311)	(39,362)	(40,682)	—	—	—	—	—	—
Operating Income	31,932	60,566	93,766	117,312	203,874	204,469	214,180	224,337	235,166	249,731
Net Revenue Available for Debt Service[a]	63,371	95,877	133,128	157,994	203,874	204,469	214,180	224,337	235,166	249,731
Senior Lien Debt Service Requirements	12,946	30,060	34,422	42,281	38,184	49,644	73,878	92,286	113,433	134,366
Total Debt Service Requirements	23,792	56,690	68,667	93,687	92,048	105,107	131,625	150,649	170,254	189,258
Financial Statistics										
Senior Lien Debt Service Coverage (x)	4.9	3.2	3.9	3.7	5.3	4.1	2.9	2.4	2.1	1.9
Total Debt Service Coverage (x)	2.7	1.7	1.9	1.7	2.2	1.9	1.6	1.5	1.4	1.3
Days Cash on Hand	205	199	248	225	541	622	608	574	520	460
Days Working Capital	363	1,081	1,178	1,047	—	—	—	—	—	—
Debt to Net Plant (%)	62	73	79	73	—	—	—	—	—	—
Outstanding Long-Term Debt per Customer ($)	6,559	8,265	9,381	9,506	0	9,155	8,985	15,519	15,336	15,151
Operating Margin (%)[b]	42	48	49	59	65	60	60	60	61	61

[a]Equals gross revenue less operating expenses. [b]Equals operating revenue less operating expenses divided by operating revenue. Note: Numbers may not add due to rounding.

Liquidity remains a positive credit factor. Unrestricted reserves are projected at $155 million at fiscal year-end 2010, or 541 days cash on hand. The city's formal policy is to maintain at least three months of operating expenses in reserves, although it is generally in excess of this target. The level of liquidity is likely to come down as the utility enters a period of intense capital spending.

Legal Provisions

Security: The senior lien bonds are payable from and secured by the net revenues of the wastewater system after payment of operations and maintenance (O&M) expenses. The junior lien bonds are payable from and secured by the net revenues of the system after payment of O&M expenses and senior lien obligations. System facility charges (connection fees) are excluded from the definition of revenues for both securities.

Rate Covenant: The city covenants to set rates and charges sufficient to generate net revenues equal to the greater of the total of 1.0x annual debt service (ADS) coverage on senior lien obligations plus the required flow of fund deposits or 1.2x ADS. The rate covenant for junior lien bonds is the greater of 1.0x ADS coverage on junior lien obligations plus all deposits required under the flow of funds or 1.1x ADS on junior lien obligations.

Reserves: The bond resolutions for both the senior and junior lien bonds establish a common debt service reserve for each respective lien to be funded in an amount equal to 1.0x maximum annual debt service (MADS). Although surety bonds are permitted to satisfy the common reserve, a downgrade of the surety providers below the 'AA' rating category

requires the city to provide a replacement surety or cash fund the common reserve requirement within 90 days. The series 2010 bonds will have a reserve fund unique to this series, funded at only 50% of MADS.

Additional Bonds Test: The additional bonds test requires net revenues, by either a historical or forward test, to provide 1.1x MADS. The additional bonds test for junior lien bonds requires net revenues to provide 1.0x MADS.

Taxable Bonds — Federal Subsidy

Amendments to the indenture allow the federal subsidy expected in relation to the Build America Bonds to be treated as an offset to debt service rather than revenue. Fitch's calculation of debt service coverage includes the subsidy as revenue rather than an offset to debt service. In the unlikely event that receipt of the subsidy is delayed, the district is still obligated to pay full debt service from its remaining revenues.

Service Area Economy

Honolulu's economy has diversified but remains dominated by a well-developed tourism sector. The worldwide economic downturn reduced travel to the state beginning in 2008, both from domestic and international visitors. Diversity is provided by the city's role as the regional commercial, business, and finance center, as well as its status as the state capital and home to the University of Hawaii. Honolulu has a strong military presence. Recent investments in this sector have created new jobs, both military and civilian, on the island. Investments in this sector will likely continue given the island of Oahu's strategic location. The unemployment rate remained relatively low in 2008 at 3.5%, well below the national average. Income levels are above state and national averages, partially reflecting the high cost of living on the island.

DEPARTMENT OF ENVIRONMENTAL SERVICES
CITY AND COUNTY OF HONOLULU
1000 ULUOHIA STREET, SUITE 308, KAPOLEI, HAWAII 96707
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PETER B. CARLISLE
MAYOR

TIMOTHY E. STEINBERGER, P.E.
DIRECTOR

MANUEL S. LANUEVO, P.E., LEED AP
DEPUTY DIRECTOR

ROSS S. TANIMOTO, P.E.
DEPUTY DIRECTOR

IN REPLY REFER TO:
WAS 12-17

January 25, 2012

The Honorable Tom Berg
Honolulu City Council
530 South King Street, Room 202
Honolulu, Hawaii 96813-3065

Dear Councilmember Berg:

Subject: Sewer Fee Information

Thank you for your request for information regarding City Sewer Fees and for the invitation to attend your Town Hall Meeting on January 26, 2012.

As previously indicated, we will not be participating in the Town Hall Meeting as all appropriate information has been publicly presented in numerous City Council meetings. We are, however, providing a copy of the presentation given to the City Council Budget Committee in August 2011 on the recent Sewer Service Charge Study. A copy of the presentation is attached in both hardcopy and CD formats.

Sewer fees or Sewer Service Charges are fees for service and as such must be related to the service received. Sewer Service Charges fully fund all wastewater activities and no property tax revenue is used for wastewater activities. Both are in accordance with Resolution 98-197, CD1, Establishing debt and financial policies relating to wastewater system enterprise. Information on current sewer service charges can be found at http://www1.honolulu.gov/env/wwm/customerservice.htm. Sewer service costs for average household activities are also attached for information.

There seems to be some confusion and misunderstanding that non-residential customers, including tourists and hotels, are not paying their fair share of the cost of the wastewater system. This is not an accurate picture. Although there is not currently a base charge for all non-residential customers, the volume charge for those non-residential customers, which includes hotels and businesses serving tourists, is designed to recover the same dollar amount for each 9,000 gallons of water used as a

single family residential customer, with base charge, using the same amount of water. For each additional 9,000 gallons of water used, the non-residential customer pays the same as an additional single family residential customer. For example, a non-residential customer using 900,000 gallons of water a month would pay the same as 100 single family residential units using 9,000 gallons of water each. This is an appropriate and equitable charge and consistent with provisions of the Clean Water Act which requires those receiving federal grants for wastewater systems, including Honolulu, to have equitable charges based on system use. It would not be appropriate to charge one class of customer more than another for the same service.

We are submitting proposed revisions to the Sewer Service Charge ordinance consistent with the recent Sewer Service Charge Study and look forward to those discussions.

Sincerely,

Timothy E. Steinberger, P.E.
Director

Attachments

APPROVED:

Douglas S. Chin
Managing Director

Projected Sewer Service Charges – What do you get for your money?

- *Current cost is $0.0107 per gallon of water - about one cent per gallon of water collected and treated*

– Flush the toilet –	**1.6 gallons**	**2 cents**
– Shower – 10 minutes –	**25 gallons**	**27 cents**
– Dishwasher load –	**15 gallons**	**16 cents**
– Clothes washer load –	**43 gallons**	**46 cents**

Department of Environmental Services
City and County of Honolulu

Alternative SSC Rates and Charges – Phase I Results

TABLE OF CONTENTS		
Module I	Rate Design	Alternative Rate Structure
Module II	Rate Design	High Strength Surcharge
Module III	Facility Charge	Charge Update
Module IV	Affordability	Assistance Program Alternatives

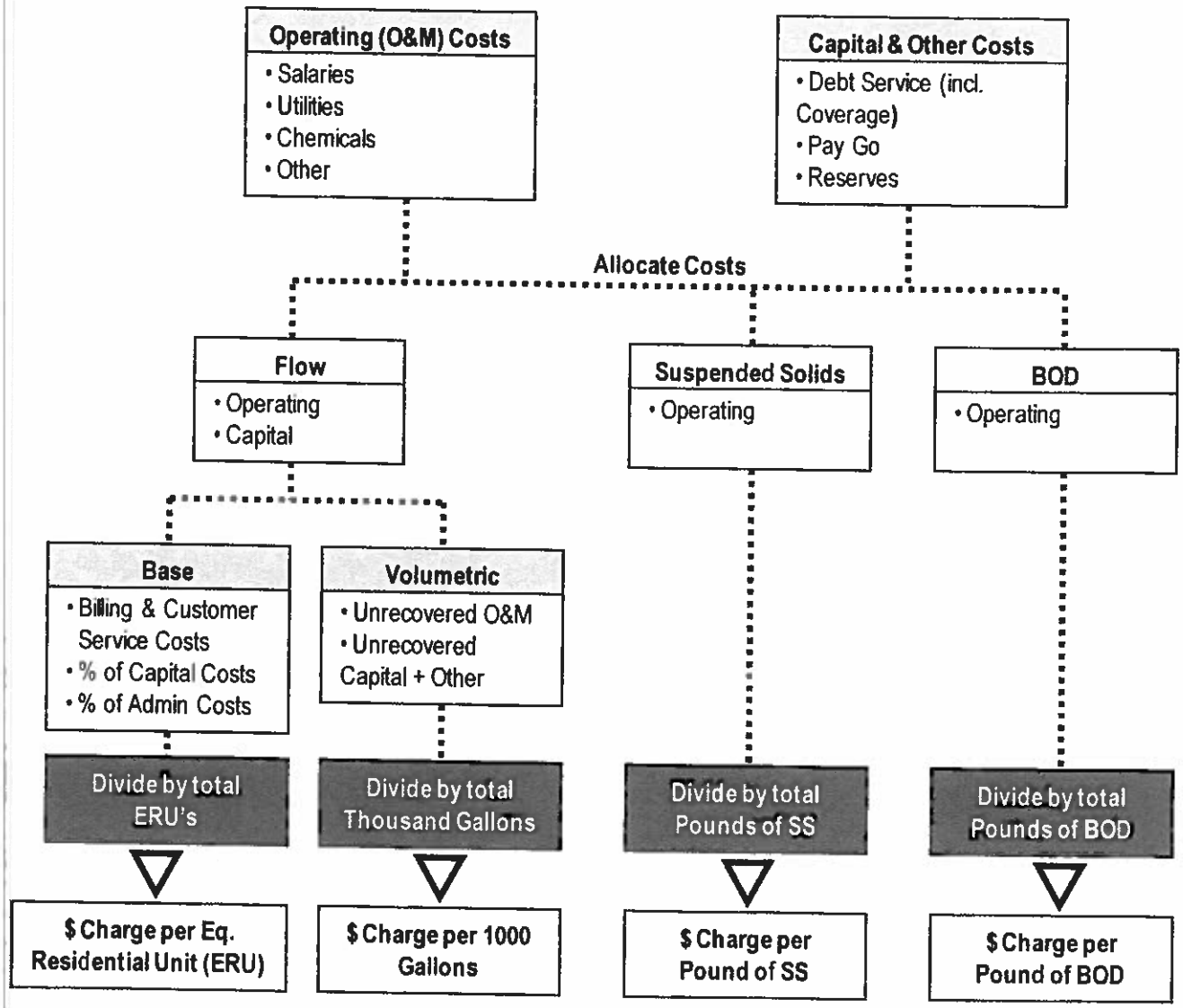
RAFTELIS FINANCIAL CONSULTANTS, INC.

RATE DESIGN

Alternative Rate Structure

RAFTELIS FINANCIAL CONSULTANTS, INC.

Cost Allocation & Rate Design



Revenue Requirements

Financial Plan Reorganized

	FY 2011
Revenue Requirements	
Operating Expenses	
Sewer Fund	
Salaries	27,093,737
Non-Salary Personnel Costs	12,511,150
Current Expense	74,672,879
Other Agencies	5,523,177
Equipment (Cash Funded)	0
General Fund	4,007,500
Central Administrative Support	9,044,200
Incremental O&M Expense - CD Compliance - Nominal	0
Subtotal	**$132,852,643**
Capital	
Existing Debt Service	105,107,052
New Debt Service	0
Contributions Designated for Capital Improvement	15,520,266
Subtotal	**$120,627,318**
Contributions	
Reserves for Designated CIP	56,440,058
Minimum Reserve Balance	6,931,081
Debt Service Reserve	13,258,750
Subtotal	**$76,629,889**
Total Revenue Requirements	**$330,109,850**
Miscellaneous Revenue Offsets	
Facility Charges	8,870,000
Other	2,544,850
Interest	185,000
Subtotal	**$11,599,850**
Net Revenue Requirements	**$318,510,000**
Incremental Surcharge Revenue	482,312
Net Rate Revenue Requirements	**$318,027,688**

Cost Allocation of Treatment Processes

Processes

For Each Treatment Plant	Headworks	Primary Treatment	Secondary Treatment	Disinfection	Sludge Digesters	Laboratory Services	Administrative	Other	Total
Metro									
Salaries	26%	26%	0%	27%	0%	2%	15%	4%	100%
Current Expenses	15%	25%	0%	40%	0%	2%	3%	15%	100%
Leeward									
Salaries	15%	15%	22%	10%	15%	5%	13%	5%	100%
Current Expenses	15%	15%	22%	10%	15%	5%	13%	5%	100%
Windward									
Salaries	16%	16%	23%	0%	24%	2%	15%	4%	100%
Current Expenses	18%	22%	20%	0%	25%	2%	3%	10%	100%
Admin/Mtce WW Facilities									
Salaries	14%	14%	14%	14%	14%	3%	25%	2%	100%
Current Expenses	13%	13%	13%	13%	13%	5%	25%	5%	100%

For Each Treatment Plant	Headworks	Primary Treatment	Secondary Treatment	Disinfection	Sludge Digesters	Laboratory Services	Administrative	Other	Total
Metro									
Salaries	$1,065,586	$1,065,586	$0	$1,106,570	$0	$81,968	$614,761	$163,936	$4,098,409
Current Expenses	$3,332,596	$5,554,326	$0	$8,886,922	$0	$444,346	$666,519	$3,332,596	$22,217,305
Leeward									
Salaries	$756,021	$756,021	$1,108,831	$504,014	$756,021	$252,007	$655,219	$252,007	$5,040,143
Current Expenses	$1,804,722	$1,804,722	$2,646,926	$1,203,148	$1,804,722	$601,574	$1,564,093	$601,574	$12,031,481
Windward									
Salaries	$661,309	$661,309	$950,632	$0	$991,964	$82,664	$619,977	$165,327	$4,133,183
Current Expenses	$2,177,460	$2,661,340	$2,419,400	$0	$3,024,250	$241,940	$362,910	$1,209,700	$12,097,001
Admin/Mtce WW Facilities									
Salaries	$496,220	$496,220	$496,220	$496,220	$496,220	$106,333	$886,107	$70,889	$3,544,428
Current Expenses	$1,142,722	$1,142,722	$1,142,722	$1,142,722	$1,142,722	$439,508	$2,197,542	$439,508	$8,790,167
Subtotals ($)	$11,436,637	$14,142,247	$8,764,731	$13,339,596	$8,215,899	$2,250,340	$7,567,128	$6,235,538	$71,952,117

RAFTELIS FINANCIAL CONSULTANTS, INC.

Cost Allocation of Treatment Processes

Processes	Subtotals from above	Parameters			
		Flow	BOD	TSS	**Sum**
Headworks	$11,436,637	100%	0%	0%	100%
Primary Treatment	$14,142,247	20%	0%	80%	100%
Secondary Treatment	$8,764,731	100%	0%	0%	100%
Disinfection	$13,339,596	100%	0%	0%	100%
Sludge Digesters	$8,215,899	26%	0%	74%	100%
Laboratory Services	$2,250,340	26%	0%	74%	100%
Administrative	$7,567,128	67%	0%	33%	100%
Other	$6,235,538	67%	0%	33%	100%
Total		$48,369,399	$0	$23,582,718	$71,952,117

RAFTELIS FINANCIAL CONSULTANTS, INC.

Cost Allocation of Flow

Financial Plan Reorganized		Cost Allocation			
	FY 2011				
Revenue Requirements					
Operating Expenses					
Sewer Fund		Base	Vol	Base	Vol
Salaries	27,093,737	15%	85%	4,064,061	23,029,676
Non-Salary Personnel Costs	12,511,150	15%	85%	1,876,673	10,634,478
Current Expense	74,672,879	15%	85%	11,200,932	63,471,947
Other Agencies	5,523,177	15%	85%	828,477	4,694,700
Equipment (Cash Funded)	0	100%	0%	0	0
General Fund	4,007,500	100%	0%	4,007,500	0
Central Administrative Support	9,044,200	100%	0%	9,044,200	0
Incremental O&M Expense - CD Compliance - Nominal	0	100%	0%	0	0
Subtotal	**$132,852,643**			**$31,021,841**	**$101,830,802**
Capital					
Existing Debt Service	105,107,052	100%	0%	105,107,052	0
New Debt Service	0	100%	0%	0	0
Contributions Designated for Capital Improvement	15,520,266	100%	0%	15,520,266	0
Subtotal	**$120,627,318**			**$120,627,318**	**$0**
Contributions					
Reserves for Designated CIP	56,440,058	100%	0%	56,440,058	0
Minimum Reserve Balance	6,931,081	100%	0%	6,931,081	0
Debt Service Reserve	13,258,750	100%	0%	13,258,750	0
Subtotal	**$76,629,889**			**$76,629,889**	**$0**
Total Revenue Requirements	**$330,109,850**			**$228,279,048**	**$101,830,802**
Miscellaneous Revenue Offsets					
Facility Charges	8,870,000	100%	0%	8,870,000	0
Other	2,544,850	0%	100%	0	2,544,850
Interest	185,000	100%	0%	185,000	0
Subtotal	**$11,599,850**			**$9,055,000**	**$2,544,850**
Net Revenue Requirements	**$318,510,000**			**$219,224,048**	**$99,285,952**
Incremental Surcharge Revenue	482,312	0%	100%	0	482,312
Net Rate Revenue Requirements	**$318,027,688**			**$219,224,048**	**$98,803,639**
				68.9%	31.1%

RAFTELIS FINANCIAL CONSULTANTS, INC.

Billing Units

- SF and NR Accounts are from the 4 month billing report (7/10 – 10/10)
- MF Units have been derived from the FY 2011 MF Base Revenue
- Metered Water Consumptions reflect recorded flows
- FY 2011 four month actuals extrapolated to full year projections

	2010 Revenue	Rate	Number of Units/Accounts
Accounts/Units			
Single Family Residential			
Single Family Accounts			130,182
Single Family Units			
10 – Single family/duplex	37,067,573	$68.39	135,501
15 – Mixed residential	3,961	$68.39	14
Subtotal Single Family Units			135,515
Multi-Family Residential			
20 - Multi-family	22,151,308	$47.90	115,612
25 – Mixed users	235	$47.90	1
Subtotal Multi-Family Units			115,613
Non-Residential			
Subtotal Non-residential Accounts			7,514

	4 month Total	Annual Total	Water Use Credit	Sewer Demand
Metered Water Consumption (kgal)				
Single Family Residential	5,496,662	16,489,986	20%	13,191,989
Multi-Family Residential	3,178,385	9,535,155	20%	7,628,124
Non-Residential	3,119,848	9,359,544	20%	7,487,635

ERU Determination

- Single Family Residential
  - # of ERUs will equal number of Accounts as provided by ENV
- Multi-Family Residential
  - # of ERUs will equal number of Units as provided by ENV multiplied by SF-MF ratio
- Non-Residential
  - # of ERUs will equal NR annual sewer demand divided by SF demand per account

Customer Classes	Average Monthly Demand per Unit (Kgal)	Adjustments	Convert to ERUs		# of ERUs
Single Family Residential	6.400				135,515
Multi-Family Residential	4.400	68.8%	115,613	Units	79,484
Non-Residential			7,487,635	Kgal	97,495
					312,495

RAFTELIS FINANCIAL CONSULTANTS, INC.

Calculation of Alternative Rates

CHARGE PER ERU CALCULATION

FY 2011 Expenses under Base Component	$219,224,048
Total ERUs	312,495
Annual Charge per ERU	$701.53
Monthly Charge per ERU	**$58.46**

VOLUMETRIC CHARGE CALCULATION

Customer Class Usage (kgal)	
Single Family Residential Usage	13,191,989
Multi-Family Residential Usage	7,628,124
Non-Residential Usage	7,487,635
Total Annual Consumption	28,307,748
FY 2011 Expenses under Volumetric Component	$98,803,639
Charge per thousand gallon	**$3.49**

Alternative Rate Structure

- Base Charge – features of the Base Charge include:
  - No minimum allowance
  - Rate based on ERU for all customers

- Volumetric Charge – components of the Volumetric Charge include:
  - Uniform rate per 1,000 gallons for all customers
  - Water Use Credit will be 20% for all customers; therefore return factor will be 80% (as contrasted with 80% for non-residential customers and 82% for residential customers)

ALTERNATIVE RATES FORECAST

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
All Customers	COS	Projected	→	→	→	→
Monthly Base Charge (per ERU)	$58.46	$60.80	$63.23	$65.76	$69.05	$73.19
Volumetric Charge (per Kgal)	$3.49	$3.63	$3.78	$3.93	$4.12	$4.37
Water Use Credit	20%	20%	20%	20%	20%	20%
Annual Rate Increase (1)	--	4.0%	4.0%	4.0%	5.0%	6.0%

(1) Based on rate increases projected in ENV's Financial Plan

FY 2011 Revenue Proof – Alternative Rates

REVENUE	FY 2011
Rate Revenue	
Base Charge	
Single Family Residential	95,067,811
Multi-Family Residential	55,760,508
Non-Residential	
Metered Water	68,395,730
Metered Sewer	0
Subtotal	**$219,224,048**
Volumetric Charge	
Single Family Residential	46,044,514
Multi-Family Residential	26,624,739
Non-Residential	
Metered Water	26,134,386
Metered Sewer	0
Subtotal	**$98,803,639**
Incremental Surcharge Revenue	**$482,312**
Subtotal Rate Revenue	**$318,510,000**
Miscellaneous Revenue Offsets	
Facility Charges	8,870,000
Other	2,544,850
Interest	185,000
Subtotal	**$11,599,850**
Total Revenue	**$330,109,850**

REVENUE REQUIREMENTS	FY 2011
Operating Expenses	
Sewer Fund	
Salaries	27,093,737
Non-Salary Personnel Costs	12,511,150
Current Expense	74,672,879
Other Agencies	5,523,177
Equipment (Cash Funded)	0
General Fund	4,007,500
Central Administrative Support	9,044,200
Incremental O&M Expense - CD Compl	0
Subtotal	**$132,852,643**
Capital	
Existing Debt Service	105,107,052
New Debt Service	0
Transfer to CIP	15,520,266
Subtotal	**$120,627,318**
Contributions	
Reserves for Designated CIP	56,440,058
Minimum Reserve Balance	6,931,081
Debt Service Reserve	13,258,750
Subtotal Contributions	**$76,629,889**
Total Revenue Requirements	**$330,109,850**
SURPLUS/(DEFICIT)	**$0**

RAFTELIS FINANCIAL CONSULTANTS, INC.

Comparison to Existing Rates

	Existing Rates	Alternative Rates
Single Family Residential		
Monthly Minimum Charge (per Unit)	$68.39	$58.46
Minimum Consumption (gallons)	2,000	-----
Volumetric Charge (per Kgal)	$2.88	$3.49
Water Use Credit	18%	20%
Multi-Family Residential		
Monthly Minimum Charge (per Unit)	$47.90	$40.19
Minimum Consumption (gallons)	2,000	-----
Volumetric Charge (per Kgal)	$2.88	$3.49
Water Use Credit	18%	20%
Multi-Family Factor (per ERU)		69%
Non Residential		
Metered Water		
Base Charge	$61.51	$58.46
9,000 gal or less	$3.13	$3.49
above 9,000 gal	$9.96	$3.49
Water Use Credit	0%	20%
Metered Wastewater		
Base Charge	$61.51	$58.46
9,000 gal or less	$4.00	$3.49
above 9,000 gal	$12.65	$3.49
Water Use Credit	0%	0%

RAFTELIS FINANCIAL CONSULTANTS, INC.

Revenue Recovery Breakdown by Class

	Existing Rates		Proposed Rates	
Single Family Residential				
Base	110,567,735	78%	95,067,811	67%
Volume	31,380,654	22%	46,044,514	33%
Total Single Family	$141,948,389		$141,112,325	
Multi-Family Residential				
Base	66,068,105	81%	55,760,508	68%
Volume	15,872,574	19%	26,624,739	32%
Total Multi-Family	$81,940,678		$82,385,247	
Non-Residential				
Base	2,095,310	2%	68,395,730	72%
Volume				
Base-Related Revenue	62,918,330	67%		
Volumetric-Related Revenue	29,124,980	31%	26,134,386	28%
Total Non-Residential	$94,138,620		$94,530,115	
Total Rate Revenue	$318,027,688		$318,027,688	

Single Family Residential Customer Impacts

	Existing Rates versus Alternative Rates Comparison			
Customer	Monthly Water Consumption	Bimonthly Bill Existing Rates	Bimonthly Bill Alternative Rates	Percent Change
1237265	1,500	$136.78	$125.30	-8.39%
1129381	5,000	$150.95	$144.84	-4.04%
1112492	5,500	$153.31	$147.64	-3.70%
1004897	7,000	$160.40	$156.01	-2.73%
1046294	9,000	$169.84	$167.18	-1.57%
1014817	11,000	$179.29	$178.35	-0.52%
1036183	13,500	$191.10	$192.31	0.64%
1073125	16,000	$202.90	$206.27	1.66%
1189948	18,000	$212.35	$217.44	2.40%
1028338	29,000	$264.31	$278.87	5.51%

Multi-Family Residential Customer Impacts

	Existing Rates versus Alternative Rates Comparison				
Customer	Monthly Water Consumption	Existing Units	Bimonthly Bill Existing Rates	Bimonthly Bill Alternative Rates	Percent Change
Kanoa Estate	11,500	10	$958.00	$868.06	-9.39%
Pacific Village	64,000	4	$647.70	$678.94	4.82%
Nani Koolau Aoao	73,000	15	$1,640.10	$1,613.42	-1.63%
Makakilo Gardens I	79,000	10	$1,236.67	$1,245.01	0.67%
Bishop Manor	105,500	27	$2,829.84	$2,759.52	-2.48%
Aoao Ainahau Gardens	114,000	56	$5,374.25	$5,138.11	-4.39%
Diamond Head ALII	140,000	54	$5,324.34	$5,122.55	-3.79%
Kapiolani Royale	395,000	68	$7,737.71	$7,671.97	-0.85%
Aoao Ridge at Launani Valley	1,311,000	182	$21,908.47	$21,951.13	0.19%
Marco Polo Mgmt LTO	4,315,000	568	$69,429.45	$69,755.14	0.47%

Non-Residential Customer Impacts

	Existing Rates versus Alternative Rates Comparison				
Customer	Monthly Water Consumption	Alternative's ERUs	Monthly Bill Existing Rates	Monthly Bill Alternative Rates	Percent Change
Kay's Fish Market	7,000	1	$105.33	$78.01	-25.94%
Dee Thai Restaurant	10,000	1	$99.60	$101.00	1.40%
Honda Windward Auto Body	22,000	3	$219.12	$222.20	1.40%
Tamura Superette Inc.	43,500	5	$433.26	$439.34	1.40%
Food Pantry	60,000	8	$597.60	$605.99	1.40%
Pearl City Plaza LLC	144,000	18	$1,434.24	$1,454.38	1.40%
Hilton Hotels Corporation	3,688,000	461	$36,732.48	$37,248.30	1.40%
Hyatt Regency Waikiki	4,009,000	501	$39,929.64	$40,490.35	1.40%

RATE DESIGN

High Strength Surcharge

RAFTELIS FINANCIAL CONSULTANTS, INC.

Cost Allocation of Treatment Processes

Processes

For Each Treatment Plant	Headworks	Primary Treatment	Secondary Treatment	Disinfection	Sludge Digesters	Laboratory Services	Administrative	Other	Total
Metro									
Salaries	26%	26%	0%	27%	0%	2%	15%	4%	100%
Current Expenses	15%	25%	0%	40%	0%	2%	3%	15%	100%
Leeward									
Salaries	15%	15%	22%	10%	15%	5%	13%	5%	100%
Current Expenses	15%	15%	22%	10%	15%	5%	13%	5%	100%
Windward									
Salaries	16%	16%	23%	0%	24%	2%	15%	4%	100%
Current Expenses	18%	22%	20%	0%	25%	2%	3%	10%	100%
Admin/Mtce WW Facilities									
Salaries	14%	14%	14%	14%	14%	3%	25%	2%	100%
Current Expenses	13%	13%	13%	13%	13%	5%	25%	5%	100%

For Each Treatment Plant	Headworks	Primary Treatment	Secondary Treatment	Disinfection	Sludge Digesters	Laboratory Services	Administrative	Other	Total
Metro									
Salaries	$1,065,586	$1,065,586	$0	$1,106,570	$0	$81,968	$614,761	$163,936	$4,098,409
Current Expenses	$3,332,596	$5,554,326	$0	$8,886,922	$0	$444,346	$666,519	$3,332,596	$22,217,305
Leeward									
Salaries	$756,021	$756,021	$1,108,831	$504,014	$756,021	$252,007	$655,219	$252,007	$5,040,143
Current Expenses	$1,804,722	$1,804,722	$2,646,926	$1,203,148	$1,804,722	$601,574	$1,564,093	$601,574	$12,031,481
Windward									
Salaries	$661,309	$661,309	$950,632	$0	$991,964	$82,664	$619,977	$165,327	$4,133,183
Current Expenses	$2,177,460	$2,661,340	$2,419,400	$0	$3,024,250	$241,940	$362,910	$1,209,700	$12,097,001
Admin/Mtce WW Facilities									
Salaries	$496,220	$496,220	$496,220	$496,220	$496,220	$106,333	$886,107	$70,889	$3,544,428
Current Expenses	$1,142,722	$1,142,722	$1,142,722	$1,142,722	$1,142,722	$439,508	$2,197,542	$439,508	$8,790,167
Subtotals ($)	$11,436,637	$14,142,247	$8,764,731	$13,339,596	$8,215,899	$2,250,340	$7,567,128	$6,235,538	$71,952,117

RAFTELIS FINANCIAL CONSULTANTS, INC.

Allocation and Unit Cost

Allocation

Processes	Subtotals from above	Parameters			
		Flow	BOD	TSS	Sum
Headworks	$11,436,637	100%	0%	0%	100%
Primary Treatment	$14,142,247	20%	0%	80%	100%
Secondary Treatment	$8,764,731	0%	100%	0%	100%
Disinfection	$13,339,596	100%	0%	0%	100%
Sludge Digesters	$8,215,899	0%	26%	74%	100%
Laboratory Services	$2,250,340	0%	26%	74%	100%
Administrative	$7,567,128	47%	20%	33%	100%
Other	$6,235,538	47%	20%	33%	100%
Total		$34,157,078	$14,212,321	$23,582,718	$71,952,117

Unit Cost per Pound

	BOD	SS
Allocated Costs	$14,212,321	$23,582,718
Total lbs (1)	72,850,526	77,641,227
Unit Cost per lb.	$0.1951	$0.3037

RAFTELIS FINANCIAL CONSULTANTS, INC.

Alternative Average Loadings for SS

SIC	INDUSTRY	SS	SS	SS	SS	SS	SS
Code	Establishments	ENV Existing Average	San Diego Average	Santa Monica Average	Pima County, AZ Average	Los Angeles Master List	Charlotte
2011	Meat Packing Plants	870	920		691	1453	642
2013	Sausage/Other Prepared Meats	310				1453	258
2015	Poultry Slaughtering/Processing	617				1453	625
2035	Pickled Fruits/Vegetables, Sauces/Seasonings/Dressings	350				1453	510
2037	Frozen Fruits/Juices/Vegetables	331				1453	584
2051	Bread/Bakery Products (except Cookies/Crackers)	420	420	600	802	600	533
5461	Bakeries, Retail	420	420	600	802	600	418
2075	Soybean Oil Mills	500				1453	1453
2098	Macaroni, Spaghetti, Vermicelli and Noodles	230				1453	1498
2099	Food Preparation, Not Elsewhere Classified (i.e. Potato Processing)	1300			1066	1453	713
5311	Restaurant in Department Store	560			493	600	432
5812	Eating Places (i.e., Carry-out, Coffee/Snack Shops, Caterers)	560		600	650	600	432
7011	Hotels/Motels Serving Food	560	400	600	650	600	432
5411	Grocery Stores/Super Markets	250	420	800		800	969
5813	Drinking Places (Alcoholic Bev.)	560	240	600	650	600	432
8059	Nursing/Personal Care Facilities	240	250	100		100	200

RAFTELIS FINANCIAL CONSULTANTS, INC.

SS Surcharge Rate Calculation

Domestic Strength (mg/l)	200
Convert to lb/kgal	0.0083453
Unit Cost per lb.	$0.3037
Proposed Volumetric Rate	$3.49

SIC	INDUSTRY	SS	SS	SS	SS	SS
Code	Establishments	Proposed Average (mg/l)	Proposed Average (mg/l)	Proposed Average (lb/kgal)	Proposed Premium	Proposed Volumetric Rate
2011	Meat Packing Plants	870	670	5.59	$1.6983	$5.1886
2013	Sausage/Other Prepared Meats	310	110	0.92	$0.2788	$3.7692
2015	Poultry Slaughtering/Processing	617	417	3.48	$1.0570	$4.5473
2035	Pickled Fruits/Vegetables, Sauces/Seasonings/Dressings	350	150	1.25	$0.3802	$3.8706
2037	Frozen Fruits/Juices/Vegetables	331	131	1.09	$0.3321	$3.8224
2051	Bread/Bakery Products (except Cookies/Crackers)	420	220	1.84	$0.5577	$4.0480
5461	Bakeries, Retail	420	220	1.84	$0.5577	$4.0480
2075	Soybean Oil Mills	500	300	2.50	$0.7604	$4.2508
2098	Macaroni, Spaghetti, Vermicelli and Noodles	230	30	0.25	$0.0760	$3.5664
2099	Food Preparation, Not Elsewhere Classified (i.e. Potato Processing)	1300	1100	9.18	$2.7883	$6.2786
5311	Restaurant in Department Store	560	360	3.00	$0.9125	$4.4029
5812	Eating Places (i.e., Carry-out, Coffee/Snack Shops, Caterers)	560	360	3.00	$0.9125	$4.4029
7011	Hotels/Motels Serving Food	560	360	3.00	$0.9125	$4.4029
5411	Grocery Stores/Super Markets	250	50	0.42	$0.1267	$3.6171
5813	Drinking Places (Alcoholic Bev.)	560	360	3.00	$0.9125	$4.4029
8059	Nursing/Personal Care Facilities	240	40	0.33	$0.1014	$3.5917

RAFTELIS FINANCIAL CONSULTANTS, INC.

Surcharge Revenue

SIC Code	INDUSTRY Establishments	SS Proposed Premium	SS Proposed Volumetric Rate	SS Consumption (kgal)	SS Revenue from Surcharge
2011	Meat Packing Plants	$1.6983	$5.1886	1,092	$1,855
2013	Sausage/Other Prepared Meats	$0.2788	$3.7692	7,230	$2,016
2015	Poultry Slaughtering/Processing	$1.0570	$4.5473	0	$0
2035	Pickled Fruits/Vegetables, Sauces/Seasonings/Dressings	$0.3802	$3.8706	6	$2
2037	Frozen Fruits/Juices/Vegetables	$0.3321	$3.8224	0	$0
2051	Bread/Bakery Products (except Cookies/Crackers)	$0.5577	$4.0480	3,810	$2,125
5461	Bakeries, Retail	$0.5577	$4.0480	3,846	$2,145
2075	Soybean Oil Mills	$0.7604	$4.2508	7,050	$5,361
2098	Macaroni, Spaghetti, Vermicelli and Noodles	$0.0760	$3.5664	8,874	$675
2099	Food Preparation, Not Elsewhere Classified (i.e. Potato Processing)	$2.7883	$6.2786	0	$0
5311	Restaurant in Department Store	$0.9125	$4.4029	31,782	$29,002
5812	Eating Places (i.e., Carry-out, Coffee/Snack Shops, Caterers)	$0.9125	$4.4029	5,808	$5,300
7011	Hotels/Motels Serving Food	$0.9125	$4.4029	272,988	$249,108
5411	Grocery Stores/Super Markets	$0.1267	$3.6171	12,552	$1,591
5813	Drinking Places (Alcoholic Bev.)	$0.9125	$4.4029	0	$0
8059	Nursing/Personal Care Facilities	$0.1014	$3.5917	18,798	$1,906
				Total Revenue	$301,085

RAFTELIS FINANCIAL CONSULTANTS, INC.

High Strength Surcharge Customer Impacts

SIC Code	INDUSTRY Establishments	Existing Rates versus Proposed Rates Comparison			
		Monthly Water Consumption	Existing Rates	Proposed Rates	Percent Change
2011	GOLDEN COIN FOOD INDUSTRIES	49,500	$1,458.37	$1,146.95	-21.35%
2013	HI FOOD PRODUCTS	178,000	$3,824.51	$3,720.13	-2.73%
2035	AMER HAWN SOY CO	1,000	$129.95	$125.14	-3.70%
2051	MAUNA KEA BAKING COMPANY	31,000	$714.67	$661.72	-7.41%
5461	KILANI BAKERY	26,500	$610.93	$565.66	-7.41%
2075	AALA TOFU FACTORY	111,500	$2,697.41	$2,416.23	-10.42%
2098	H & U INC	314,500	$6,399.45	$6,470.89	1.12%
2099	HPC FOODS LTD	545,000	$19,395.46	$13,578.52	-29.99%
5812	TACO ALOHA INC	32,000	$801.54	$701.23	-12.51%
5411	FOODLAND	84,500	$1,743.40	$1,745.45	0.12%
5813	IMUA LOUNGE	18,500	$463.39	$405.40	-12.51%
8059	POHAI NANI GOOD SAMARITAN	196,500	$4,026.29	$4,050.99	0.61%

Alternative Average Loadings for BOD

SIC Code	INDUSTRY Establishments	BOD Santa Monica Average	BOD Los Angeles Master List	BOD Charlotte
2011	Meat Packing Plants		2213	1191
2013	Sausage/Other Prepared Meats		2213	593
2015	Poultry Slaughtering/Processing		2213	1062
2035	Pickled Fruits/Vegetables, Sauces/Seasonings/Dressings		2213	1570
2037	Frozen Fruits/Juices/Vegetables		2213	1097
2051	Bread/Bakery Products (except Cookies/Crackers)	1000	1000	1206
5461	Bakeries, Retail		1000	836
2075	Soybean Oil Mills		2213	2213
2098	Macaroni, Spaghetti, Vermicelli and Noodles		2213	2111
2099	Food Preparation, Not Elsewhere Classified (i.e. Potato Processing)		2213	808
5311	Restaurant in Department Store		1000	691
5812	Eating Places (i.e., Carry-out, Coffee/Snack Shops, Caterers)	1000	1000	691
7011	Hotels/Motels Serving Food	500	1000	271
5411	Grocery Stores/Super Markets	800	800	350
5813	Drinking Places (Alcoholic Bev.)	1000	1000	691
8059	Nursing/Personal Care Facilities	250	250	527

BOD Surcharge Rate Calculation

Domestic Strength (mg/l)	200
Convert to lb/kgal	0.0083453
Unit Cost per lb.	$0.1951
Proposed Volumetric Rate	$3.49

SIC	INDUSTRY	BOD	BOD	BOD	BOD
Code	Establishments	Proposed Average (mg/l)	Proposed Average (mg/l)	Proposed Average (lb/kgal)	Proposed Premium
2011	Meat Packing Plants	1191	991	8.27	$1.6134
2013	Sausage/Other Prepared Meats	593	393	3.28	$0.6398
2015	Poultry Slaughtering/Processing	1062	862	7.19	$1.4034
2035	Pickled Fruits/Vegetables, Sauces/Seasonings/Dressings	1570	1370	11.43	$2.2305
2037	Frozen Fruits/Juices/Vegetables	1097	897	7.49	$1.4604
2051	Bread/Bakery Products (except Cookies/Crackers)	1206	1006	8.40	$1.6378
5461	Bakeries, Retail	836	636	5.31	$1.0355
2075	Soybean Oil Mills	2213	2013	16.80	$3.2773
2098	Macaroni, Spaghetti, Vermicelli and Noodles	2111	1911	15.95	$3.1112
2099	Food Preparation, Not Elsewhere Classified (i.e. Potato Processing)	808	608	5.07	$0.9899
5311	Restaurant in Department Store	691	491	4.10	$0.7994
5812	Eating Places (i.e., Carry-out, Coffee/Snack Shops, Caterers)	691	491	4.10	$0.7994
7011	Hotels/Motels Serving Food	271	71	0.59	$0.1156
5411	Grocery Stores/Super Markets	350	150	1.25	$0.2442
5813	Drinking Places (Alcoholic Bev.)	691	491	4.10	$0.7994
8059	Nursing/Personal Care Facilities	527	327	2.73	$0.5324

RAFTELIS FINANCIAL CONSULTANTS, INC.

Hauled Waste

- Costs to be recovered
  - Volume
  - High Strength for SS
- Method of charging
  - Per Kgal
  - Alternatives
    - Size of Truck
    - Measured flow
    - Weight of waste

Domestic Strength (mg/l)	200
Convert to lb/kgal	0.0083453
Unit Cost per lb.	$0.3037
Proposed Volumetric Rate	$3.49

SS	SS	SS	SS	SS
Proposed Average (mg/l)	Proposed Average (lb/kgal)	SS Unit Rate - Charge	Flow Rate - Charge	Flow Rate - Charge
2000	15.02	$4.5626	$3.49	**$8.0530**

Hauled Waste

Total Annual Discharge:	22,504,488	gallons
Average gallons per Discharge:	4,000	gallons
Number of Annual Discharges:	5,626	Discharges
Charge per kgal:	$8.0530	
Annual Revenue from Hauled Waste:	$181,228	

* Numbers above reflect estimates provided by ENV

Hauled Waste Fee with BOD

- Costs to be recovered
  - Volume
  - High Strength for BOD and SS
- Method of charging
  - Per Kgal

	SS	BOD
Domestic Strength (mg/l)	200	200
Convert to lb/kgal	0.0083453	0.0083453
Unit Cost per lb.	$0.3037	$0.1951
Proposed Volumetric Rate	$3.49	$3.49

SS	SS	SS	SS	SS
Proposed Average (mg/l)	Proposed Average (lb/kgal)	SS Unit Rate - Charge	Flow Rate - Charge	Flow Rate - Charge
2000	15.02	$4.5626	$3.49	**$8.0530**

BOD	BOD	BOD	BOD	BOD
Proposed Average (mg/l)	Proposed Average (lb/kgal)	SS Unit Rate - Charge	Flow Rate - Charge	Flow Rate - Charge
2000	16.69	$3.2561	$0.00	**$3.2561**

Combined Flow Rate **$11.3091**

RAFTELIS FINANCIAL CONSULTANTS, INC.

FACILITY CHARGE

Update Charge

RAFTELIS FINANCIAL CONSULTANTS, INC.

Facility Charges

- Methodology considerations
  - ENV's current charge is based on marginal incremental approach
  - Updated charge will be based on system buy-in approach

- Implementation considerations
  - ENV currently assesses charge upon issuance of a planning permit
  - Based on a sampling of peer utilities, most assess a facility charge upon issuance of a building permit

Facility Charges

- ENV's Existing Charges

EXISTING WASTEWATER SYSTEM FACILITY CHARGES

Customer Class	FY 2011
Residential	$5,541
Low-income Residential	$1,146
Non-Residential	$5,541
Non-Residential with High Strength	Charge = $4,763 + ($778 * Ssi/200) Ssi = Estimated Strength (mg/l)

AFFORDABILITY

Assistance Program Alternatives

RAFTELIS FINANCIAL CONSULTANTS, INC.

Affordability Alternative 1
Existing Assistance Programs

Alternative 1 details delivery options of assistance to customers via a third party. Funding for affordability, whether from the Sewer Fund or General Fund, would be transferred to the third party or agency, and the third party would have sole responsibility for distribution of funds as they see fit. The advantages of this alternative are the level of affordability assistance would be fixed, which could more easily be budgeted from year to year, and this method would take advantage of the efficiencies of assistance programs already in place. The level of assistance may be arbitrarily set, but it may be more prudent to establish the level of assistance based on a target level of assistance per economically disadvantaged or fixed income customer, for which examples are shown in Alternatives 2 and 3. This alternative should include funding for additional administrative staffing for the third party agency.

Alternative 1 – Existing Assistance Programs

- Department of Housing and Urban Development (HUD)
  - Federal Rental Assistance (known as Section 8) screens applicants for rental assistance. If the combination of the entire household's income is below 50% of the Median Household Income, the applicant's rent will be subsidized. Citizens receiving assistance must re-establish the need for aid on an annual basis.
- Real Property Assessment Division, Department of Budget and Fiscal Services
  - Home owners can qualify for property tax exemptions, and this Division handles the claims and processing. Provided a home owner qualifies, there are several home exemptions, including a basic home exemption and additional exemptions for elderly, disabled, disabled veterans, and income level.
- Temporary Assistance for Needy Families (TANF), Department of Human Services
  - TANF program supplies time-limited welfare for adults with children. Specifically, this program provides monthly benefits to families for food, clothing, shelter, and other essentials. Families can qualify by reporting children under the age of 19 and the family's total gross income to meet a guideline.

Alternative 1 – Existing Assistance Programs

- Supplemental Nutrition Assistance Program (SNAP), Department of Human Services
  - The SNAP program provides low-income households with coupons (food stamps) that can be used at most grocery stores. This state agency administers the program and determines eligibility of applicants. Participation is based on prior eligibility for Temporary Assistance for Needy Families (TANF) assistance program or by the applicant's gross income.
- Honolulu Community Action Program
  - The Honolulu Community Action Program is a private, non-profit organization that facilitates many different assistance programs. Their mission is to provide opportunities and inspiration to enable low-income individuals or families to achieve self-reliance. HCAP offers many programs, including Low-Income Home Energy Assistance Program (LIHEAP) that provides energy assistance based on income level and household size. Eligibility for programs varies based on specific guidelines set by funding organizations.

Affordability Alternative 2

Alternative 2 provides affordability assistance based on salary tiers. The salary tiers are utilized in this alternative to establish groupings upon which customers will qualify as well as establishing the level of assistance to be administered directly to their fixed charge component of their bill. Eligible customers at all levels will still be responsible for the entirety of their volumetric use and respective charge.

Affordability Alternative 2A

The salary tiers for Alternative 2A have been established by the U.S. Census Bureau with corresponding percentage of households within the tier for the region, in this case the County of Honolulu. Customers grouped within each tier are considered to be able to pay 2.00% of the household salary cut-off. The level of assistance is determined to be the difference between the bill and what customers are able to pay.

Household Salary Range
Less than $10,000
$10,000 to $14,999
$15,000 to $24,999
$25,000 to $34,999
$35,000 to $49,999
$50,000 to $74,999

Affordability Alternative 2A

Calculation of Subsidy and Estimated Cost of Program

Household Salary Range	Total Bill Subsidy Needed*	Percent Total Bill Subsidy	Fixed Charge Subsidy Needed	Percent Fixed Charge Subsidy	Monthly Fixed Charge Subsidy	Monthly Fixed Charge Assessed	Number of Participating Customers	Cost of Assistance Program
Less than $10,000	$819	80%	$819	100%	$68.25	$0.00	8,486	$6,950,237
$10,000 to $14,999	$719	71%	$719	88%	$59.92	$8.47	4,854	$3,490,370
$15,000 to $24,999	$519	51%	$519	63%	$43.25	$25.14	10,415	$5,406,098
$25,000 to $34,999	$319	31%	$319	39%	$26.59	$41.80	12,396	$3,955,071
$35,000 to $49,999	$19	2%	$19	2%	$1.59	$66.80	18,445	$351,463
> $50,000 Not Relevant								

* Assumes a typical residential customer annual bill of $1,019

Cost of Assistance	$20,153,239
Estimated Administrative Costs	$500,000
Estimated Total Cost of Program	**$20,653,239**
Percent of Rate Revenue	**6.5%**

Inputs

Water Consumption	9,000	gallons per month
Sewer Demand	5,740	gallons per month
Minimum Charge	$68.39	per month
Volumetric Charge	$2.88	per thousand gallons
Customer Bill Percent of Household Income	2.00%	
Additional Administrative Costs	$500,000	per year

RAFTELIS FINANCIAL CONSULTANTS, INC.

Affordability Alternative 2B

Alternative 2B provides customers rate relief based on one household salary income level as an eligibility cap. Customers under this cap are considered to be able to pay 2.00% of the household salary cap. This level is shown below in relation to the Federal Poverty Line for the State of Hawaii for the respective household size.

Relationship of Federal Poverty Line and Eligibility Level of Customer Income

Number of Persons in Family for Poverty Line Determination	4
Federal Poverty Line (FPL)	$25,360.00
Set Eligibility Level of Income	$25,000.00
Percent of FPL	99%

Affordability Alternative 2B

Calculation of Subsidy and Estimated Cost of Program

Eligibility Level of Household Salary	Total Bill Subsidy Needed*	Percent Total Bill Subsidy	Fixed Charge Subsidy Needed	Percent Fixed Charge Subsidy	Monthly Fixed Charge Subsidy	Monthly Fixed Charge Assessed	Number of Participating Customers	Cost of Assistance Program
$25,000.00	$519	51%	$519	63%	$43.25	$25.14	23,755	$12,330,177

* Assumes a typical residential customer annual bill of $1,019

Cost of Assistance	$12,330,177
Additional Administrative Costs	$500,000
Estimated Total Cost of Program	**$12,830,177**
Percent of Rate Revenue	**4.0%**

Inputs

Water Consumption	9,000	gallons per month
Sewer Demand	5,740	gallons per month
Minimum Charge	$68.39	per month
Volumetric Charge	$2.88	per thousand gallons
Customer Bill Percent of Household Income	2.00%	
Additional Administrative Costs	$500,000	per year

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Affordability Alternative 3

Alternative 3 provides customers rate relief based on a fixed level of assistance. This alternative still uses a salary eligibility cap similar to Alternative 2B, but the salary cap has no impact on the level of assistance, and is therefore classified separately. The level of assistance is set at a fixed level to be administered directly to their fixed charge component of their bill. Eligible customers at all levels will still be responsible for the entirety of their volumetric use and respective charge. Number of customers are estimated using U.S. census data.

Affordability Alternative 3

Alternative 3's eligibility cap is $25,000. This level is shown below in relation to the Federal Poverty Line for the State of Hawaii for the respective household size.

Relationship of Federal Poverty Line and Eligibility Level of Customer Income

Number of Persons in Family for Poverty Line Determination	4
Federal Poverty Line (FPL)	$25,360.00
Set Eligibility Level of Income	$25,000.00
Percent of FPL	99%

Affordability Alternative 3

Calculation of Subsidy and Estimated Cost of Program

Eligibility Level of Household Salary	Monthly Fixed Charge Subsidy	Monthly Fixed Charge Assessed	Annual Total Bill Subsidy	Number of Participating Customers	Cost of Assistance Program
$25,000.00	$40.00	$28.39	$480.00	23,755	$11,402,437

Cost of Assistance	$11,402,437
Additional Administrative Costs	$500,000
Estimated Total Cost of Program	**$11,902,437**
Percent of Rate Revenue	**3.7%**

Inputs

Water Consumption		9,000 gallons per month
Sewer Demand		5,740 gallons per month
Minimum Charge		$68.39 per month
Volumetric Charge		$2.88 per thousand gallons
Monthly Assistance ($ or %)	Fixed Amount	$40.00 per month
Additional Administrative Costs		$500,000 per year

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Funding for Alternatives

Upon selecting an affordability program or approach, the utility must then determine how to pay for it. Affordability assistance costs could be recovered by all other customers not receiving assistance. In other words, the costs could be recovered through retail rates. Another method of funding affordability could be money from the General Fund. In this situation, the utility is determining that affordability is not necessarily a function of operating the utility as an enterprise fund, but affordability is more of a social issue and should be covered by funds outside of those charged for operating the utility.

Costs as of FY 2011 Existing Rates

Please note the estimates above are just that, estimates. These represent the approximate cost of the program based on several assumptions. Therefore, the costs could be much greater than those presented due to higher than anticipated participation of customer base. If either alternative 2 or 3 is selected it would be prudent for the utility to phase-in the level of assistance to gauge the level of participation and be able to project the ultimate cost. Finally, it is important to note that if the costs are to be recovered through retail rates, presumably, the rates will experience a significant increase to recover the level of funds necessary for the affordability program. This in turn will increase the level of assistance needed and further increase the cost of the program.

August 10, 2011

TO: PHILMUND LEE
OFFICE OF COUNCILMEMBER TOM BERG

FROM: TIM HOUGHTON
EXECUTIVE ASSISTANT
DEPARTMENT OF ENVIRONMENTAL SERVICES

The following is provided in relation to your emails of July 15, July 20, and July 21, 2011.

1. The major concern expressed consistently is the Sewer Service Charge Monthly base charge. This is a flat charge which covers the fixed cost of having the wastewater system available to use at anytime. For example, the need to have, operate, and maintain 2,100 miles of pipe, 68 pumping stations and 9 treatment plants does not change on a daily basis with the flow of wastewater through the system. Only about 30% of system costs potentially vary with flow and generally relate to chemicals required for treatment, electricity required for pumping or disinfection, etc. The need to have, operate, and maintain the over $2 billion in wastewater infrastructure does not change with flow and a consistent revenue base is essential in providing a quality wastewater system.

   a. It is suggested that non-residential customers do not pay base rates.

      This is inaccurate. This confusion comes from the structure of the non-residential rate as follows:

      <u>For FY11</u>

      Non-residential customer using 9,000 gallons of water per month or less pays a base charge of $61.51 per month and a charge per thousand gallons of water use of $3.13. Thus, a non-residential customer using 9,000 gallons of water per month would pay $89.68 per month.

      Non-residential customer using more than 9,000 gallons of water per month does not pay a base charge, but pays a charge per thousand gallons of water use of $9.96. For 9,000 gallons of water use per month, this non-residential customer would pay $89.64 per month. If a non-residential customer uses 90,000 gallons of water per month, they would pay $896.64 which is similar to 10 single family

customers using 9,000 gallons per month who each would pay $85.67 per month for a total of $856.70. Thus, although there is not a base charge specified, it is recovered through the increased volume charge for each 9,000 gallons of water use.

b. It is suggested that only 1 in 6 or 1 in 16 customers pay a base rate.

As indicated above, all customers pay a base rate, although in some cases it is built into the volume rate and not called out separately.

c. Concern is expressed that by talking about customers (appx 143,000 customer accounts) all users (up to 1.3 million people) are not assessed.

This is not accurate. For every account connected to the City sewer system, they are charged either a base charge, or the equivalent of a base charge, for each equivalent single family dwelling unit. It is important to note that not all residential or non-residential units are connected to the City sewer system including those that are on cesspools, septic tanks, other individual wastewater treatment systems, military systems, or private systems like Hawaii Kai.

d. Disbelief was expressed that businesses charge customers for sewer use with their sales rates, for example hotel room rates.

However, a non-residential user chooses to pass on costs to customers, whether the cost of goods, employees, water, or sewer, they still have to pay those costs. For example, Hilton Hotels Corporation paid $2,656,250.06, or $221,354.17 per month, the equivalent of 2,584 single family homes using 9,000 gallons of water per month.

e. It is suggested that non-residential customers pay 5% of revenues and residential customers pay 95% of revenues.

It is accurate that 5.2% of customer accounts are non-residential and 94.8% of customer accounts are residential. However, the non-residential accounts pay approximately 30% of all revenue and residential accounts pay approximately 70% of all revenue. The ten largest customers of the system, all non-residential, paid $17,654,000 in sewer service charges in FY10, 6.4% of total revenues.

2. It has been suggested that the Sewer fund has $908 million dollars available.

Net assets of the Wastewater Enterprise are being confused with a surplus of revenue.

a. The $908 million dollars is the net assets of the Sewer Fund at the end of FY10 per the audited Sewer Fund Financial Statements. Of the $2.515 billion in total assets $2.049B are capital assets. Of that $2.049B , $586M is the total invested in such capital assets net of related debt. $144M of cash current assets is restricted for payment of debt service due beginning July 1 of the subsequent fiscal year and to provide for debt service reserves required by bond documents. $178.4M are unrestricted assets, however that includes the three month operating reserve required by the City Wastewater Financial plan (approximately $33M required going in FY11), resulting in approximately $145.4M in unrestricted reserves. Of the $145.4M in unrestricted reserves, approximately $15.5M was budgeted for capital projects in FY11 and an additional $70M has been budgeted for capital projects in FY12. Net asset growth in FY10 also reflected a temporary increase in current assets from bond proceeds used to fund capital projects.

b. It is suggested that the amount of interest expense reflects the total debt service obligation.

   This is not correct. While the interest expense for FY10 was $43.56M, the total debt service obligation $92M when including principle and interest.

3. As indicated above, the high base charge component of the sewer service charge reflects the cost of having, operating, and maintaining a very large infrastructure system when that infrastructure system must be there and be ready to function no matter what level of use it receives.

4. We will be coming to the City Council shortly with possible modifications to the current rate structure and with options on how to assist those with possible income limitations. We look forward to discussions with the Council and working together toward the best possible solutions.

CITY AND COUNTY OF HONOLULU

Sewer Service Charge Study

May 31, 2011

RFC
RAFTELIS FINANCIAL CONSULTANTS, INC.

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EXECUTIVE SUMMARY

In 2009, the City and County of Honolulu Department of Environmental Services (ENV) tasked RFC to conduct a comprehensive evaluation of the sewer service charge (SSC) rate structure and identify rate structure alternatives based on ENV objectives and rate industry benchmarks. Of the several rate structure options, ENV selected specific modifications to enhance and simplify the existing rate structure while more effectively addressing the ENV's objectives. The 2010 Study, detailed in the following sections, was driven by the results of the 2009 Study.

Section 2: Alternative Rate Structure
Section 3: High Strength Surcharge
Section 4: Facility Charge
Section 5: Affordability

Issues Affecting the Study

There are several factors affecting ENV's financial condition and rate challenges, and therefore, impacting this SSC Study. ENV has a massive, multi-billion dollar 20-year CIP, primarily due to a consent decree agreement with the EPA to address SSO issues and a system wide upgrade to full secondary treatment. To raise funds and revenue for its significant capital program, ENV has had to implement large rate increases over the last several years. The rates have achieved the necessary revenue for utility operation and funding, but now affordability for fixed/low income customers has become an increasingly important social and political issue. These factors have had a major impact on this SSC Study in addressing the scope of work.

ENV Revenue Requirements

The primary task of this Study is to evaluate an alternative rate structure to enhance the existing SSC charge. The ENV's total revenue requirements is $330,109,850 for the test year FY 2011, which corresponds to the ENV's financial plan. After miscellaneous and other revenue were removed, the net rate revenue requirements is $318,027,688.

	FY 2011
Revenue Requirements	
Operating Expenses	$132,852,643
Capital	$120,627,318
Apportionments	$76,629,889
Total Revenue Requirements	$330,109,850
Miscellaneous Revenue Offsets	$11,599,850
Net Revenue Requirements	**$318,510,000**
Incremental Surcharge Revenue	482,312
Net Rate Revenue Requirements	**$318,027,688**

ENV's Pricing Objectives

RFC conducted a pricing objectives exercise with ENV management during the 2009 Study to identify and prioritize key objectives for the utility to consider for their rate structure and in their rate and financial planning process. The results indicate that Financial Sufficiency and Revenue

Stability are essential to any rate structure employed by ENV. These objectives are critical given the financial challenges facing the wastewater system over the next ten years. ENV's current rate structure successfully achieves these objectives, and the alternatives explored in this Study are meant to strengthen the rate structure and more adequately address other pricing objectives.

Existing and Alternative Rate Structure

The net revenue requirements represents the basis for the calculation of alternative rates. These FY 2011 alternative rates are shown below in comparison to FY 2011 existing rates.

	Existing Rates for FY 2011	Alternative Rates for FY 2011
Single Family Residential		
Monthly Minimum Charge (per Unit)	$68.39	$58.46
Minimum Consumption (gallons)	2,000	-----
Volumetric Charge (per Kgal)	$2.88	$3.49
Water Use Credit	18%	20%
Multi-Family Residential		
Monthly Minimum Charge (per Unit)	$47.90	$40.19
Minimum Consumption (gallons)	2,000	-----
Volumetric Charge (per Kgal)	$2.88	$3.49
Water Use Credit	18%	20%
Multi-Family Factor (per ERU)		69%
Non Residential		
Metered Water		
Base Charge	$61.51	$58.46
9,000 gal or less	$3.13	$3.49
above 9,000 gal	$9.96	$3.49
Water Use Credit	0%	20%
Metered Wastewater		
Base Charge	$61.51	$58.46
9,000 gal or less	$4.00	$3.49
above 9,000 gal	$12.65	$3.49
Water Use Credit	0%	0%

Impacts of Alternative Rate Structure

On average, these rates and rate structure result in low volume single family and multi-family users experiencing a slight reduction in their monthly bills in comparison to existing rates, whereas high volume single family and multi-family users will experience a slight increase in their bills. An estimated 65% of single family customers use less than 12,000 gallons a month and would receive a bill reduction under the alternative rates. Non-residential customers receive a modest increase in their monthly bill, but pay a significantly higher portion of their bill through the base charge, due to the alternative ERU-based fixed charge.

High Strength Surcharge and Hauled Waste Fee

Non-residential customers that discharge wastewater of higher than domestic strength pay an extra surcharge in addition to the non-residential base and volumetric charges. ENV currently implements a non-monitored program, identifying sixteen categories or types of establishments, to assess a surcharge based on the suspended solids (SS) of the discharge. Each category has a characteristic or average standard of discharge loading that is used to establish a surcharge above the normal non-residential volumetric rate. The components of this task consisted of 1) reviewing establishment standard loadings, 2) conducting cost of service allocation exercise to derive high strength costs, 3) updating the surcharge, and 4) demonstrating the implementation of a biological oxygen demand (BOD) surcharge. After review of peer utilities with similar non-monitored programs, the existing loadings were deemed appropriate. ENV staff provided direct input into the cost allocation process to determine the costs associated to treat SS. The resulting

unit cost is $0.3037 per kgal (Section 3.2.1), and the surcharge volumetric rate schedule was updated to reflect the new cost. RFC conducted the same analysis for BOD, and created a surcharge volumetric rate schedule similar to the one for SS to present rates for assessing surcharges for both SS and BOD.

The second component of this task consisted of updating the Hauled Waste Fee. Currently, ENV assesses the standard rates to waste haulers based on their self-reported level of discharge. The same surcharge unit cost for SS detailed above was used to determine a total cost per kgal rate. In the case of hauled waste, the strength is much higher than domestic and even higher than identified establishments. For this analysis, an assumed strength of 2000 mg/l was used and the final calculated rate for hauled waste is $8.0530 per kgal (Section 3.4.2).

Facility Charge

The purpose of this task is to re-evaluate ENV's Facility Charge. Previously, the Facility Charge was based on the "marginal incremental approach," meaning that customers paid for their proportional share of the costs to expand the wastewater collection and treatment system to accommodate growth. Because ENV's system has ample capacity to accommodate demand from new customers, it is currently more appropriate for the ENV to establish their facility charge on the "system buy-in approach," meaning new customers pay for their proportional share of the system already in place.

The system buy-in approach attempts to calculate the "equity" in the existing system and then translates this equity into a cost per equivalent unit. This methodology is generally based on the total value of the assets of the system less any liabilities and charges against these assets. There is, however, significant latitude as to what is included in the calculation for "assets" and "liabilities and charges against assets".

The current Facility Charge is $5,541 per equivalent single dwelling unit (ESDU) (Section 4.2). An update of this charge was not calculated at this time due to data availability issues. The Facility Charge methodology for calculating an updated charge according to the system buy-in approach is presented in Section 4.3. Upon compiling all necessary information on system assets, ENV can follow the prescribed method to calculate a new Facility Charge.

Timing of when the facility charge should be assessed to contractors was also discussed during this phase. ENV currently assesses the Facility Charge upon issuance of a planning permit; construction, however, may not begin for several months, and in some cases, years. As an alternative, ENV may want to amend their policy to assess the Facility Charge upon issuance of a building permit, similar to several peer utilities' practice.

Affordability Programs

Affordability is an increasingly important issue in the utility industry. As rates continue to rise greater than inflation, customers are forced to allocate more of their budgets for essential water and wastewater services. ENV has a number of economically disadvantaged and fixed income customers, and is experiencing a significant level of negative customer feedback in response to recent necessary rate increases.

Three alternatives were developed for ENV's consideration for affordability options to bring aid to these customer groups. Alternative 1 examines different delivery methods of assistance, mainly by taking advantage of constituent assistance programs or agencies already in place. Alternatives 2 and 3 provide mechanisms to determine level of subsidy needed, the level of participation, and the cost of administering the level of subsidy. The alternatives incorporate

eligibility cut-offs or tiers based on customers' salaries, and provide appropriate level of subsidy to keep wastewater costs at a minimum for low-income customers. Moreover, funding affordability programs becomes a central issue. This task provides discussion on where the responsibility lies for helping those in need, and whether the cost of one of these programs should be covered by the Sewer Fund or General Fund.

SECTION 1: INTRODUCTION

1.1. Background of Study

Initially, RFC was engaged on June 24, 2009 by the City and County of Honolulu's Department of Environmental Services (ENV) to conduct an assessment of ENV's sewer service charge (SSC). RFC submitted the final report entitled "Sewer Service Charge Study" for this engagement on January 22, 2010, which described in detail the conceptual approaches for enhancements to the sewer service charge.

RFC was subsequently engaged by ENV on November 29, 2010 to translate the conceptual recommendations in the January 22, 2010 report into rates and related impacts. Specifically, ENV compiled the following list of items to serve as the foundation and motivation for the study:

1. Applying a consistent Equivalent Residential Unit (ERU) fixed, or base, charge for residential and non-residential customers
2. Eliminating the minimum allowance
3. Synchronizing return coefficients, how much water use gets to the wastewater system, for residential and non-residential customers
4. Creating a single volumetric rate for all customers
5. Updating of Suspended Solids (SS) Averages for Non-Residential Dischargers
6. Adding Biochemical Oxygen Demand (BOD) as a high-strength surcharge parameter
7. Establishing an Environmental Charge to recover costs from new legal requirements
8. Developing a fee for hauled wastes
9. Updating of Facility Charges
10. Evaluating options for relationship of fixed and variable charges to include impact of differing rate volatility on bond ratings and pros/cons for customers
11. Proposing possible alternatives relating to possible rate relief for fixed/low income customers

RFC addressed each item of the scope in the analysis of alternative rates and charges to ENV's current Sewer Service Charge structure, high strength surcharge, the hauled waste charge, and facility charge. In addition to ENV's rates and charges, RFC has identified several potential affordability options for its economically disadvantaged customers. The scope items and results of the study have been organized into four tasks, detailed the following four sections:

Section 2: Alternative Rate Structure
Section 3: High Strength Surcharge
Section 4: Facility Charge
Section 5: Affordability

1.2. Issues Affecting Study

After being engaged, RFC requested and reviewed information of the ENV Financial Plan, capital plan, and SSC program. To initiate the Study, RFC met with ENV staff to discuss the alternatives selected for analysis. Since this Study is a continuation of the 2009 Study, RFC already had a good understanding of issues facing ENV. These issues are summarized below.

1.2.1. Capital Projects and Financing

ENV manages a Capital Improvement Program (CIP) to achieve two primary goals: 1) to rehabilitate existing facilities and 2) to improve facilities and processes. The capital program increased significantly as a result of the 1995 consent decree between the City and County of Honolulu (CCH), along with the Environmental Protection Agency (EPA) and the State Department of Health (DOH) that established ENV's direction on future wastewater issues. The goal was to develop a proactive plan to reduce and prevent wastewater spills and bypasses from the collection system, pump stations, and treatment plants. A large number of projects in the current CIP are designed to comply with the 1995 Consent Decree.

The 1995 Consent Decree was replaced by the 2010 Consent Decree which includes most collection system elements of the 1995 Consent Decree and other Stipulated and Administrative Orders and adds the requirement for the Honouliuli WWTP and Sand Island WWTP to be at secondary treatment levels by 2024 and 2035 respectively. Overall, the CIP includes projects estimated to cost several billion dollars over the next 20 years.

ENV is funding the CIP primarily through a combination of debt and rate-generated revenues. With the level of project bond issues, ENV is acutely aware of their credit rating and the impact on future borrowing. Therefore, a top priority for ENV to continue their strong rating by maintaining healthy reserves, exceeding existing bond covenant coverage requirements, and implementing multi-year rate increases.

1.2.2. Rate Increases

The wastewater utility has been a fully self-supporting program since 1993 with rates and charges set to recover the cost of providing service. The utility evolved to Enterprise Fund status in 1998, further strengthening its autonomous financial position. The CCH adopted a Rate Ordinance in June 2005 which provided rate adjustments over the six-year period from July 1, 2005 through June 30, 2011. The CCH amended the Rate Ordinance in June 2007 to provide for additional rate adjustments from July 1, 2007 through the end of the six-year period. Rate adjustments were undertaken primarily to support the $4.7 billion capital program referenced above.

While significant rate increases have been necessary in the past several years, primarily to accommodate the CIP, future planned rate increases are considerably lower. The current financial plan forecasts the next five-year rate plan shown below. These rate increases are significantly less than the 18%, 18%, and 15% rate increases of FY 2009, FY 2010, and FY 2011, respectively, and yet are projected to generate enough revenue to maintain fiscally responsible operation of the utility.

FY 2012	FY 2013	FY 2014	FY 2015	FY 2015
4.0%	4.0%	4.0%	4.0%	5.0%

1.2.3. Secondary Treatment

In January 2009, the EPA issued final decisions to deny the City's application for renewed variances from secondary treatment requirements at the Honouliuli and Sand Island wastewater

treatment plants. ENV has incorporated into the CIP projects to address these secondary issues at the two facilities, at an estimated cost of about $1.2 billion. However, projects related to secondary treatment upgrade are scheduled for completion for Honouliuli by FY 2024 and for Sand Island by FY 2035.

1.2.4. Political Environment

Since the wastewater utility was established as an Enterprise Fund in 1998, CCH elected officials have demonstrated a willingness to address the financial issues surrounding the provision of service and protection of the environment. Along with the initial sale of revenue bonds in 1998, the City Council adopted a set of strong debt and financial policies including reserve fund targets. In 2005, the CCH adopted the rate ordinances intended to fund the $4.7 billion 20-year CIP. Also in 2005, as part of the commitment to ensure financial strength of the Wastewater System, the CCH adopted Ordinance No. 05-006, pledging not to transfer Sewer Fund monies to the General Fund. Finally, in 2007, the rate ordinances were amended to provide additional funding to support CIP needs.

The City Council has been very supportive of rate increases required as part of the five-year plan enacted in 2007. Given current economic conditions, it is likely that they will be more cautious about enacting rate increases as part of the new five-year plan projected to take effect in 2012. Specifically, affordability for fixed or low income customers is expected to become a higher priority and depending on how affordability is addressed, assistance programs could potentially impact ENV's operating expenses and financial plan.

SECTION 2: ALTERNATIVE RATE STRUCTURE

2.1. Existing Rates and Rate Structure

ENV's existing rate structure is presented in Exhibit 1. The ENV rate structure is split into residential and non-residential components. Residential rates include a large fixed component "base charge" and a "uniform volumetric rate" for usage above the minimum threshold. Single family base charges are higher than those for multi-family reflecting the higher demands they typically place on the system. Sewer use is calculated by reducing metered water use by a return factor reflecting that a material percent of water may not be returned to the sewer, primarily due to outdoor irrigation. Non-residential rates also include a base charge and a return factor. Volumetric rates are divided into two tiers.

Exhibit 1: ENV's Existing Rate Structure

	FY 2011 Rates
Residential	
Base Charge (includes 2,000 gallons)	
Single Family	$ 68.39
Multi-Family	47.90
Uniform Volumetric Rate (above 2,000 gallons)	2.88
Return Factor*	82%
Non-Residential	
Base Charge (no included usage)	$ 61.51
Volumetric Rate	
Tier 1 (per unit below 9,000 gallons)	3.13
Tier 2 (per unit above 9,000 gallons)	9.96
Return Factor*	80%

* Return Factor - assumed percentage of metered water returned to the sanitary sewer

2.2. Pricing Objectives Exercise and Results

During its 2009 Study, RFC conducted a pricing objectives exercise with ENV staff. RFC asked members of ENV management to individually prioritize the pricing objectives they thought were the most important for their rate structure. RFC recognizes that utility stakeholder groups (i.e. staff, elected officials, customer groups, developers, etc.) have different points of view with respect to the priorities of these pricing objectives. Since we were unable to convene a group of all stakeholders to lead through the exercise, we asked the staff members to be cognizant of these diverse viewpoints as they went through their prioritization.

Each participating staff member was asked to rank the pricing objectives on a scale of essential to least important. As part of our prioritization exercise, each participant had a maximum of three objectives they could rank as essential and three they could rank as very important. Based on the ranking by each individual, we identified a collective rank for each pricing objective. An "A" ranking identifies objectives that are essential in the rate structure. "B" rankings identify very important objectives, "C" rankings are somewhat important, and finally, "D" rankings are least important. The results of the prioritization exercise are shown below in Exhibit 2.

Exhibit 2: Pricing Objective Exercise Results

A – Essential Objectives	B – Very Important Objectives
Financial Sufficiency	Defensibility
Revenue Stability	Cost of Service Based Allocations
C – Somewhat Important Objectives	**D – Least Important Objectives**
Rate Stability	Minimization of Customer Impacts
Simple to Understand	Affordability to Disadvantaged Customers
Ease of Implementation	Conservation Initiatives
	Economic Development
	Equitable Contributions from New Customers

Based on the results of the exercise, it is clear that Financial Sufficiency and Revenue Stability are essential to any rate structure employed by ENV. These objectives are critical given the financial challenges facing the wastewater system over the next ten years. The group rated Defensibility and Cost of Service Based Allocations as next important indicating the need to explain to stakeholders that the rate structure is equitable and rooted in industry-accepted rate setting practice. Ranking divergence indicates that while Rate Stability, Simplicity, and Ease of Implementation are important to many stakeholders, they may have to be sacrificed to promote higher priority objectives. Finally, Conservation, Minimization of Customer Impacts, Economic Development, Affordability, and Equitable Contributions from New Customers were ranked as least important, indicating they are not as high of a priority for the SSC Program.

2.3. Conceptual Design of the Alternative Rate Structure

RFC recognizes that ENV has developed a rate structure that prioritizes financial sufficiency and revenue stability. These were the highest ranking pricing objectives from our prioritization exercise. We also recognize that this rate structure has helped ENV establish its financial credibility and reduce its costs for capital borrowing. As such, major changes to the rate structure are not necessary or advisable. Instead, the several conceptual modifications of the alternative rate structure will contribute to rate structure "fine tuning" that may improve the scoring for lower priority pricing objectives without sacrificing the scoring of essential objectives.

2.3.1. Customer Base Charge

Under the alternative rate structure, two significant changes have been identified for the customer base charge. Currently the base charge for the residential classes of customers includes a minimum allowance of 2,000 gallons of water consumption that will not be billed. The new customer base charge would not include any allowance of water consumption for any class. Removing the minimum will assist in affordability for customers that do not use 2,000 gallons a month, as well as simplify the rate structure.

The second and perhaps more significant change is how the base charge is derived. The new charge will be based on a uniform equivalent residential unit (ERU) for all classes. The typical single family account demand will serve as the basis for the ERU. All single family accounts will be assigned 1 ERU. The reduced per account demand for multi-family customers will be recognized and subsequently multi-family customers will be charged a fractional ERU per account. Non-residential customers, which typically have a demand above that of single family customers, will be charged fractional ERUs above 1 ERU based on their average monthly load on the system. Establishing the base charge on a standard or uniform ERU will be more straightforward for customers and adhere to cost of service since the magnitude of the non-

residential base charge will be more proportional under the alternative method than the existing method to the magnitude of the residential base charge.

2.3.2. Volumetric Charge

The existing volumetric charge is a uniform per thousand gallon charge, but the rate differs between the residential and non-residential classes. The alternative rate structure will implement a uniform volumetric charge that will be the same for all customer classes. Non-residential customers (e.g. meat packing plants, bakeries, restaurants, etc.) that place a greater load on the system by discharging wastewater of a higher than typical strength will still be assessed a premium for additional treatment costs; this will be discussed in a later section. However, the base rate, which currently differs from the residential base rate, will be the same as the volumetric rate for the residential classes.

2.3.3. Return Coefficient

ENV assesses their rates and bills customers based on customer water consumption data provided by Honolulu Board of Water Supply. Almost all wastewater utilities rely on data and bill in this manner. For equity to customers, ENV recognizes that not all water consumption returns to the wastewater system, for example, outdoor irrigation. Therefore, ENV has incorporated a return coefficient into their rate structure that reduces the customer consumption to more accurately identify customer wastewater demand. The return factor is 82% for residential customers and 80% for non-residential customers. The alternative rate structure will apply an 80% return factor to all customer classes.

2.4. Alternative Rate Calculation

To thoroughly analyze the alternative rate structure and the potential advantages and disadvantages, alternative rates were calculated and more importantly, the financial monthly impacts on various customers of different levels of demand and customer classes were determined. Budgeted revenue, revenue requirements, and estimated accounts and demand for fiscal year (FY) 2011 were used to calculate rates and impacts.

2.4.1. ENV's Financial Plan

ENV maintains a comprehensive financial planning model, which was supplied to RFC to use for determining revenue requirements. For this Study, RFC has not been tasked with developing a financial plan. RFC used ENV's financial plan, however, to establish revenue and revenue requirements for the test year, FY 2011, and to forecast necessary rate increases in future years to recover projected revenue requirements over the five-year planning period. The total budgeted revenue requirements for FY 2011 is $330.1 million, and divided according to the categories in the financial plan: O&M expenses, Capital expenses, and Apportionments. A summary of the total revenue requirements is shown in Exhibit 6 in Section 2.4.4.

2.4.2. Revenue Requirements

2.4.2.1. O&M Expenses

The operating and maintenance (O&M) expenses for FY 2011 total $132.9 million. This total and the breakdown are provided in Exhibit 3. "Salaries" and "Current Expense" are the largest annual expenditures. "Salaries" represents staff labor and "Current Expense" represents the expenses incurred for the general operation of the utility, including electricity, other utilities, chemicals, laboratory, etc.

Exhibit 3: O&M Expenses for FY 2011

	FY 2011
Salaries	27,093,737
Non-Salary Personnel Costs	12,511,150
Current Expense	74,672,879
Other Agencies	5,523,177
Equipment (Cash Funded)	0
General Fund	4,007,500
Central Administrative Support	9,044,200
Incremental O&M Expense - CD Compliance - Nominal	0
Subtotal	$132,852,643

2.4.2.2. Capital Expenses

For this Study, RFC was not tasked to evaluate ENV's capital improvement plan nor plan capital funding. RFC understands, however, that the plan has been vetted with staff and its advisors, and City Council has adopted the plan. As a result, RFC has appropriately incorporated the approved plan into this analysis.

ENV's financial plan included estimates for all capital funding sources and projected annual debt service, debt reserve and capital funding from rate revenue. These costs for FY 2011 are presented in Exhibit 4 and total $120.6 million.

Exhibit 4: Capital Expenses for FY 2011

	FY 2011
Existing Debt Service	105,107,052
New Debt Service	0
Contributions Designated for Capital Improvement	15,520,266
Subtotal	$120,627,318

2.4.2.3. Apportionments

Each fiscal year, ENV determines appropriate reserve levels consistent with effective financial planning and industry best practices. These apportionments provide for financing flexibility, mitigate against economic risks, and ensure rate stability and financial sufficiency. Apportionments fund the following reserves:

1. Reserves for Designated CIP
2. Minimum Reserve Balance
3. Debt Service Reserve

The Reserves for Designated CIP is set aside to fund future capital costs from rate revenue. Additionally, ENV maintains a Minimum Reserve Balance, and annually will transfer in a level of revenue to meet a target balance. Finally, typically when issuing debt, a certain portion of revenue must be contributed to the Debt Service Reserve to cover a partial or full payment of the debt issued. Exhibit 5 shows the level of apportionments to each reserve, totaling approximately $76.6 million.

Exhibit 5: Apportionments in FY 2011

	FY 2011
Reserves for Designated CIP	56,440,058
Minimum Reserve Balance	6,931,081
Debt Service Reserve	13,258,750
Subtotal	$76,629,889

2.4.3. Revenue

The forecasted revenue for FY 2011 is estimated in the financial plan at $330.1 million based on forecasted demand, accounts, rate increases, and miscellaneous revenue. The three main revenue categories are Sewer Service Charge Revenue, Miscellaneous revenue and High Strength Surcharge revenue. Sewer Service Charge Revenue is estimated at $318.5 million. Since an evaluation and update of High Strength Surcharges is part of this Study, the surcharge revenue is broken out from the Sewer Service Charge revenue, when ordinarily it is combined. High Strength Surcharge revenue will account for approximately $500,000. The Miscellaneous revenue includes revenue from Facility Charges, Interest, and other user penalties or fees for a projected total of $11.6 million for FY 2011. A summary of the revenue is presented in Exhibit 6 in Section 2.4.4.

2.4.4. Summary 2011 Revenue and Revenue Requirements

Exhibit 6 combines the revenue requirements of $330,109,850, and shows the net revenue requirements for rates of $318,027,688, after removing miscellaneous revenue offsets. The net revenue requirements reflect what needs to be recovered from rates and charges.

Exhibit 6: Summary of FY 2011 Revenue and Revenue Requirements.

	FY 2011
Revenue Requirements	
Operating Expenses	
Sewer Fund	
Salaries	27,093,737
Non-Salary Personnel Costs	12,511,150
Current Expense	74,672,879
Other Agencies	5,523,177
Equipment (Cash Funded)	0
General Fund	4,007,500
Central Administrative Support	9,044,200
Incremental O&M Expense - CD Compliance - Nominal	0
Subtotal	**$132,852,643**
Capital	
Existing Debt Service	105,107,052
New Debt Service	0
Contributions Designated for Capital Improvement	15,520,266
Subtotal	**$120,627,318**
Apportionments	
Reserves for Designated CIP	56,440,058
Minimum Reserve Balance	6,931,081
Debt Service Reserve	13,258,750
Subtotal	**$76,629,889**
Total Revenue Requirements	**$330,109,850**
Miscellaneous Revenue Offsets	
Facility Charges	8,870,000
Other	2,544,850
Interest	185,000
Subtotal	**$11,599,850**
Net Revenue Requirements	**$318,510,000**
Incremental Surcharge Revenue	482,312
Net Rate Revenue Requirements	**$318,027,688**

2.4.5. Cost Allocations

The Volumetric/Strength method of cost allocation as described in the *Manual of Practice #27* from the Water Environment Federation recognizes that wastewater systems are designed to handle volumetric flow as well as pollutant strength. Typical Flow/Strength cost categories include:

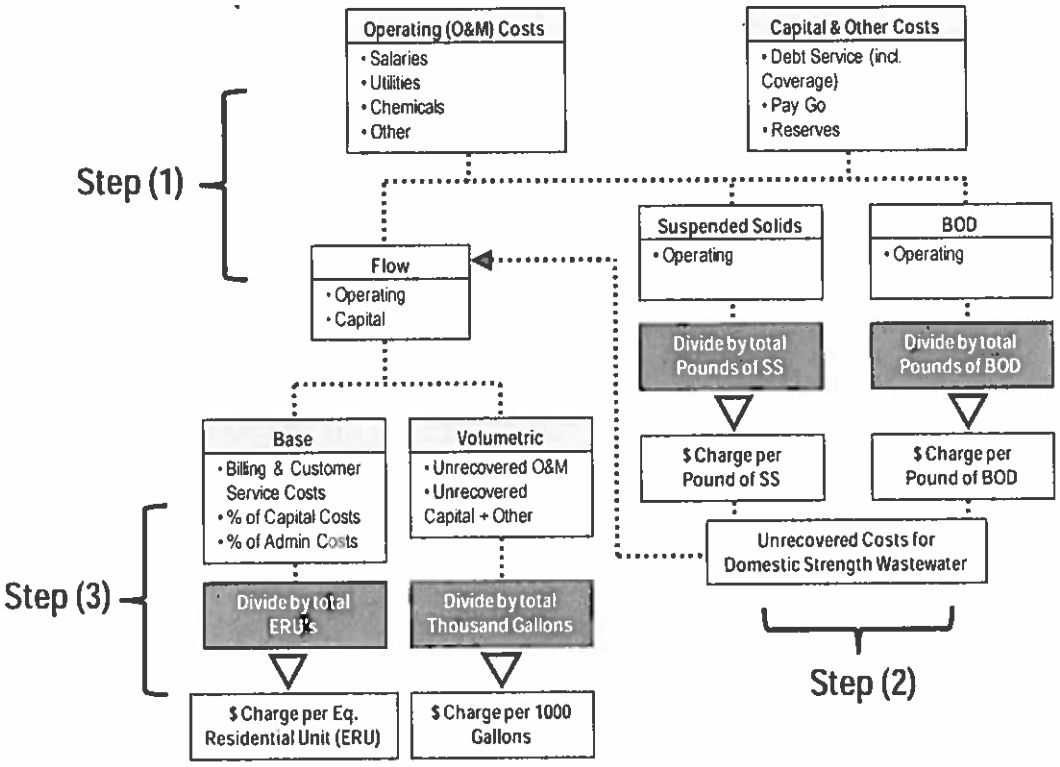
- Flow: costs related to the overall operation of the utility.
- Strength: costs incurred at the treatment plants related to meeting discharge permit limits for removal of pollutants.

To reflect the manual's best practices, RFC divided the cost of service analysis process into three steps, shown in the schematic in Exhibit 7.

1. O&M costs were allocated among the two cost categories of flow and strength.

2. A COS-based rate was calculated for the suspended solids strength component,[1] described later in Section 3, and projected revenue, approximately $500,000. Revenue from this rate source reduced revenue requirements to be recovered through ENV's volumetric charge, as described above in Section 2.4.3. Also, any unrecovered costs for domestic strength wastewater are allocated to the flow component.
3. The expenses of the flow category are allocated into base and volumetric components for all customer classes.

Exhibit 7: Cost Allocation Process.



2.4.6. Allocation to Base and Volumetric Components

Each budget item, projected revenue requirements and miscellaneous revenues, presented in the summary in Exhibit 6 is allocated between the base and volumetric components to arrive at net revenue requirements to be recovered by base and volumetric rates. RFC and ENV staff then evaluated how each budget item should be allocated and the resulting breakdown is provided in Exhibit 8.

[1] ENV currently only assesses surcharges for suspended solids (SS). In Section 3, expenses and rates to recover costs associated with biological oxygen demand (BOD) are explored and thus included in the schematic, but the revenue from BOD surcharges is not factored into the current rate plan.

Exhibit 8: Allocation to Base and Volumetric Components.

	Base	Vol
Revenue Requirements		
Operating Expenses		
Sewer Fund		
Salaries	15%	85%
Non-Salary Personnel Costs	15%	85%
Current Expense	15%	85%
Other Agencies	15%	85%
Equipment (Cash Funded)	100%	0%
General Fund	100%	0%
Central Administrative Support	100%	0%
Incremental O&M Expense - CD Compliance - Nominal	100%	0%
Subtotal		
Capital		
Existing Debt Service	100%	0%
New Debt Service	100%	0%
Contributions Designated for Capital Improvement	100%	0%
Subtotal		
Apportionments		
Reserves for Designated CIP	100%	0%
Minimum Reserve Balance	100%	0%
Debt Service Reserve	100%	0%
Subtotal		
Total Revenue Requirements		
Miscellaneous Revenue Offsets		
Facility Charges	100%	0%
Other	0%	100%
Interest	100%	0%
Subtotal		
Net Revenue Requirements		
Incremental Surcharge Revenue	0%	100%
Net Rate Revenue Requirements		

These percentages, when applied to the net rate revenue requirements of $318.0 million, results in approximately $219.2 million to be recovered by the base component and $98.8 million to be recovered from the volumetric component, shown in Exhibit 9. The split between base and volume is 69% and 31%, respectively, and is consistent with historical recovery levels from fixed and volume charges and the internal target set by ENV.[2] Under the new rate design, these net requirements will be used to calculate unit costs for an ERU and for the volumetric rate per 1,000 gallons.

[2] Rating agencies focus on how much of revenue is generated from fixed sources (guaranteeing a stable revenue flow) versus variable sources (more constringent on customer demand).

Exhibit 9: Net Revenue Requirements for the Base and Volumetric Components.

	FY 2011				
Revenue Requirements					
Operating Expenses					
Sewer Fund		Base	Vol	Base	Vol
Salaries	27,093,737	15%	85%	4,064,061	23,029,676
Non-Salary Personnel Costs	12,511,150	15%	85%	1,876,673	10,634,478
Current Expense	74,672,879	15%	85%	11,200,932	63,471,947
Other Agencies	5,523,177	15%	85%	828,477	4,694,700
Equipment (Cash Funded)	0	100%	0%	0	0
General Fund	4,007,500	100%	0%	4,007,500	0
Central Administrative Support	9,044,200	100%	0%	9,044,200	0
Incremental O&M Expense - CD Compliance - Nominal	0	100%	0%	0	0
Subtotal	**$132,852,643**			**$31,021,841**	**$101,830,802**
Capital					
Existing Debt Service	105,107,052	100%	0%	105,107,052	0
New Debt Service	0	100%	0%	0	0
Contributions Designated for Capital Improvement	15,520,266	100%	0%	15,520,266	0
Subtotal	**$120,627,318**			**$120,627,318**	**$0**
Apportionments					
Reserves for Designated CIP	56,440,058	100%	0%	56,440,058	0
Minimum Reserve Balance	6,931,081	100%	0%	6,931,081	0
Debt Service Reserve	13,258,750	100%	0%	13,258,750	0
Subtotal	**$76,629,889**			**$76,629,889**	**$0**
Total Revenue Requirements	**$330,109,850**			**$228,279,048**	**$101,830,802**
Miscellaneous Revenue Offsets					
Facility Charges	8,870,000	100%	0%	8,870,000	0
Other	2,544,850	0%	100%	0	2,544,850
Interest	185,000	100%	0%	185,000	0
Subtotal	**$11,599,850**			**$9,055,000**	**$2,544,850**
Net Revenue Requirements	**$318,510,000**			**$219,224,048**	**$99,285,952**
Incremental Surcharge Revenue	482,312	0%	100%	0	482,312
Net Rate Revenue Requirements	**$318,027,688**			**$219,224,048**	**$98,803,639**

2.4.7. Billing Units

Before unit costs and rates can be calculated, the appropriate billing units must be determined. Customer account and consumption data was analyzed from billing records[3] and also confirmed or derived from revenue reports for the previous two fiscal years and four months of the current fiscal year, FY 2011. The analysis of the data showed consistency among the fiscal years and therefore, the four month actuals for FY 2011, July 2010 – October 2010, were used as the basis for assessing customer class accounts and consumption.

2.4.7.1. Accounts

ENV serves more than 250,000 customers. There are 135,515 residential units, including single family residences and duplexes. The City and County of Honolulu has a high ratio of multi-family accounts, totaling approximately 115,000 units. There are approximately 7,500 non-residential accounts. These customer class totals were determined by two methods. Single family residential and non-residential accounts were assessed based on the billing records for the first four months of FY 2011. Single family residential and multi-family units were derived from minimum service charge revenue reports for the first four months of FY 2011. The respective revenue was divided by four months of minimum charges to calculate the units per class. The account and unit summary is provided in Exhibit 10.

[3] Customer account and consumption data was provided by Honolulu Board of Water Supply.

Exhibit 10: Number of Accounts by Customer Class.

	2011 Revenue (4 months)	Rate	Number of Units/Accounts
Accounts/Units			
Single Family Residential			
Single Family Units			
10 – Single family/duplex	37,067,573	$68.39	135,501
15 – Mixed residential	3,961	$68.39	14
Subtotal Single Family Units			135,515
Multi-Family Residential			
20 - Multi-family	22,151,308	$47.90	115,612
25 – Mixed users	235	$47.90	1
Subtotal Multi-Family Units			115,613
Non-Residential			
Subtotal Non-residential Accounts			7,514

2.4.7.2. *Demand*

Exhibit 11 shows the billed consumption and demand totals per customer class. Under the new rate structure, a uniform 20% Water Use Credit, or 80% return factor, is applied to consumption of all classes.

Exhibit 11: Customer Demand by Class.

	4 month Total	Annual Total	Water Use Credit	Sewer Demand
Metered Water Consumption (kgal)				
Single Family Residential	5,496,662	16,489,986	20%	13,191,989
Multi-Family Residential	3,178,385	9,535,155	20%	7,628,124
Non-Residential	3,119,848	9,359,544	20%	7,487,635

2.4.8. Determination of ERUs

The first step for calculating the new base charge was to determine the revenue requirements to be recovered for the base component, calculated at $98.8 million in Section 2.4.6. The second step is to determine the number of ERUs. The new structure's base charge is centered around the concept of a consistent ERU for all customer classes. The equivalent residential unit represents the level of demand of the typical, or average, single family residential customer. Using bill frequency data, the ERU was established at 6,400 gallons of sewer demand per month. Each single family residential unit is assigned 1 ERU, and as previously shown, the total number of ERUs for the single family residential class is 135,515.

Multi-family customers tend to put less of a burden on the sewer system than single family customers based upon average household size. To recognize this, the rate structure applies a factor to the ERU per multi-family unit that ultimately reduces the base charge for multi-family customers. The factor is 68.8%, representing the ratio between the typical multi-family customer demand of 4,400 gallons per month to the ERU of 6,400 gallons per month. This factor is presented below in Exhibit 12, and the table shows that when the adjustment factor is applied, the result is 79,484 ERUS in the multi-family residential customer class.

While the non-residential customer class has approximately 7,500 customers, consumption varies significantly among the customers within the class. Each customer will be assigned at least 1 ERU, but if the customer's monthly consumption is above 6,400 gallons, the customer will be assigned fractional ERUs above 1. For example, if a non-residential customer has a sewer

demand of 21,000 kgal (after the water use credit), the customer will be assigned 3.3 ERUs and will be charged based on the charge per ERU multiplied by 3.3. In some cases, such as large resorts and hotels, the number of ERUs will be substantial. To calculate the total number of ERUs for the non-residential class, the sewer demand for the non-residential class from Section 2.4.7.2 is divided by the demand per ERU equaling 97,495 ERUs in the non-residential class.

Exhibit 12: ERU Determination per Customer Class

	Average Monthly Demand per Unit (Kgal)	Adjustments	Convert to ERUs	# of ERUs
Customer Classes				
Single Family Residential	6.400			135,515
Multi-Family Residential	4.400	68.8%	115,613 Units	79,484
Non-Residential			7,487,635 Kgal	97,495
				312,495

2.4.9. Base and Volume Rate Calculations

Based on the net base and volumetric revenue requirements and the ERUs and demand, the following unit rates can be calculated for general sewer service.

2.4.9.1. Base Charge per ERU

The net revenue requirements for the base component, $219.2 million, spread equally over the total number of ERUs in the system, 312,495, results in the new monthly base charge of $58.46 per ERU.

Exhibit 13: Calculation of the Base Charge

FY 2011 Expenses under Base Component	$219,224,048
Total ERUs	312,495
Annual Charge per ERU	$701.53
Monthly Charge per ERU	**$58.46**

2.4.9.2. Volumetric Rate per 1,000 Gallons

The net revenue requirements for the volumetric component, $98.8 million for an annual sewer demand projection of 28.3 million kgals results in a volumetric rate of $3.49 per kgal.

Exhibit 14: Calculation of the Volumetric Rate

Customer Class Usage (kgal)	
Single Family Residential Usage	13,191,989
Multi-Family Residential Usage	7,628,124
Non-Residential Usage	7,487,635
Total Annual Consumption	28,307,748
FY 2011 Expenses under Volumetric	$98,803,639
Charge per thousand gallon	$3.49

2.4.10. Alternative Rates and Rate Structure

The alternative rates for the test year are designed to be revenue neutral when compared with the ENV's current test year rates, meaning that each set of rates will recover the same level of total revenue. The alternative rate structure is summarized in Exhibit 15.

Exhibit 15: Alternative Rates.

	FY 2011
All Customers	
Monthly Base Charge (per ERU)	$58.46
Volumetric Charge (per Kgal)	$3.49
Multi-Family Factor (per ERU)	69%
Consumption per ERU	6,400
Water Use Credit	20%

2.4.11. Test Year Projected Revenue Based on Alternative Rates

To ensure the development of new rates was conducted accurately, it is prudent to calculate projected revenue based on the new rates for the test year, in this case FY 2011. Exhibit 16 provides such a calculation, and one can see that the new rates applied to billing units per customer class combined with High Strength Surcharge revenue and Miscellaneous revenue equals $330.1 million in total revenue, which matches that of the revenue requirements and results in $0 surplus/deficit. In other words, the alternative rates generate revenue to cover proposed revenue requirements equal to what would be recovered by the current rates based on the financial plan.

Exhibit 16: Revenue from Alternative Rates.

REVENUE	FY 2011
Rate Revenue	
Base Charge	
Single Family Residential	95,067,811
Multi-Family Residential	55,760,508
Non-Residential	
Metered Water	68,395,730
Metered Sewer	0
Subtotal	$219,224,048
Volumetric Charge	
Single Family Residential	46,044,514
Multi-Family Residential	26,624,739
Non-Residential	
Metered Water	26,134,386
Metered Sewer	0
Subtotal	$98,803,639
Incremental Surcharge Revenue	$482,312
Subtotal Rate Revenue	$318,510,000
Miscellaneous Revenue Offsets	
Facility Charges	8,870,000
Other	2,544,850
Interest	185,000
Subtotal	$11,599,850
Total Revenue	$330,109,850
Total Revenue Requirements	$330,109,850
SURPLUS/(DEFICIT)	$0

2.5. Comparison of Existing and Alternative Rate Structures

2.5.1. Rates

Exhibit 17 presents both the existing and alternative rates. It is important to note that the alternative rate structure includes several modifications from the existing rate structure, and a direct side-by-side comparison of rates is not an accurate representation of how the new structure will impact customers. A customer impact analysis was conducted and will be presented in a later section.

Exhibit 17: FY 2011 Existing and Alternative Rates.

	Existing Rates for FY 2011	Alternative Rates for FY 2011
Single Family Residential		
Monthly Minimum Charge (per Unit)	$68.39	$58.46
Minimum Consumption (gallons)	2,000	-----
Volumetric Charge (per Kgal)	$2.88	$3.49
Water Use Credit	18%	20%
Multi-Family Residential		
Monthly Minimum Charge (per Unit)	$47.90	$40.19
Minimum Consumption (gallons)	2,000	-----
Volumetric Charge (per Kgal)	$2.88	$3.49
Water Use Credit	18%	20%
Multi-Family Factor (per ERU)		69%
Non Residential		
Metered Water		
Base Charge	$61.51	$58.46
9,000 gal or less	$3.13	$3.49
above 9,000 gal	$9.96	$3.49
Water Use Credit	0%	20%
Metered Wastewater		
Base Charge	$61.51	$58.46
9,000 gal or less	$4.00	$3.49
above 9,000 gal	$12.65	$3.49
Water Use Credit	0%	0%

2.5.2. Revenue by Class

Revenue neutral alternative rates will ultimately favorably or adversely impact certain customer classes. Exhibit 18 provides the breakdown of revenue by class and also by fixed and volume charges within each class. Each set of rates recover the same revenue. The alternative rates recover slightly less from the single family residential class and slight more from the multi-family and non-residential classes, but the overall impact is very minor. The major disparities are the levels recovered from the fixed versus volume charge within each class, especially the non-residential class. The level of fixed revenue from non-residential customers under the alternative rates would be much more proportional to the magnitude of revenue recovered from the fixed portions of the residential classes. Also, this indicates the recovery of the fixed revenue is shifted from the residential class to the non-residential class.

Exhibit 18: Revenue by Customer Class for Existing and Alternative Rates.

	FY 2011 Existing Rates		FY 2011 Alternative Rates	
Single Family Residential				
Base	110,567,735	78%	95,067,811	67%
Volume	31,380,654	22%	46,044,514	33%
Total Single Family	$141,948,389		$141,112,325	
Multi-Family Residential				
Base	66,068,105	81%	55,760,508	68%
Volume	15,872,574	19%	26,624,739	32%
Total Multi-Family	$81,940,678		$82,385,247	
Non-Residential				
Base	2,095,310	2%	68,395,730	72%
Volume				
Base-Related Revenue	62,918,330	67%		
Volumetric-Related Revenue	29,124,980	31%	26,134,386	28%
Total Non-Residential	$94,138,620		$94,530,115	
Total Rate Revenue	$318,027,688		$318,027,688	

2.6. Customer Impacts

One method to evaluate the advantages and disadvantages of an alternative rate structure is to analyze financial impacts to customers at different levels of demand and different customer classes. A customer impact analysis for each of the customer classes was performed. Bimonthly bills, calculated using the existing rates and alternative rates were compared, and the results are provided in the proceeding sections.

2.6.1. Single Family Residential

Exhibit 19 presents a representative sampling of varying monthly consumptions for typical single family residential customers. While the average consumption per residential customer is approximately 10,000 gallons, the impact analysis shows that at approximately 12,000 gallons, customers below will experience a decrease in their bill and customers above will experience an increase in their bill.

Exhibit 19: Single Family Residential Customer Impacts.

Existing Rates versus Alternative Rates Comparison			
Monthly Water Consumption	Bimonthly Bill Existing Rates (FY 2011)	Bimonthly Bill Alternative Rates (FY 2011)	Percent Change
1,500	$136.78	$125.30	-8.39%
5,000	$150.95	$144.84	-4.04%
5,500	$153.31	$147.64	-3.70%
7,000	$160.40	$156.01	-2.73%
9,000	$169.84	$167.18	-1.57%
11,000	$179.29	$178.35	-0.52%
13,500	$191.10	$192.31	0.64%
16,000	$202.90	$206.27	1.66%
18,000	$212.35	$217.44	2.40%
29,000	$264.31	$278.87	5.51%

2.6.2. Multi-Family Residential

The impact analysis, shown in Exhibit 20, for the sampling of multi-family residential customers follows the same trend as the single family impact analysis. In general customers using a lower amount of water per multi-family unit experience a reduction in their sewer bills. Whereas customers using high amounts of water per unit experience slight increases in their bills.

Exhibit 20: Multi-family Residential Customer Impacts.

	Existing Rates versus Alternative Rates Comparison					
Customer Sample	Monthly Water Consumption	Existing Units	Per Unit Consumption	Bimonthly Bill Existing Rates (FY 2011)	Bimonthly Bill Alternative Rates (FY 2011)	Percent Change
Kanoa Estate	11,500	10	1,150	$958.00	$868.06	-9.39%
Pacific Village	64,000	4	16,000	$647.70	$678.94	4.82%
Nani Koolau Aoao	73,000	15	4,867	$1,640.10	$1,613.42	-1.63%
Makakilo Gardens I	79,000	10	7,900	$1,236.67	$1,245.01	0.67%
Bishop Manor	105,500	27	3,907	$2,829.84	$2,759.52	-2.48%
Aoao Ainahau Gardens	114,000	56	2,036	$5,374.25	$5,138.11	-4.39%
Diamond Head ALII	140,000	54	2,593	$5,324.34	$5,122.55	-3.79%
Kapiolani Royale	395,000	68	5,809	$7,737.71	$7,671.97	-0.85%
Aoao Ridge at Launani Valley	1,311,000	182	7,203	$21,908.47	$21,951.13	0.19%
Marco Polo Mgmt LTD	4,315,000	568	7,597	$69,429.45	$69,755.14	0.47%

2.6.3. Non-residential

Non-residential customers will experience a slight increase in their bills, as depicted in Exhibit 21. However, if a customer in this class uses a small amount of water, there is the possibility for a reduction in the sewer bill. On average, non-residential customers will experience an approximate 1.4% increase. What this impact analysis does not show, however, is that a much larger portion of the non-residential customer bill is recovered through the fixed, or base charge.

Exhibit 21: Non-residential Customer Impacts.

	Existing Rates versus Alternative Rates Comparison					
Customer Sample	Monthly Water Consumption	Alternative's ERUs	Per Unit Consumption	Bimonthly Bill Existing Rates (FY 2011)	Bimonthly Bill Alternative Rates (FY 2011)	Percent Change
Kay's Fish Market	7,000	1.0	7,000	$105.33	$78.01	-25.94%
Dee Thai Restaurant	10,000	1.3	8,000	$99.60	$101.00	1.40%
Honda Windward Auto Body	22,000	2.8	8,000	$219.12	$222.20	1.40%
Tamura Superette Inc.	43,500	5.4	8,000	$433.26	$439.34	1.40%
Food Pantry	60,000	7.5	8,000	$597.60	$605.99	1.40%
Pearl City Plaza LLC	144,000	18.0	8,000	$1,434.24	$1,454.38	1.40%
Hilton Hotels Corporation	3,688,000	461.0	8,000	$36,732.48	$37,248.30	1.40%
Hyatt Regency Waikiki	4,009,000	501.1	8,000	$39,929.64	$40,490.35	1.40%

2.7. Environmental Charge

A component of the scope of this Study involved assessing the implementation and practicality of a special charge, called the Environmental Charge, that would be incorporated into the rate structure as an additional fixed charge to recover costs associated with enhanced regulatory requirements. Utilities within the industry that have implemented a similar charge have done so to gain customer support for charges beyond the utility's control, charges that likely stem from new EPA mandated guidelines. For ENV, the Environmental Charge could be implemented to recover costs associated with the mandated upgrade to full secondary treatment at all wastewater facilities. This charge would not be implemented until the utility began to realize capital costs, such as rate-funded capital and debt, from projects directly related to the upgrade, and this is not scheduled to occur until around 2020. After discussion with ENV staff, it was determined that

the timing was premature for conducting an extensive analysis for implementation of an Environmental Charge. ENV will continue to keep this opportunity available as related projects begin to become part of the five-year rate planning period.

2.8. Alternative Rate Structure Summary

The current rate structure effectively addresses ENV's top tier pricing objectives. However, the alternative rate structure was developed to better address ENV's second, third, and fourth tier pricing objectives, particularly in the areas of simplification and equity, while still maintaining financial sufficiency and revenue stability. The alternative customer base charge no longer has a minimum allowance of 2,000 gallons for residential customers. The base charge is derived from a standard single family residential ERU. It is then applied to multi-family accounts at 69% of an ERU per account, and applied to non-residential accounts based on fractional levels of customer average demand. A uniform volumetric rate has been calculated to be used across all customer classes, and the water use credit has been adjusted for a uniform 20% for all classes. Customer impact analyses were prepared in comparison to FY 2011 existing rates. The analyses show residential customers with low consumption experiencing a decrease in their bi-monthly bill, and high usage residential customers and non-residential customers experience a slight increase in their bi-monthly bill. It is important to note that the alternative rates were developed to recover the current fiscal year's revenue requirements, and should not be considered for implementation in FY 2012 or beyond without an update to the cost of service analysis.

SECTION 3: HIGH STRENGTH SURCHARGE

An evaluation of the High Strength Surcharge program was another significant task of this Study. This evaluation included reviewing the existing methodology, recalculating rates based on cost of service, and simplifying the existing structure by adapting the two tiered structure into a uniform rate structure. A sampling of non-residential customers was selected for a customer impact analysis to show the advantages and disadvantages of updated alternative rates. Additionally, ENV's surcharge program includes only a surcharge rate for Suspended Solids (SS). ENV anticipates continuing to only assess charges for SS for the immediate future, ENV requested, however, an analysis and rate structure for assessing charges for treating elevated levels of biological oxygen demand (BOD) for possible implementation once ENV moves to full secondary treatment.

3.1. Existing High Strength Surcharge Rate Structure

3.1.1. High Strength Surcharge Program Overview

ENV currently employs a suspended solids surcharge rate schedule for customers with high strength discharges. Suspended solids are removed at all ENV treatment plants, including the two large plants employing primary treatment. ENV has followed industry best practices by developing the cost per pound to remove suspended solids, then assessing that cost to high strength customers based on the assumed strength of their discharge. The assessment is in the form of a higher wastewater volumetric rate. This method equitably recovers the cost of additional treatment from the customers who cause the need for that treatment. Metro Wastewater (San Diego) and Bureau of Sanitation (Los Angeles) are two examples of many utilities that employ this methodology in developing rates for non-monitored, high strength customers.

3.1.2. Existing High Strength Rates and Rate Structure

ENV's existing rate schedule is presented in Exhibit 22. As mentioned above, customers are assessed a higher volumetric rate to account for the premium allocated for the additional costs of treating wastewater higher than domestic strength of suspended solids. The rate schedule is a two tiered schedule. Metered water customers that use below 9,000 gallons are assessed the non-residential base charge and the tier one rates provided in the fourth column with the base charge. If customers use above 9,000 gallons, the tier two rates are applied to their volumetric consumption. Metered wastewater customers have a similar structure provided in the last two columns. However, the cut-off is lower at 7,000 gallons of wastewater, and the tiers rates are higher.

Exhibit 22: ENV's Existing High Strength Surcharge Rate Schedule.

SIC	INDUSTRY	METERED WATER			METERED WASTEWATER		
		> 9,000	9,000 or <		> 7,000	7,000 or <	
Code	Establishments	$9.96usage	$3.13 usage	*+ base $61.51	$12.65 usage	$4.00 usage	*+ base 61.51
2011	Meat Packing Plants	$14.731	$4.629	$61.51	$18.710	$5.916	$61.51
2013	Sausage/Other Prepared Meats	$10.743	$3.376	$61.51	$13.645	$4.315	$61.51
2015	Poultry Slaughtering/Processing	$12.930	$4.063	$61.51	$16.422	$5.193	$61.51
2035	Pickled Fruits/Vegetables, Sauces/Seasonings/Dressings	$11.028	$3.466	$61.51	$14.007	$4.429	$61.51
2037	Frozen Fruits/Juices/Vegetables	$10.893	$3.423	$61.51	$13.835	$4.375	$61.51
2051	Bread/Bakery Products (except Cookies/Crackers)	$11.527	$3.622	$61.51	$14.640	$4.629	$61.51
5461	Bakeries, Retail	$11.527	$3.622	$61.51	$14.640	$4.629	$61.51
2075	Soybean Oil Mills	$12.096	$3.801	$61.51	$15.363	$4.858	$61.51
2098	Macaroni, Spaghetti, Vermicelli and Noodles	$10.174	$3.197	$61.51	$12.921	$4.086	$61.51
2099	Food Preparation, Not Elsewhere Classified (i.e. Potato Processing)	$17.794	$5.592	$61.51	$22.599	$7.146	$61.51
5311	Restaurant in Department Store	$12.524	$3.936	$61.51	$15.906	$5.030	$61.51
5812	Eating Places (i.e., Carry-out, Coffee/Snack Shops, Caterers)	$12.524	$3.936	$61.51	$15.906	$5.030	$61.51
7011	Hotels/Motels Serving Food	$12.524	$3.936	$61.51	$15.906	$5.030	$61.51
5411	Grocery Stores/Super Markets	$10.316	$3.242	$61.51	$13.102	$4.143	$61.51
5813	Drinking Places (Alcoholic Bev.)	$12.524	$3.936	$61.51	$15.906	$5.030	$61.51
8059	Nursing/Personal Care Facilities	$10.245	$3.220	$61.51	$13.012	$4.143	$61.51

3.1.3. Benchmarking Industry Non-monitored Discharge Strengths

A benchmarking analysis was conducted for this part of the Study to compare the respective discharge strengths assigned to establishment types of non-residential customers. The intent was to assess ENV strength in relationship to other utilities. With non-monitored programs, it can be very challenging to find other utilities that use the exact same establishment types (by SIC code). Therefore, the analysis does present some gaps. It can be observed in Exhibit 23 that ENV's strength assignments are greatly in line, leading RFC to believe ENV was not inconsistent with most of the benchmarking metrics, and should continue using the existing discharge strengths. ENV could consider conducting a future sampling analysis of each industry in ENV's system to determine adjustments to industry discharge levels at that time.

Exhibit 23: Benchmarking Establishment Discharge Strengths.

SIC	INDUSTRY	SS	SS	SS	SS	SS	SS
Code	Establishments	ENV Existing Average	San Diego Average	Santa Monica Average	Pima County, AZ Average	Los Angeles Master List	CMUD Master List
2011	Meat Packing Plants	870	920		691	1453	642
2013	Sausage/Other Prepared Meats	310				1453	258
2015	Poultry Slaughtering/Processing	617				1453	625
2035	Pickled Fruits/Vegetables, Sauces/Seasonings/Dressings	350				1453	510
2037	Frozen Fruits/Juices/Vegetables	331				1453	584
2051	Bread/Bakery Products (except Cookies/Crackers)	420	420	600	802	600	533
5461	Bakeries, Retail	420	420	600	802	600	418
2075	Soybean Oil Mills	500				1453	1453
2098	Macaroni, Spaghetti, Vermicelli and Noodles	230				1453	1498
2099	Food Preparation, Not Elsewhere Classified (i.e. Potato Processing)	1300			1066	1453	713
5311	Restaurant in Department Store	560			493	600	432
5812	Eating Places (i.e., Carry-out, Coffee/Snack Shops, Caterers)	560		600	650	600	432
7011	Hotels/Motels Serving Food	560	400	600	650	600	432
5411	Grocery Stores/Super Markets	250	420	600		800	969
5813	Drinking Places (Alcoholic Bev.)	560	240	600	650	600	432
8059	Nursing/Personal Care Facilities	240	250	100		100	200

3.2. Update of SS High Strength Surcharge

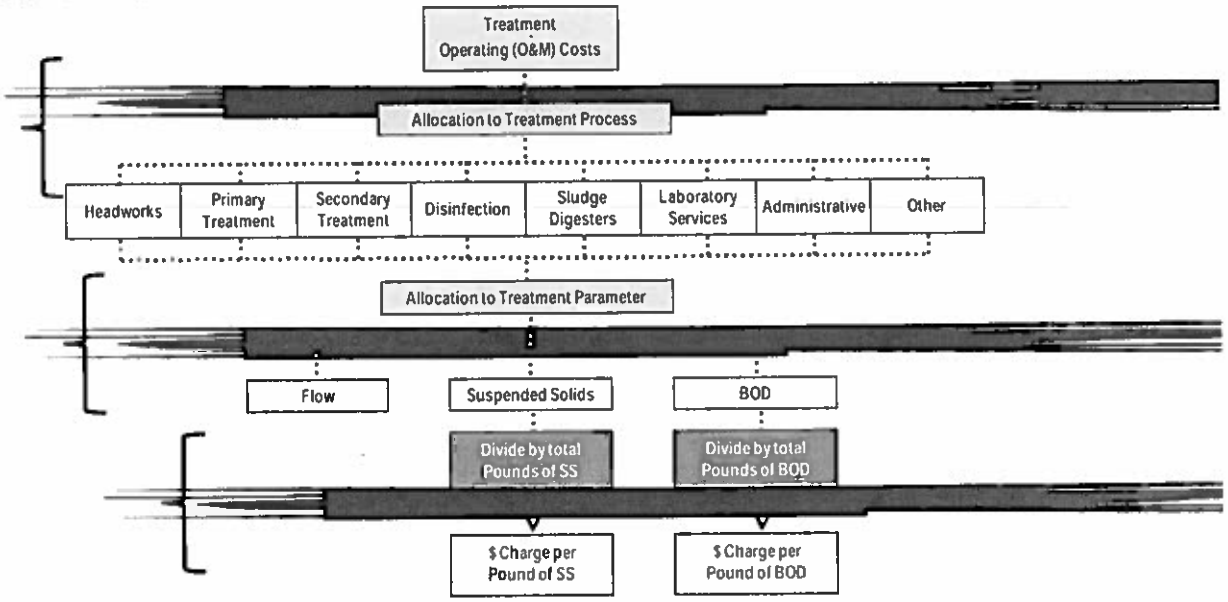
To update the existing non-residential high strength surcharge rates, a cost of service analysis was conducted to appropriately allocate costs associated with the additional burden of treating high strength waste. Unit costs were derived and applied to alternative volumetric rates for the SS surcharge.

3.2.1. Cost Allocation

In Section 2, the costs allocated to flow served as the basis for designing and calculating alternative rates. For this section, the costs allocated to high strength are examined. To conduct the cost of service analysis for the high strength surcharge program, treatment operating costs are allocated to ultimately arrive at high strength rates per pound. Exhibit 24 shows the three step process listed below:

1. Allocation to Treatment Process
2. Allocation to Parameter
3. Derive Unit Cost per Pound

Exhibit 24: Cost Allocation Process.



Step one, shown in Exhibits 25 and 26, concerns operating labor and expenses from the nine treatment plants, provided here in their regional groupings: Metro, Leeward, and Windward. ENV staff conducted a thorough review of the treatment processes of each region of wastewater treatment facilities and allocated costs according to the percentages provided in Exhibit 25. Exhibit 26 presented the resulting allocation of expenses and the subtotal of costs per treatment process.

Exhibit 25: Allocations to Treatment Process.

	Allocation Percentages to Process (1)								
For Each Treatment Plant	Headworks	Primary Treatment	Secondary Treatment	Disinfection	Sludge Digesters	Laboratory Services	Administrative	Other	Total
Metro									
Salaries	26%	26%	0%	27%	0%	2%	15%	4%	100%
Current Expenses	15%	25%	0%	40%	0%	2%	3%	15%	100%
Leeward									
Salaries	15%	15%	22%	10%	15%	5%	13%	5%	100%
Current Expenses	15%	15%	22%	10%	15%	5%	13%	5%	100%
Windward									
Salaries	16%	16%	23%	0%	24%	2%	15%	4%	100%
Current Expenses	18%	22%	20%	0%	25%	2%	3%	10%	100%
Admin/Misc WW Facilities									
Salaries	14%	14%	14%	14%	14%	3%	25%	2%	100%
Current Expenses	13%	13%	13%	13%	13%	5%	25%	5%	100%

(1) Source: ENV staff provided percent allocations

Exhibit 26: Allocation of Costs to Treatment Process.

For Each Treatment Plant	Budget Amount	Headworks	Primary Treatment	Secondary Treatment	Disinfection	Sludge Digesters	Laboratory Services	Administrative	Other
Metro									
Salaries	$4,098,409	$1,065,586	$1,065,586	$0	$1,106,570	$0	$81,968	$614,761	$163,936
Current Expenses	$22,217,305	$3,332,596	$5,554,326	$0	$8,886,922	$0	$444,346	$666,519	$3,332,596
Leeward									
Salaries	$5,040,143	$756,021	$756,021	$1,108,831	$504,014	$756,021	$252,007	$655,219	$252,007
Current Expenses	$12,031,481	$1,804,722	$1,804,722	$2,646,926	$1,203,148	$1,804,722	$601,574	$1,564,093	$601,574
Windward									
Salaries	$4,133,183	$661,309	$661,309	$950,632	$0	$991,964	$82,664	$819,977	$165,327
Current Expenses	$12,097,001	$2,177,460	$2,661,340	$2,419,400	$0	$3,024,250	$241,940	$362,910	$1,209,700
Admin/Misc WW Facilities									
Salaries	$3,544,428	$496,220	$496,220	$496,220	$496,220	$496,220	$106,333	$886,107	$70,889
Current Expenses	$8,790,167	$1,142,722	$1,142,722	$1,142,722	$1,142,722	$1,142,722	$439,508	$2,197,542	$439,508
Subtotals ($)	$71,952,117	$11,436,637	$14,142,247	$8,764,731	$13,339,596	$8,215,899	$2,250,340	$7,567,128	$6,235,538

The subtotals of costs per treatment process are then allocated to different cost categories in Step Two of the allocation process. Exhibit 27 shows this process. Again, RFC consulted ENV staff for the allocation percentages, and since the existing rate structure only recovers costs associated with treating SS, no costs are allocated to BOD at this time. In a later section, BOD costs and results rates will be explored, but for the update of the high strength surcharges only SS costs are considered.

Exhibit 27: Allocation of Treatment Process Costs to Cost Categories.

Processes	Subtotals from Process Allocation	Allocation Percentages to Treatment Parameter (1)			
		Flow	BOD	TSS	Sum
Headworks	$11,436,637	100%	0%	0%	100%
Primary Treatment	$14,142,247	20%	0%	80%	100%
Secondary Treatment	$8,764,731	100%	0%	0%	100%
Disinfection	$13,339,596	100%	0%	0%	100%
Sludge Digesters	$8,215,899	26%	0%	74%	100%
Laboratory Services	$2,250,340	26%	0%	74%	100%
Administrative	$7,567,128	67%	0%	33%	100%
Other	$6,235,538	67%	0%	33%	100%
Total		$48,369,399	$0	$23,582,718	$71,952,117

(1) Source: ENV staff provided percent allocations

The third step calculates the unit cost. In FY 2010, ENV treated a combined 77.6 million pounds of SS at all nine treatment facilities. The total of $23.6 million for SS treatment derived in Exhibit 27 and the estimated total pounds of SS treated of 77.6 million pounds are used to calculate a unit cost per pound of $0.3037 for SS, shown in Exhibit 28. This unit cost will be used to derive new surcharge rates.

Exhibit 28: SS Unit Cost Calculation.

	SS
Allocated Costs	$23,582,718
Total lbs	77,641,227
Unit Cost per lb.	$0.3037

3.2.2. Updated Rates

Using the unit cost, the assumed domestic strength of 200 mg/l, and the alternative uniform volumetric rate for standard flow, alternative high strength surcharge rates can be developed. Exhibit 29 provides this process. The average concentration (mg/l) of SS per establishment is fixed according to the rate schedule. To arrive at the premium per thousand gallons, the domestic strength of 200 mg/l must be removed from the average discharge concentration and converted to a pound per thousand gallons concentration. The unit cost is applied to this concentration for a premium rate per thousand gallons for each establishment type. The premium is added to the base uniform volumetric rate, determined in Section 2, to result in an alternative set of uniform SS rates per thousand gallons per respective establishment (last column).

Exhibit 29: Updated Rates Calculation.

Domestic Strength (mg/l)	200
Convert to lb/kgal	0.0083453
Unit Cost per lb.	$0.3037
Proposed Volumetric Rate	$3.49

SIC	INDUSTRY	SS	SS	SS	SS	SS
Code	Establishments	Average (mg/l)	Average (above Domestic) (mg/l)	Average (above Domestic) (lb/kgal)	Updated Premium	Alternative Volumetric Rate
2011	Meat Packing Plants	870	670	5.59	$1.6983	$5.1886
2013	Sausage/Other Prepared Meats	310	110	0.92	$0.2788	$3.7692
2015	Poultry Slaughtering/Processing	617	417	3.48	$1.0570	$4.5473
2035	Pickled Fruits/Vegetables, Sauces/Seasonings/Dressings	350	150	1.25	$0.3802	$3.8706
2037	Frozen Fruits/Juices/Vegetables	331	131	1.09	$0.3321	$3.8224
2051	Bread/Bakery Products (except Cookies/Crackers)	420	220	1.84	$0.5577	$4.0480
5461	Bakeries, Retail	420	220	1.84	$0.5577	$4.0480
2075	Soybean Oil Mills	500	300	2.50	$0.7604	$4.2508
2098	Macaroni, Spaghetti, Vermicelli and Noodles	230	30	0.25	$0.0760	$3.5664
2099	Food Preparation, Not Elsewhere Classified (i.e. Potato Processing)	1300	1100	9.18	$2.7883	$6.2786
5311	Restaurant in Department Store	560	360	3.00	$0.9125	$4.4029
5812	Eating Places (i.e., Carry-out, Coffee/Snack Shops, Caterers)	560	360	3.00	$0.9125	$4.4029
7011	Hotels/Motels Serving Food	560	360	3.00	$0.9125	$4.4029
5411	Grocery Stores/Super Markets	250	50	0.42	$0.1267	$3.6171
5813	Drinking Places (Alcoholic Bev.)	560	360	3.00	$0.9125	$4.4029
8059	Nursing/Personal Care Facilities	240	40	0.33	$0.1014	$3.5917

3.2.3. Revenue

The cost of service rates for non-residential, non-monitored high strength surcharge customers result in an annual revenue of $301,085. This is calculated using FY 2010 annual demand levels and assuming 0% growth in demand for FY 2011. Exhibit 30 presents the revenue calculation by establishment type.

Exhibit 30: High Strength Surcharge Program Revenue Projection.

INDUSTRY	SS	SS	SS	SS
Establishments	Updated Premium	Alternative Volumetric Rate	Consumption (kgal)	Revenue from Surcharge
Meat Packing Plants	$1.6983	$5.1886	1,092	$1,855
Sausage/Other Prepared Meats	$0.2788	$3.7692	7,230	$2,016
Poultry Slaughtering/Processing	$1.0570	$4.5473	0	$0
Pickled Fruits/Vegetables, Sauces/Seasonings/Dressings	$0.3802	$3.8706	6	$2
Frozen Fruits/Juices/Vegetables	$0.3321	$3.8224	0	$0
Bread/Bakery Products (except Cookies/Crackers)	$0.5577	$4.0480	3,810	$2,125
Bakeries, Retail	$0.5577	$4.0480	3,846	$2,145
Soybean Oil Mills	$0.7604	$4.2508	7,050	$5,361
Macaroni, Spaghetti, Vermicelli and Noodles	$0.0760	$3.5664	8,874	$675
Food Preparation, Not Elsewhere Classified (i.e. Potato Processing)	$2.7883	$6.2786	0	$0
Restaurant in Department Store	$0.9125	$4.4029	31,782	$29,002
Eating Places (i.e., Carry-out, Coffee/Snack Shops, Caterers)	$0.9125	$4.4029	5,808	$5,300
Hotels/Motels Serving Food	$0.9125	$4.4029	272,988	$249,108
Grocery Stores/Super Markets	$0.1267	$3.6171	12,552	$1,591
Drinking Places (Alcoholic Bev.)	$0.9125	$4.4029	0	$0
Nursing/Personal Care Facilities	$0.1014	$3.5917	18,798	$1,906
			Total Revenue	$301,085

3.2.4. Existing Rates and Alternative Rates

Exhibit 31 shows the comparison of existing and alternative surcharge rates based upon cost of service.

Exhibit 31: Comparison of Existing to Alternative Rates.

		FY 2011 Existing Rates			FY 2011 Alternative Rates	
SIC	INDUSTRY	SS	SS		SS	SS
Code	Establishments	Existing Fixed Rate	Existing Volumetric Rates 9,000 & Below	>9,000	Alternative Fixed Rate	Alternative Volumetric Rate (all volume levels)
2011	Meat Packing Plants	$61.51	$4.63	$14.73	$58.46	$5.19
2013	Sausage/Other Prepared Meats	$61.51	$3.38	$10.74	$58.46	$3.77
2015	Poultry Slaughtering/Processing	$61.51	$4.06	$12.93	$58.46	$4.55
2035	Pickled Fruits/Vegetables, Sauces/Seasonings/Dressings	$61.51	$3.47	$11.03	$58.46	$3.87
2037	Frozen Fruits/Juices/Vegetables	$61.51	$3.42	$10.89	$58.46	$3.82
2051	Bread/Bakery Products (except Cookies/Crackers)	$61.51	$3.62	$11.53	$58.46	$4.05
5461	Bakeries, Retail	$61.51	$3.62	$11.53	$58.46	$4.05
2075	Soybean Oil Mills	$61.51	$3.80	$12.10	$58.46	$4.25
2098	Macaroni, Spaghetti, Vermicelli and Noodles	$61.51	$3.20	$10.17	$58.46	$3.57
2099	Food Preparation, Not Elsewhere Classified (i.e. Potato Processing)	$61.51	$5.59	$17.79	$58.46	$6.28
5311	Restaurant in Department Store	$61.51	$3.94	$12.52	$58.46	$4.40
5812	Eating Places (i.e., Carry-out, Coffee/Snack Shops, Caterers)	$61.51	$3.94	$12.52	$58.46	$4.40
7011	Hotels/Motels Serving Food	$61.51	$3.94	$12.52	$58.46	$4.40
5411	Grocery Stores/Super Markets	$61.51	$3.24	$10.32	$58.46	$3.62
5813	Drinking Places (Alcoholic Bev.)	$61.51	$3.94	$12.52	$58.46	$4.40
8059	Nursing/Personal Care Facilities	$61.51	$3.22	$10.25	$58.46	$3.59

3.2.5. Customer Impacts

Exhibit 32 provides a customer impact analysis for high strength surcharge customers. According to the schedule, all customers in this sampling experience a decrease in their bi-monthly bill,

indicating the cost of service rates will likely provide a reduction in bimonthly bills to many, if not all, high strength surcharge customers.

Exhibit 32: Non-residential Customer Impact Analysis.

SIC	INDUSTRY	FY 2011 Existing Rates versus Alternative Rates Comparison			
Code	Establishments	Monthly Water Consumption	Bi-monthly Bill: Existing	Bi-monthly Bill: Alternative	Percent Change
2011	GOLDEN COIN FOOD INDUSTRIES	49,500	$1,399.55	$1,134.39	-18.95%
2013	HI FOOD PRODUCTS	178,000	$3,814.92	$3,674.96	-3.67%
2015	Poultry Slaughtering/Processing	50,000	$1,256.41	$1,094.55	-12.88%
2035	AMER HAWN SOY CO	1,000	$129.95	$123.11	-5.26%
2037	Frozen Fruits/Juices/Vegetables	50,000	$1,077.86	$1,036.55	-3.83%
2051	MAUNA KEA BAKING COMPANY	31,000	$695.40	$653.85	-5.98%
5461	KILANI BAKERY	26,500	$591.66	$558.94	-5.53%
2075	AALA TOFU FACTORY	111,500	$2,671.12	$2,387.93	-10.60%
2098	H & U INC	314,500	$6,396.88	$6,391.08	-0.09%
2099	HPC FOODS LTD	545,000	$19,298.84	$13,440.22	-30.36%
5311	Restaurant in Department Store	50,000	$1,220.84	$1,082.99	-11.29%
5812	TACO ALOHA INC	32,000	$769.97	$693.11	-9.98%
7011	Hotels/Motels Serving Food	50,000	$1,220.84	$1,082.99	-11.29%
5411	FOODLAND	84,500	$1,739.09	$1,724.01	-0.87%
5813	IMUA LOUNGE	18,500	$431.82	$400.71	-7.21%
8059	POHAI NANI GOOD SAMARITAN	196,500	$4,022.86	$4,001.12	-0.54%

3.3. BOD Surcharge

3.3.1. Need for a BOD Surcharge

Secondary treatment is the process that removes biological oxygen demand (BOD) from wastewater, and is being mandated by the EPA for ENV's system. Currently, secondary treatment is being conducted at all facilities with the exception of Sand Island. Also, only approximately half of the flow at Honouliuli is being treated for secondary treatment. EPA is mandating that all wastewater undergo secondary treatment. ENV has a series of capital projects planned from FY 2015-2035 to implement full secondary treatment at Honouliuli and Sand Island. Knowing this, ENV may elect to assess a BOD charge to non-residential customers with elevated BOD in their waste.

3.3.2. Surcharge Rate Design

For a preliminary look, ENV has requested a rate structure development and analysis for BOD surcharge rates. BOD rates would be administered in a similar method as SS rates; BOD surcharge customers would be non-monitored and pay a higher volumetric rate per thousand gallons, which would include the BOD premium and base uniform volumetric rate.

3.3.2.1. Cost Allocation for BOD

The allocation process for BOD is consistent with the allocation process for SS. Step one of the allocation process is the same, and was referenced in Exhibit 24, 25, and 26. However, Step two is now different. Instead of zero costs allocated to the treatment of BOD, as shown in Exhibit 27, Exhibit 33 shows the modified allocation of process costs to cost categories. Approximately $14.2 million is allocated to BOD according to a cost of service allocation process completed by ENV staff.

Exhibit 33: Cost Allocation for BOD.

Processes	Subtotals from Process Allocation	Allocation Percentages to Treatment Parameter (1)			
		Flow	BOD	TSS	Sum
Headworks	$11,436,637	100%	0%	0%	100%
Primary Treatment	$14,142,247	20%	0%	80%	100%
Secondary Treatment	$8,764,731	0%	100%	0%	100%
Disinfection	$13,339,596	100%	0%	0%	100%
Sludge Digesters	$8,215,899	0%	26%	74%	100%
Laboratory Services	$2,250,340	0%	26%	74%	100%
Administrative	$7,567,128	47%	20%	33%	100%
Other	$6,235,538	47%	20%	33%	100%
Total		$34,157,078	$14,212,321	$23,582,718	$71,952,117

(1) Source: ENV staff provided percent allocations.

3.3.3. BOD Rate Calculation

ENV treated approximately 72.85 million pounds of BOD in FY 2010, which resulted in a unit cost per pound for BOD of $0.1951, shown in Exhibit 34.

Exhibit 34: Unit Cost Calculation for BOD.

	BOD
Allocated Costs	$14,212,321
Total lbs	72,850,526
Unit Cost per lb.	$0.1951

Similarly to the SS rate development, BOD's unit cost was used to develop premiums per thousand gallons per establishment. This process is presented in Exhibit 35.

Exhibit 35: Rate Calculation for BOD.

Domestic Strength (mg/l)	200
Convert to lb/kgal	0.0083453
Unit Cost per lb.	$0.1951
Proposed Volumetric Rate	$3.49

SIC Code	INDUSTRY Establishments	BOD Average (mg/l)	BOD Average (above Domestic) (mg/l)	BOD Average (above Domestic) (lb/kgal)	BOD Updated Premium
2011	Meat Packing Plants	1191	991	8.27	$1.6134
2013	Sausage/Other Prepared Meats	593	393	3.28	$0.6398
2015	Poultry Slaughtering/Processing	1062	862	7.19	$1.4034
2035	Pickled Fruits/Vegetables, Sauces/Seasonings/Dressings	1570	1370	11.43	$2.2305
2037	Frozen Fruits/Juices/Vegetables	1097	897	7.49	$1.4604
2051	Bread/Bakery Products (except Cookies/Crackers)	1206	1006	8.40	$1.6378
5461	Bakeries, Retail	836	636	5.31	$1.0355
2075	Soybean Oil Mills	2213	2013	16.80	$3.2773
2098	Macaroni, Spaghetti, Vermicelli and Noodles	2111	1911	15.95	$3.1112
2099	Food Preparation, Not Elsewhere Classified (i.e. Potato Processing)	808	608	5.07	$0.9899
5311	Restaurant in Department Store	691	491	4.10	$0.7994
5812	Eating Places (i.e., Carry-out, Coffee/Snack Shops, Caterers)	691	491	4.10	$0.7994
7011	Hotels/Motels Serving Food	271	71	0.59	$0.1156
5411	Grocery Stores/Super Markets	350	150	1.25	$0.2442
5813	Drinking Places (Alcoholic Bev.)	691	491	4.10	$0.7994
8059	Nursing/Personal Care Facilities	527	327	2.73	$0.5324

It is important to note that as full secondary treatment becomes implemented at all nine facilities, the costs allocated to BOD will increase, increasing the unit cost and ultimately rates for non-residential BOD surcharged customers.

3.3.4. Revenue Projection

Exhibit 36 shows the additional revenue of $142,000 generated as a result of the BOD premiums. If the BOD charge would be implemented, the BOD premium would be combined with the SS volumetric rates derived earlier for a combined SS and BOD non-residential high strength volumetric charge per 1,000 gallons. Adding the premium for BOD would offset a portion of the decrease in customer bill experienced with only the SS rate, especially for bakeries, meat and poultry processing and packing plants, and noodle factories where BOD levels are particularly elevated in their wastewater.

Exhibit 36: BOD High Strength Surcharge Revenue Projection.

SIC Code	INDUSTRY Establishments	BOD Updated Premium	BOD Consumption (kgal)	BOD Revenue from Surcharge
2011	Meat Packing Plants	$1.6134	1,092	$1,762
2013	Sausage/Other Prepared Meats	$0.6398	7,230	$4,626
2015	Poultry Slaughtering/Processing	$1.4034	0	$0
2035	Pickled Fruits/Vegetables, Sauces/Seasonings/Dressings	$2.2305	6	$13
2037	Frozen Fruits/Juices/Vegetables	$1.4604	0	$0
2051	Bread/Bakery Products (except Cookies/Crackers)	$1.6378	3,810	$6,240
5461	Bakeries, Retail	$1.0355	3,846	$3,982
2075	Soybean Oil Mills	$3.2773	7,050	$23,105
2098	Macaroni, Spaghetti, Vermicelli and Noodles	$3.1112	8,874	$27,609
2099	Food Preparation, Not Elsewhere Classified (i.e. Potato Processing)	$0.9899	0	$0
5311	Restaurant in Department Store	$0.7994	31,782	$25,406
5812	Eating Places (i.e., Carry-out, Coffee/Snack Shops, Caterers)	$0.7994	5,808	$4,643
7011	Hotels/Motels Serving Food	$0.1156	272,988	$31,555
5411	Grocery Stores/Super Markets	$0.2442	12,552	$3,065
5813	Drinking Places (Alcoholic Bev.)	$0.7994	0	$0
8059	Nursing/Personal Care Facilities	$0.5324	18,798	$10,008
			Total Revenue	$142,015

3.3.5. Discharge Concentrations

For this analysis, the BOD rate schedule mimics the SS rate schedule, with different discharge concentrations and rates. The same establishment types are used. Since ENV does not currently assess BOD rates and thus does not have a schedule of typical discharge concentrations per establishment, a benchmarking analysis was conducted to select a set of discharge concentrations. The typical discharge concentrations are provided in Exhibit 35 above, and were determined as the best representative concentrations for the establishment types. However, ENV may want to consider sampling discharge of non-residential customers to establish more accurate concentrations.

3.4. Waste Hauling Charges

3.4.1. Waste Hauling Overview

ENV allows and charges for waste to be hauled directly to several receiving sites within the wastewater collection system. Waste haulers, who typically collect liquid waste from septic tanks, grease traps, etc., discharge their waste at the headworks of a wastewater treatment facility, or other approved site. It is important to give waste haulers an opportunity to discharge these waste streams in a safe manner. However, it is also important to assess an equitable fee based on the cost to handle and treat that waste stream.

ENV estimates it processes approximately 23 million gallons of hauled waste in FY 2010. ENV currently assesses the volumetric rate to waste haulers. Waste haulers self-report the amount of waste, and bills are generated based on these levels of waste. RFC was tasked to recalculate the volumetric rate based on cost of service, and to calculate a rate if BOD surcharges were implemented.

3.4.2. Cost of Service Based Rate Calculation to Update Existing Rates

The methodology for development of high strength surcharges should be applied to development of a hauled waste discharge fee. High strength surcharges are based on the cost to treat one pound of pollutant. The updated unit cost per pound for pollutant treatment, calculated for SS in Section 3.2.1, applied to the assumed strength per gallon of hauled waste would generate a "cost per gallon" fee for hauled waste. The process to calculate this fee is presented in Exhibit 37. For this analysis, the assumed strength of hauled waste is 2000 mg/l. This strength may be on the low side, but it is a conservative estimate not inconsistent with industry benchmarking. ENV may want to consider sampling for a more accurate average strength for hauled waste. This assumed strength is applied to the unit cost of $0.3037 per pound to determine the premium, and ultimately the total flow rate of $8.0530 per thousand gallons. Currently, only treatment costs are considered in the development of the hauled waste charge, but RFC recommends considering the inclusion of an administrative component for future fee development to recover the costs of overseeing the hauled waste program.

Exhibit 37: Calculation of Hauled Waste Charge.

Domestic Strength (mg/l)	200
Convert to lb/kgal	0.0083453
Unit Cost per lb.	$0.3037
Proposed Volumetric Rate	$3.49

SS	SS	SS	SS	SS
Proposed Average (mg/l)	Proposed Average (lb/kgal)	SS Unit Rate - Charge	Flow Rate - Charge	Flow Rate - Charge
2000	15.02	$4.5626	$3.49	**$8.0530**

3.4.3. Hauled Waste Rates with BOD

If BOD surcharges were in effect, ENV would want their hauled waste volumetric rate to include a component to cover BOD treatment. Exhibit 38 recalculates the hauled waste rate to include BOD charges. The total volumetric rate is $11.3091 per thousand gallons.

Exhibit 38: Waste Hauler Rate Calculation with BOD.

Domestic Strength (mg/l)	200
Convert to lb/kgal	0.0083453
SS Unit Cost per lb.	$0.3037
BOD Unit Cost per lb.	$0.1951
Proposed Volumetric Rate	$3.49

SS	SS	SS	SS	SS
Proposed Average (mg/l)	Proposed Average (lb/kgal)	SS Unit Rate - Charge	Flow Rate - Charge	Flow Rate - Charge
2000	15.02	$4.5626	$3.49	**$8.0530**

BOD	BOD	BOD	BOD	BOD
Proposed Average (mg/l)	Proposed Average (lb/kgal)	SS Unit Rate - Charge	Flow Rate - Charge	Flow Rate - Charge
2000	16.69	$3.2561	$0.00	**$3.2561**

Total Rate	**$11.3091**

3.4.4. Other Considerations

Currently, ENV supports self-reporting for discharging hauled waste. There are several methods ENV could consider that would allow them to more closely monitor hauled waste. For example, ENV could install wastewater meters at the discharge sites. Another method would be to install a weigh station that weigh the tanker truck before and after. The volumetric rate could be converted to a rate per pound and assessed accordingly. The capacity of the truck could be used in determining a customer's bill. The volumetric rate could be applied to the total, or percentage of, the capacity. These three methods may result in increased revenue by more accurately accounting level of hauled waste discharged into the system. However, ENV must also consider that this measure, as well as any substantial increase in rates, may result in illegal discharges.

3.5. High Strength Surcharges and Hauled Waste Fee Summary

In this section, updated volumetric rates were calculated for non-residential surcharged customers. These rates use the foundation of uniform volumetric rates from Section 2 and calculate the additional premium per thousand gallons per establishment type for the additional treatment costs expended to remove elevated levels of suspended solids using a unit cost per pound approach. Furthermore, sample rates and rate schedule were provided if surcharges for treatment of BOD were implemented. A volumetric charge was determined for hauled waste using the same unit cost from the high strength surcharge methodology. For both high strength and hauled waste charges, standards or assumed strengths of wastewater were used to derive the charges, but ENV may want to consider conducting a comprehensive sampling of non-residential establishments' discharges and hauled waste to incorporate into the rate calculations to more accurately reflect the characteristics of effluent in their own system.

SECTION 4: FACILITY CHARGE

In general, facility charges or impact fees are defined as "One-time capital recovery charges assessed against new development as a way to recover a proportional share of the cost of capital facilities constructed to provide service capacity for new customers."[4] These types of fees are typically used in areas that have or are experiencing high growth where recovering expansion related costs through rates would place an inequitable burden on existing customers.

4.1. Facility Charge Approaches

Numerous approaches to determining facility charges have been adopted by wastewater utilities across the country. The major goal in selecting an impact fee methodology is to select an approach which provides intergenerational equity to existing and future customers and is legally defensible. In order to meet this goal, care must be taken to develop facility charges that reflect the actual cost of providing capacity to meet each customer's needs or level of demand. The more prevalent and accepted methodologies for calculating facility charges are discussed below, followed by a brief discussion of the "Rational Nexus" test.

4.1.1. System Buy-In Approach

Under this approach, facility charges are based upon the "buy-in" concept that existing users, through service charges, tax contributions, and other up-front charges, have developed a valuable public capital facility. This method is appropriate for utility systems, or components of utility systems, with additional capacity already in place, and provides an estimate of the cost of providing a unit of capacity based upon the net equity of the existing assets. This method calculates a fee based upon the proportional cost of each user's, both existing and future, share of the existing system capacity. The costs of the facilities are based on a review of fixed asset records and include escalation of the depreciated value of those assets to current dollars. Any outstanding principal on funds borrowed to construct the core assets is deducted, based on the assumption that this cost will be recovered from all present and future customers through the retail utility rates.

4.1.2. Marginal Incremental Cost Methodology

The marginal incremental cost methodology specifically focuses on the cost of adding additional facilities to serve new customers. It is most appropriate in a situation where existing facilities do not have available capacity to serve to new customers and the cost for new capacity can be tied to an approved CIP or master plan. This method includes the calculation of an adjustment or credit for relevant principal payments related to the new assets that will be recovered through future utility rates. This credit is designed to address the issue of double payment by new customers for the same unit of capacity through the facility charge and through user rates and charges.

4.1.3. Rational Nexus

In general, properly developed facility charges must comply with the Rational Nexus test established in court cases. The Rational Nexus test requires that: 1) the need for facility charges

[4] *Comprehensive Guide to Water and Wastewater Finance and Pricing* - Third Edition, George A. Raftelis

is a result of new growth; 2) the amount of the fee does not exceed the reasonable cost to provide capacity to accommodate growth; and 3) the funds collected must be adequately earmarked for the sufficient benefit of new customers required to pay the fee. The development of appropriate facility charges is an important component in the overall strategy for pricing utility services and represents a major challenge for public utilities.

4.2. Existing Facility Charges and Methodology

The methodology for the existing facility charges was last updated in 1997 in the *Bartle Wells Associates* report in 1997. Because the community was experiencing and projecting growth and had an extensive capital improvement plan in place for the next several years, which included adding treatment capacity within the system, the marginal incremental approach served as the basis for the facility charge calculation.

The existing rates are provided in Exhibit 39, and are expressed as the rate per ESDU, or equivalent single dwelling unit. For residential, a charge of $5,541 is currently assessed to new homes. Typically these fees are paid for by the developer. Currently, the facility charges must be paid upon the issuance of a planning permit. This is very early on in the development process, and ENV runs the risk of potential refunding issues should the project never make it out of the planning phase. ENV may want to consider changing the existing policy to assess fees upon the issuance of a building permit. This timing of impact fees is more consistent with other utilities in the industry.

Exhibit 39: Existing Facility Charges

EXISTING WASTEWATER SYSTEM FACILITY CHARGES

Customer Class	FY 2011
Residential	$5,541
Low-income Residential	$1,146
Non-Residential	$5,541
Non-Residential with High Strength	Charge = $4,763 + [$778 * Ssi/200) Ssi = Estimated Strength (mg/l)

Since the previous analysis, growth has slowed due to several factors, including land availability and the overall national and international economic downturn. ENV currently has ample capacity for years to come based on projected growth, and therefore, it is appropriate and more accurate to adopt the system buy-in approach as the basis for the facility charge calculation.

4.3. Updated Facility Charge Methodology

RFC proposes that the wastewater facility charge be calculated based on the system buy-in approach for capacity already in place to serve new customers. The approach used to develop the facility charge involves the following steps:

1. The replacement cost new less depreciation (RCNLD) of the wastewater system assets available to serve the existing and new customers of ENV's wastewater system will be

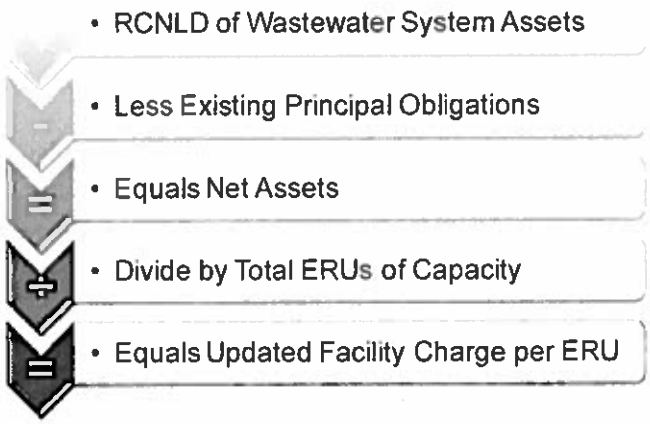
determined. RCNLD represents the cost today to replicate the existing assets of the utility system. The RCNLD will be developed by escalating the depreciated original cost, or net book value (NBV), of each asset to reflect the cost to replace the depreciated asset today. The escalation factors for the assets are based on factors provided in the Handy Whitman Index related to trends of public utility construction costs. Furthermore, the RCNLD represents the cost to replicate the NBV of the existing assets used to determine the current customer's investment in the wastewater system assets.

2. The level of cash on hand accumulated as a result of previous facility charge revenue and other capital related reserves will be determined and combined with the RCNLD of the capital assets from step one.
3. Principal on outstanding bonds used to construct the existing assets is deducted from the total investment in system assets, based on the assumption that this cost will be recovered from all present and future customers through the retail utility rates.
4. The Net Assets is the RCNLD plus financial assets less outstanding debt obligations, and this value is divided by the total ERUs of capacity available to serve both existing and new customers. This capacity is approximately 157 MGD. With a standard design flow of 305 gpd per ERU plus an I&I factor of 27.7%, derived from the analysis of billed to treated flow, the total possible ERUs for the system equals 403,303. The calculation of net assets divided by total ERUs will result in an updated cost per ERU.

4.4. Facility Charge Summary and Challenges

An update of the facility charge is not possible at this time due to issues with data availability. Capital asset information requires a significant amount of ongoing effort to maintain accurate and relevant records. ENV is currently reviewing their asset management internally and will be able to provide applicable asset values for the calculation of the RCNLD at a later time. Upon the determination of the RCNLD, an updated facility charge will be possible using the steps listed above and summarized in Exhibit 40.

Exhibit 40: Facility Charge Calculation Process.



SECTION 5: AFFORDABILITY

5.1. What Is Affordability?

Affordability may be defined as the ability of customers to pay for utility services billed to them. Exactly how affordability should be measured, however, is not as easy to define. Should affordability be linked primarily to "typical" residential customers? Or should affordability strictly consider how many low or fixed income customers might have trouble paying their wastewater bills? Each of these situations would create a different perspective on how affordability should be measured. Furthermore, each utility's customer base is unique, both in terms of economic profile, demand patterns, and data availability. For all of these reasons, how to address affordability is very much an art at least as much as it is a science.

5.2. Why Is Affordability Important?

"As rates continue to rise more rapidly than inflation and as the recession continues, affordability is going to become a bigger issue for utilities."[5] In general, wastewater rates are increasing more quickly than the CPI. As this trend continues, wastewater charges will become a more significant portion of the expenses of a household or business. This trend has led utilities to contemplate how to assist their customers. The City and County of Honolulu has one of the highest minimum charges for a typical residential customer in the United States, so affordability of rates for customers is an issue that warrants further consideration by the utility and governing municipality.

5.3. Affordability: Who's Responsible?

Within the wastewater industry there is debate as to whether utilities should be responsible for affordability programs. Many believe that since the utilities are placing the burden on the customers that they should be responsible, while others believe it is outside the mission of the utilities, which is to provide the necessary service while protecting the environment. Given the level of the rates and the demographics of the ENV's service area, the City and County might consider implementing an affordability program. As part of the consideration the City and County must answer the following questions:

- To what degree should a disadvantaged customer be subsidized?
- What is the level of charge that will be subsidized?
- What will be the source of funding, initial and ongoing, of the program?
- What agency will oversee the program?
- How will those that really can't afford to pay be determined?

Upon selecting an affordability program or approach, the utility must then determine how to pay for it. Affordability assistance costs could be recovered by all other customers not receiving assistance. In other words, the costs could be recovered through retail rates. Another method of funding affordability could be money from the General Fund. In this situation, the utility is determining that affordability is not necessarily a function of operating the utility as an enterprise

[5] 2008 Water and Wastewater Rate Survey, AWWA and Raftelis Financial Consultants, Inc., pg. 4.

fund, but affordability is more of a social issue and should be covered by funds outside of those charged for operating the utility.

5.4. What Does Affordability Mean for the Utility?

Incorporating an affordability measure to assist economically disadvantaged or fixed income customers, either directly or indirectly, with the cost of rising wastewater rates would be a public good-faith effort, which could improve customer relations and reflect the utility's commitment to support social initiatives in the community. Aside from public perception, however, affordability is much more than an intangible concept. Charging rates that many customers cannot afford to pay will result in real costs to the utility. The following are examples that could result in financial impacts for the utility.

- Bill delinquency
  - Uncollectible receivables
  - Increased administrative overhead
  - Costs for hiring outside collection firms
  - Need for higher reserves to cover uncollectible accounts
- Revenue shortfalls
  - Expected revenues may not materialize if new rates are burdensome.

Affordability of monthly water and wastewater bills is a function of regional, local, and household economic conditions, and there is no "one-size-fits-all" affordability index. For example: The 1998 *Water Affordability Programs*[6] report by the AWWA Research Foundation suggests that water and wastewater bills become unaffordable at two percent (each) of impoverished household income. However, this equates to a four percent total water and wastewater rate burden, and it could be argued that this percentage is rather high for those customers that are impoverished. Because poverty level customers have a smaller percentage of income available for covering utility costs than higher income customers, their affordability thresholds tend to be relatively low. Other considerations for the utility include:

- Typical bill amount
- Household income (low income, average, other statistics)
- Number of customers at different burden levels
- Poverty level
- Available customer data

A few additional considerations for the utility are to what degree disadvantaged customers should be subsidized and to what degree other customers should be required to shoulder the burden for the utility to be socially sensitive. If policy dictates that the utility fund the affordability program, rates for all customers will likely increase to generate enough revenue to recover the affordability program costs. In the later discussion of alternatives for ENV, the costs of such affordability programs are calculated, but the numbers are estimates and based on several assumptions. While these estimates may be high or low, the bottom line is that additional revenue will be required. This in turn will increase the level of assistance needed and further increase the cost of the program. It may be prudent for the utility to phase-in the level of assistance to gauge the level of participation and be able to project the ultimate cost.

[6] *Water Affordability Programs*, AWWA Research Foundation, Publication 90732, 1998.

5.5. EPA Affordability Standards

Since the 1990s the EPA has used affordability criteria to assess the ability of utilities to pay for new treatment processes. One example of such criteria is the 1997 financial capability tests established as part of the EPA's Combined Sewer Overflow Control Policy. In 2002, however, EPA was directed by Congress to reevaluate how it measures affordability for small systems. As a result, the EPA has been working with the National Drinking Water Advisory Council and the Science Advisory Board to determine what changes should be made to the EPA's standardized national affordability criteria. The EPA has indicated a preference for measuring affordability as a percentage of Median Household Income (MHI), which has been used as a central component of EPA affordability measures for more than 10 years. MHI data is readily available, simple to understand, and already used in EPA's affordability test, and thus, its appeal is easily understood. Because EPA affordability criteria are inevitably also adopted by many decision-makers for general-purpose use, they have a significant influence on how the industry views affordability. This is true even though these affordability tests were originally designed primarily to evaluate the utility cost burden of new regulations. This approach to affordability is different than how a utility evaluates how much of a bill should be subsidized, how customers are deemed eligible, and how the subsidy should be administered.

5.6. Common Approaches to Customer Affordability

There are numerous types of affordability programs, applicable to both water and wastewater utilities, that are available to use in order to help economically disadvantaged, or low-income, customers. However, the type of programs that are implemented will vary depending on state statutes, trust indentures for the issuance of bonds, policy decisions, and other factors. The affordability programs that directly impact the utility bill fall into five general categories of programs, adapted from the AWWA M1 Manual:

- Straight Discount: Reduction or discount to entire wastewater bill.
- Discount Variable (Usage) Portion: Reduction or discount to the volumetric component of the wastewater bill.
- Discount Fixed (Base or Minimum) Portion: Reduction or discount to the base or minimum charge (if assessed) component of the wastewater bill.
- Percentage of Income: Part or the entire wastewater bill is reduced or discounted based on the level of income of the customer.
- Fixed Credits: A coupon or discount assessed to a customer's wastewater bill based on the customer classification.

An indirect affordability measure is assistance through local community organizations (such as churches and other non-profit organizations) that will assist economically disadvantaged customers pay their utility bills. Customers can go directly to these organizations to seek funds from which they can then use to pay their wastewater bill. Another method is through charitable donations. Many utilities can have programs that allow customers to contribute to a fund that is used to help those customers that are unable to pay their bills. The cost of administering these programs can either be funded by the utility or through fund raising so that minimal costs for these programs are subsidized by the utility's other customers.

5.7. *Alternatives for ENV*

Various affordability alternatives were considered in this study. Given the unique characteristics of ENV's Sewer Service Charge, the regional economic and social demographics, and the policies and objectives of the utility, three general alternatives are being presented.

5.7.1. Alternative 1: Assistance via Community Program

Alternative 1 assumes a third party administers the affordability assistance program. Specifically, funding for affordability, whether from the Sewer Fund or General Fund, would be transferred to the third party or agency, and the third party would have sole responsibility for distribution of funds as they see fit. The objective would be to either initiate or increase assistance funds to qualifying individuals and families according to the respective agency's guidelines. The advantages of this alternative are the level of affordability assistance would be fixed, which could more easily be budgeted from year to year, and this method would take advantage of the efficiencies of assistance programs already in place. The level of assistance may be arbitrarily set, but it may be more prudent to establish the level of assistance based on a target level of assistance per economically disadvantaged or fixed income customer, for which examples are shown in Alternatives 2 and 3. This alternative should include funding for additional administrative staffing for the third party agency. The utility understands that control over the program is transferred to a third party.

Below are some examples of existing agencies and programs, either under a department of the City and County of Honolulu or representative of a local presence. When considering an agency to implement and administer the sewer affordability initiative, ENV should explore the restrictions or limitations of the respective agency in conjunction with the ENV's objectives for the initiative. ENV should also consider whether the funds transferred to the agency are used specifically for sewer customer affordability.

- Department of Housing and Urban Development (HUD): Federal Rental Assistance (known as Section 8) screens applicants for rental assistance. If the combination of the entire household's income is below 50% of the Median Household Income, the applicant's rent will be subsidized. Citizens receiving assistance must re-establish the need for aid on an annual basis.
- Real Property Assessment Division, Department of Budget and Fiscal Services: Home owners can qualify for property tax exemptions, and this Division handles the claims and processing. Provided a home owner qualifies, there are several home exemptions, including a basic home exemption and additional exemptions for elderly, disabled, disabled veterans, and income level.
- Temporary Assistance for Needy Families (TANF), Department of Human Services: TANF program supplies time-limited welfare for adults with children. Specifically, this program provides monthly benefits to families for food, clothing, shelter, and other essentials. Families can qualify by reporting children under the age of 19 and the family's total gross income to meet a guideline.
- Supplemental Nutrition Assistance Program (SNAP), Department of Human Services: The SNAP program provides low-income households with coupons (food stamps) that can be used at most grocery stores. This state agency administers the program and determines eligibility of applicants. Participation is based on prior eligibility for

Temporary Assistance for Needy Families (TANF) assistance program or by the applicant's gross income.

- Honolulu Community Action Program: The Honolulu Community Action Program is a private, non-profit organization that facilitates many different assistance programs. Their mission is to provide opportunities and inspiration to enable low-income individuals or families to achieve self-reliance. HCAP offers many programs, including Low-Income Home Energy Assistance Program (LIHEAP) that provides energy assistance based on income level and household size. Eligibility varies for programs based on specific guidelines set by funding organizations.
- Other non-profit agencies similar to the Community Action Program, such as Salvation Army and other welfare organizations.

There are a few challenges with this approach. Delivering assistance in this manner is an indirect one that assists low or fixed income customers by providing more funds to help them pay for food, shelter and other bills. The funds would not be directly linked to a customer's wastewater bill, and thus could be used for other items. Also, the program or agency selected would have sole responsibility of who receives the funds, which may not directly coincide with objectives of the utility. Finally, it would be impractical for the utility to measure the effectiveness of this approach. While these challenges merit consideration, the overall ease of implementation, minimal annual efforts for maintaining this type of affordability assistance, and social policy associated with coordination through an existing community program or agency are very appealing for certain utilities.

5.7.2. Alternative 2: Income-based Assistance

Alternative 2 is a mechanism to provide customers rate relief based on household salary. Affordability in this alternative would be administered by ENV and would directly affect a customer's wastewater bill. The level of assistance and qualifying customers for this alternative are assessed by two types of income-based determination:

- Alternative 2A - Eligibility Tiers: eligibility and level of assistance is determined by several tiers or blocks of household salary levels
- Alternative 2B - Eligibility Cap: eligibility and level of assistance is determined by one household salary or cap

Assistance for both alternatives could be reflected as a reduction or discount to the fixed, or minimum, charge component assessed by ENV, and eligible customers could be responsible for the entirety of their volumetric use and respective charge. The rationale for this policy is that customers have no control over the fixed component of their bill but do have control over their usage, or the variable portion of their bill.

The following alternatives present examples to demonstrate each alternative. The key inputs are used to calculate the subsidy level, show how the subsidy is administered through the base charge, and arrive at the total cost of implementing the alternative. The level of customer participation has been estimated from conversations with ENV staff and a crosswalk between U.S. Census data and ENV accounts. It is import to recognize that the assumptions used in the examples could change and sensitivity analysis could be conducted to test the impact of these variables on the amount of subsidy that would be required.

5.7.2.1. Alternative 2A: Eligibility Tiers

In Alternative 2A, salary tiers are utilized to establish groupings upon which customers will qualify for a specific level of assistance that could be administered directly to their fixed charge component of their bill. The Salary tiers are set using the identical tiers established by the U.S. Census Bureau. Also, census data of percentage of households to the corresponding tiers for the region, in this case the City and County of Honolulu, has been used to estimate the level of participation. Examples of key inputs to calculate participation and ultimate cost to the utility are shown in Exhibit 41.

Exhibit 41: Key inputs for Alternative 2A Analysis.

Inputs	
Water Consumption	9,000 gallons per month
Sewer Demand	5,740 gallons per month
Minimum Charge	$68.39 per month
Volumetric Charge	$2.88 per thousand gallons
Customer Bill Percent of Household Income	2.00%
Additional Administrative Costs	$500,000 per year

For this analysis, 2.00% of household income is used as the assistance metric. This means that customers within a salary tier would only be responsible for 2.00% of the tier cut-off. In other words, the subsidy from the utility would be all above the 2.00% affordability metric for each tier. For example, assuming water consumption of 9,000 gallons, the customer's bill without assistance would be $1,019; however, the customer, who only earns $22,000 a year, would qualify in the $15,000-$24,999 tier. Thus, the customer would only be responsible for $500.00, or 2.00% of $24,999. The rest would be subsidized by the affordability program. This example and the other eligibility tiers of household salary ranges and corresponding customer levels of subsidy are presented below in Exhibit 42. In addition to identifying the customer's subsidy, Exhibit 42 provides an estimation of the number of customers that would request the subsidy, resulting in an overall cost of the program.

Exhibit 42: Alternative 2A Analysis.

Household Salary Range	Total Bill Subsidy Needed*	Number of Participating Customers	Cost of Assistance Program
Less than $10,000	$819	8,486	$6,950,237
$10,000 to $14,999	$719	4,854	$3,490,370
$15,000 to $24,999	$519	10,415	$5,406,098
$25,000 to $34,999	$319	12,396	$3,955,071
$35,000 to $49,999	$19	18,445	$351,463
> $50,000 Not Relevant			

* Assumes a typical residential customer annual bill of $1,019

Cost of Assistance	$20,153,239
Estimated Administrative Costs	$500,000
Estimated Total Cost of Program	**$20,653,239**
Percent of Rate Revenue	**6.5%**

As previously mentioned, the reduction or discount in this example is only reflected in the fixed charge. By discounting the fixed charge, ENV can easily assess the subsidy without necessarily calculating the customer's bill. Additionally, this subsidy is based on a typical customer's consumption. A qualified customer would have to pay more for using more water and discharging more into the system. The determination of the fixed charge is shown in Exhibit 43.

Exhibit 43: Assessment of Subsidy to Fixed Charge.

Household Salary Range	Total Bill Subsidy Needed*	Percent Total Bill Subsidy	Fixed Charge Subsidy Needed	Percent Fixed Charge Subsidy	Monthly Fixed Charge Subsidy	Monthly Fixed Charge Assessed	Number of Participating Customers	Cost of Assistance Program
Less than $10,000	$819	80%	$819	100%	$68.25	$0.00	8,486	$6,950,237
$10,000 to $14,999	$719	71%	$719	88%	$59.92	$8.47	4,854	$3,490,370
$15,000 to $24,999	$519	51%	$519	63%	$43.25	$25.14	10,415	$5,406,098
$25,000 to $34,999	$319	31%	$319	39%	$26.59	$41.80	12,396	$3,955,071
$35,000 to $49,999	$19	2%	$19	2%	$1.59	$66.80	18,445	$351,463
> $50,000 Not Relevant								

* Assumes a typical residential customer annual bill of $1,019

Cost of Assistance	$20,153,239
Estimated Administrative Costs	$500,000
Estimated Total Cost of Program	**$20,653,239**
Percent of Rate Revenue	**6.5%**

5.7.2.2. *Alternative 2B: Eligibility Cap*

Alternative 2B also provides customers rate relief based on household salary. The analysis is very similar to Alternative 2A, except for this alternative, there is one household salary tier, or cap, marking eligibility for assistance. The cap for this analysis is set at $25,000, which approximately corresponds to the Federal Poverty Line for a household of four people in the County of Honolulu.

Exhibit 44 presents the Key Inputs for the analysis for Alternative 2B. The level of assistance is determined by the household salary cap. In this analysis, it is determined that all eligible customers are responsible to pay 2.00% of the cap, or 2.00% of $25,000, which equals $500.00. The remaining part of the bill of $1,019, or $519, will be subsidized by the program for all eligible customers. It is important to note that customers below the $25,000 cap are not getting their bill subsidized up to the 2.00%. Those customers will, in fact, be paying higher than 2.00%. The estimated cost of this alternative is $12.83 million, calculated in Exhibit 45. The number of participating customers based on U.S. census data, is estimated at nearly 24,000 customers.

Exhibit 44: Key inputs for Alternative 2B Analysis.

Inputs	
Water Consumption	9,000 gallons per month
Sewer Demand	5,740 gallons per month
Minimum Charge	$68.39 per month
Volumetric Charge	$2.88 per thousand gallons
Customer Bill Percent of Household Income	2.00%
Additional Administrative Costs	$500,000 per year

Exhibit 45: Alternative 2B Analysis.

Eligibility Level of Household Salary	Total Bill Subsidy Needed*	Number of Participating Customers	Cost of Assistance Program
$25,000.00	$519	23,755	$12,330,177

* Assumes a typical residential customer annual bill of $1,019

Cost of Assistance	$12,330,177
Additional Administrative Costs	$500,000
Estimated Total Cost of Program	**$12,830,177**
Percent of Rate Revenue	**4.0%**

Similarly to Alternative 2A, Exhibit 46 shows the process of applying the assistance directly to the fixed charge component of their bill. Eligible customers at all levels will still be responsible for the entirety of their volumetric use and respective charge.

Exhibit 46: Assessment of Subsidy to Fixed Charge.

Eligibility Level of Household Salary	Total Bill Subsidy Needed*	Percent Total Bill Subsidy	Fixed Charge Subsidy Needed	Percent Fixed Charge Subsidy	Monthly Fixed Charge Subsidy	Monthly Fixed Charge Assessed	Number of Participating Customers	Cost of Assistance Program
$25,000.00	$519	51%	$519	63%	$43.25	$25.14	23,755	$12,330,177

* Assumes a typical residential customer annual bill of $1,019

Cost of Assistance	$12,330,177
Additional Administrative Costs	$500,000
Estimated Total Cost of Program	**$12,830,177**
Percent of Rate Revenue	**4.0%**

Alternatives 2A and 2B provide mechanisms to connect affordability to a typical customer's ability to pay by qualifying customers by salary tiers. The disadvantages of this are associated with the rigors of implementation. The screening process alone could be very cumbersome. Identifying the household salary is another challenge. Is only the deed holder considered or the collective salaries of all the members of the household? Also, this approach becomes more complicated when multi-family residential customers are considered. Furthermore, from the utility's standpoint, it would be difficult to budget for the cost of this program, especially for the first year of implementation, when participation is estimated and largely unknown.

5.7.3. Alternative 3: Fixed Discount

Alternative 3 is a mechanism to provide customers rate relief at a fixed level per qualified customer. For this analysis, customers are qualified by a salary level cap. This cap is identical to the cap for Alternative 2B, which is $25,000 and is approximately the Federal Poverty Line for the State of Hawaii for the respective household size of 4 persons. While this may seem very similar to Alternative 2B, the customer's household salary cap is only for marking eligibility for assistance. Salary is not factored into the calculation of level of assistance. Here, the level of assistance is set at a fixed level, $40.00 to be administered directly to the customer's fixed charge component of their bill, shown in Exhibit 47. Consistent with Alternative 2, eligible customers will still be responsible for the entirety of their volumetric use and respective charge. Exhibit 47 shows that approximately 24,000 customers would participate in this Fixed Discount program, based on estimates using U.S. census data, and the total annual cost of Alternative 3 would be $11.9 million.

Exhibit 47: Alternative 3 Analysis.

Eligibility Level of Household Salary	Monthly Fixed Charge Subsidy	Monthly Fixed Charge Assessed	Annual Total Bill Subsidy	Number of Participating Customers	Cost of Assistance Program
$25,000.00	$40.00	$28.39	$480.00	23,755	$11,402,437
				Cost of Assistance	$11,402,437
				Additional Administrative Costs	$500,000
				Estimated Total Cost of Program	**$11,902,437**
				Percent of Rate Revenue	**3.7%**

Implementation of Alternative 3 should be easier than Alternative 2. Assessing a fixed discount to the fixed charge component would be an uncomplicated procedure, provided the customer could be designated as a special customer classification, identified as low or fixed income. The number of customers in the analysis is an estimate, and therefore, significant differences in the estimated cost, higher or lower, could result.

5.8. Affordability Summary

In selecting an appropriate affordability approach, ENV and the City and County of Honolulu should consider and balance the following concerns.

- Cost of the program
- Accuracy of assumptions estimating cost of the program
- Impact on other rate payers
- Degree of tying rate relief to specific income levels
- Option of program and degree of acceptability by disadvantaged customers, other customers, policy makers, and other stakeholders
- Ease of administration and related costs
- Level of control decided by utility and/or City and County
- Effectiveness of method in ensuring subsidy funds are applied appropriately to qualified customers

SUMMARY OF PROPOSED BILL:

RELATING TO SEWER SERVICE CHARGES.

PROPOSED BILL:

The proposed bill:

A. Keeps residential sewer service charges at the FY 2012 rates for FY 2013 to FY 2016.

B. Leaves non-residential sewer service charges for FY 2013 to FY 2016 blank.

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

ORDINANCE _____

BILL _____

A BILL FOR AN ORDINANCE

RELATING TO SEWER SERVICE CHARGES.

BE IT ORDAINED by the People of the City and County of Honolulu:

SECTION 1. Purpose. The purpose of this ordinance is to update the City's sewer service charge schedules.

SECTION 2. Appendix 14-B, Revised Ordinances of Honolulu 1990, is amended to read as follows.

"Appendix 14-B

SEWER SERVICE CHARGE SCHEDULES

The charges in column 1 apply to all customers, except those customers for which a sewer service contract/agreement exists between the customer and the City and County of Honolulu which provides that column 2 charges shall apply. Sewer service contracts/agreements that allow column 2 charges are intended for customers who have paid their share of capital costs of collection, treatment and disposal of their wastewater by the city.

Residential Sewer Service Charges			
	Effective July 1 of:	1	2
Single Family and duplex dwellings served by city water system per dwelling unit per month			
1. Monthly base charge	[2011	$71.13	$56.10]
	2012	73.97	58.34
	2013	[76.93] 73.97	[60.68] 58.34
	2014	[80.01] 73.97	[63.10] 58.34
	2015	[84.01] 73.97	[66.26] 58.34
	2016	[90.73] 73.97	[71.56] 58.34

A BILL FOR AN ORDINANCE

Residential Sewer Service Charges			
	Effective July 1 of:	1	2
[2. Monthly usage charge— First 2,000 gallons of metered water consumed	2011	No charge	No charge]
[3.] 2. Charge per 1,000 gallons of metered water consumed over 2,000 gallons, the water consumed reduced by the water irrigation factor of 18%; provided that residential users who install and maintain a water meter for submetering nonsewer water shall not have the water consumed reduced by the irrigation factor.	[2011	$3.00	$3.00]
	2012	3.12	3.12
	2013	[3.24] 3.12	[3.24] 3.12
	2014	[3.37] 3.12	[3.37] 3.12
	2015	[3.54] 3.12	[3.54] 3.12
	2016	[3.82] 3.12	[3.82] 3.12
Single-family and duplex dwellings not served by city water system per dwelling unit per month	[2011	$87.56	$80.85]
	2012	91.06	84.08
	2013	[94.70] 91.06	[87.45] 84.08
	2014	[98.49] 91.06	[90.94] 84.08
	2015	[103.41] 91.06	[95.49] 84.08
	2016	[111.69] 91.06	[103.13] 84.08

A BILL FOR AN ORDINANCE

Residential Sewer Service Charges			
	Effective July 1 of:	1	2
Multiple-unit dwellings served by city water system per dwelling unit per month			
1. Monthly base charge	[2011	$49.82	$39.22]
	2012	51.81	40.79
	2013	[53.88] 51.81	[42.42] 40.79
	2014	[56.04] 51.81	[44.12] 40.79
	2015	[58.84] 51.81	[46.32] 40.79
	2016	[63.55] 51.81	[50.03] 40.79
[2. Monthly usage charge— First 2,000 gallons of metered water consumed	2011	No charge	No charge]
[3.] 2. Charge per 1,000 gallons of metered water consumed over 2,000 gallons, the water consumed reduced by the water irrigation factor of 18%; provided that residential users who install and maintain a water meter for submetering nonsewer water shall not have the water consumed reduced by the irrigation factor.	[2011	$3.00	$3.00]
	2012	3.12	3.12
	2013	[3.24] 3.12	[3.24] 3.12
	2014	[3.37] 3.12	[3.37] 3.12
	2015	[3.54] 3.12	[3.54] 3.12
	2016	[3.82] 3.12	[3.82] 3.12
Multiple-family dwellings not served by city water system per dwelling unit per month	[2011	$67.40	$56.68]
	2012	70.10	58.95
	2013	[72.90] 70.10	[61.31] 58.95
	2014	[75.82] 70.10	[63.76] 58.95
	2015	[79.61] 70.10	[66.95] 58.95
	2016	[85.98] 70.10	[72.30] 58.95

A BILL FOR AN ORDINANCE

Non-Residential Sewer Service Charges			
	Effective July 1 of:	1	2
Domestic Strength Wastewater: 1. Metered Water Usage a. If 9,000 gallons or less per month			
(1) Monthly base charge	[2011	$63.97	$53.25]
	2012	66.53	55.38
	2013	[69.19] ____	[57.59] ____
	2014	[71.96] ____	[59.90] ____
	2015	[75.56] ____	[62.89] ____
	2016	[81.60] ____	[67.92] ____
(2) Charge per 1,000 gallons	[2011	$3.26	$3.26]
	2012	3.39	3.39
	2013	[3.52] ____	[3.52] ____
	2014	[3.66] ____	[3.66] ____
	2015	[3.84] ____	[3.84] ____
	2016	[4.15] ____	[4.15] ____
b. If more than 9,000 gallons per month, charge per 1,000 gallons	[2011	$10.36	$8.70]
	2012	10.77	9.05
	2013	[11.20] ____	[9.42] ____
	2014	[11.65] ____	[9.79] ____
	2015	[12.23] ____	[10.28] ____
	2016	[13.21] ____	[11.10] ____

Non-Residential Sewer Service Charges			
	Effective July 1 of:	1	2
2. Metered Water Discharge a. If 7,000 gallons or less per month			
(1) Monthly base charge	[2011	$63.97	$53.25]
	2012	66.53	55.38
	2013	[69.19] ____	[57.59] ____
	2014	[71.96] ____	[59.90] ____
	2015	[75.56] ____	[62.89] ____
	2016	[81.60] ____	[67.92] ____
(2) Charge per 1,000 gallons	[2011	$4.16	$4.16]
	2012	4.33	4.33
	2013	[4.50] ____	[4.50] ____
	2014	[4.68] ____	[4.68] ____
	2015	[4.91] ____	[4.91] ____
	2016	[5.31] ____	[5.31] ____

Non-Residential Sewer Service Charges			
	Effective July 1 of:	1	2
b. If more than 7,000 gallons per month, charge per 1,000 gallons	[2011	$13.16	$11.04]
	2012	13.68	11.49
	2013	[14.23] ____	[11.95] ____
	2014	[14.80] ____	[12.42] ____
	2015	[15.54] ____	[13.05] ____
	2016	[16.78] ____	[14.09] ____
Extra Strength Wastewater			
1. Charge per 1,000 gallons of water usage, use the following formula 0.857 + 0.143 (SSm/200) multiplied by applicable rate	[2011	$10.36	$8.70]
	2012	10.77	9.05
	2013	[11.20] ____	[9.42] ____
	2014	[11.65] ____	[9.79] ____
	2015	[12.23] ____	[10.28] ____
	2016	[13.21] ____	[11.10] ____
2. Charge per 1,000 gallons of discharge, use the following formula 0.857 + 0.143 (SSm/200) multiplied by applicable rate	[2011	$13.16	$11.04]
	2012	13.68	11.49
	2013	[14.23] ____	[11.95] ____
	2014	[14.80] ____	[12.42] ____
	2015	[15.54] ____	[13.05] ____
	2016	[16.78] ____	[14.09] ____

A BILL FOR AN ORDINANCE

SECTION 3. Ordinance material to be repealed is bracketed. New material is underscored. When revising, compiling or printing this ordinance for inclusion in the Revised Ordinances of Honolulu, the revisor of ordinances need not include the brackets, the bracketed material, or the underscoring.

SECTION 4. This ordinance shall take effect on July 1, 2012.

INTRODUCED BY:

_____

_____

_____

_____

_____

_____

DATE OF INTRODUCTION: _____

_____

_____

_____
Honolulu, Hawaii

_____
Councilmembers

APPROVED AS TO FORM AND LEGALITY:

_____
Deputy Corporation Counsel

APPROVED this _____ day of _____, 20__.

_____
PETER B. CARLISLE, Mayor
City and County of Honolulu

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

ORDINANCE _____

BILL 58 (2010), CD1, FD1
PROPOSED

A BILL FOR AN ORDINANCE

RELATING TO SEWER SERVICE CHARGES.

BE IT ORDAINED by the People of the City and County of Honolulu:

SECTION 1. Purpose. The purpose of this ordinance is to set a cap on sewer service charges for limited income households.

SECTION 2. Chapter 14, Revised Ordinances of Honolulu 1990, as amended ("Public Works Infrastructure Requirements Including Fees and Services"), is amended by adding a new article to be appropriately designated by the revisor of ordinances and to read as follows:

"**Article ___. Sewer Service Charge Cap.**

Sec. 14-___.1 Definitions.

When used in this article:

"City" means the City and County of Honolulu.

"Director" means the director of the department of environmental services or the director's authorized representative.

"Income" means the sum of federal total income as defined in the Internal Revenue Code of the United States of 1954, as amended, and all nontaxable income, including but not limited to (1) tax-exempt interest received from the federal government or any of its instrumentalities, (2) the gross amount of any IRA distribution, pension or annuity benefits received (including Railroad Retirement Act benefits and veterans disability pensions), excluding rollovers, (3) all payments received under the federal Social Security and state unemployment insurance laws, (4) nontaxable contributions to public or private pension, annuity and/or deferred compensation plans, and (5) federal cost of living allowances. All income set forth in the tax return filed by the titleholder, whether the tax return is a joint tax return or an individual tax return, shall be considered the titleholder's income. "Income" does not include nonmonetary gifts from private sources, or surplus foods or other relief in kind provided by public or private agencies.

"Qualified surviving spouse" means a person who:

(1) Is the surviving spouse of a residential customer who, at the time of death, was the owner of property which was granted the sewer service charge cap under this article;

applicable, from the Internal Revenue Service, and (3) any accompanying forms and schedules as the director may require to verify the veracity of the transcripts. For titleholders who did not have to file and therefore did not file an income tax return under Hawaii income tax law and under Internal Revenue Service regulations, the director shall require proof of the titleholders' income which may include bank statements or other financial records as verification. The director may require proof of nonreceipt of income from relief programs such as social security, welfare, and unemployment compensation, etc. and may require such authorization from the titleholders to enable the director to fully verify the titleholders' income.

The applicant may refuse to provide such records, information or authorization. However, upon such refusal to submit a true and complete application, the director may deny the application for the cap.

(b) The owner's application for the cap shall be filed on or before September 30th for the cap to apply to sewer service charges due beginning July 1st of the succeeding year.

Sec. 14-___.4 Penalties.

Any person who:

(1) Files a fraudulent application or attests to any false statement with the intent to defraud the city or evade the payment of sewer service charges; or

(2) In any manner intentionally deceives or attempts to deceive the city,

shall be guilty of a violation and be subject to a criminal fine of not more than $2,000, in addition to being responsible for paying any outstanding fees, interest and penalties.

Sec. 14-___.5 Revocation of the sewer service charge cap.

During the year for which the sewer service charge cap is granted to a residential customer pursuant to this article, if title to the property is transferred to a new owner by gift, sale, devise, operation of law, or otherwise, except when title is transferred to a qualified surviving spouse, then the cap shall be revoked and the new owner shall no longer be eligible for the cap and shall owe the entire monthly sewer service charge."

Flag this message

DeBartolo Development - Wastewater

Thursday, March 26, 2009 10:04 AM

From: "[redacted]" <[redacted]>
Add sender to Contacts
To: esouza_khmnb34@yahoo.com
Cc: Board34Timson@aol.com

Good morning Ms. Souza.

Thank you for your warm reception at the Board meeting last night.

I wanted to follow up on Ms. Moses and your questions last night regarding wastewater from DeBartolo's Regional Mixed Use Center. As the Neighborhood Commission website does not have an email address posted for Ms. Moses, who asked the question first, would you or Ms. Timson be so kind as to pass this information along to her?

I said last night at the meeting that the estimated wastewater demand from the Mixed Use Center will be the equivalent of 87 single family residences. I met with our chief engineer, Ms. Cheryl Palesh, this morning and confirmed that 87 is the correct number.

I must agree that it seems a bit incredulous that 1.5 million square feet of commericial development could be equivalent to just 87 single family residences. But yet, that is the City standard that has been applied to the project by the City's Department of Environmental Services (formerly Wastewater Management).

It would have likely taken me several minutes or more to explain why this is so, and for better or for worse I didn't feel it would be appropriate at the time, given the other matters on the agenda and the press for time.

Please allow me now to offer an explanation:

The City distinguishes between residential and commercial wastewater in a manner that can be thought of as "primary" and "secondary" sources. A single family residence is a primary source of wastewater. When a person leaves their house and travels to a shopping center or a theater, the likelihood is that their presence at the shopping center or theater will place less demand on the bathroom facilities there then their presence at home would. (Remember that wastewater is not only toilet-related, but also includes water from the kitchen sink, bathroom sink, bathtub, shower, dishwasher and washing machine).

So, the wastewater generating fixtures at the commercial development are not considered by the City to be a "primary" source of wastewater. They are "secondary". The City feels that if it were to consider commercial developments as "primary" sources, it would, in effect, be double-counting wastewater volume. It would be assuming that residents would be placing the same level of demand on commercial developments as they would at home. Obviously, they wouldn't be because they would likely stay at the commercial development for only a few hours, and their demand would be generally limited to perhaps a single visit to the restroom, as opposed to taking a shower, running the dishwasher, doing several loads of laundry...etc.

According to Cheryl, if 1.5 million square feet of commercial development were considered to be the "primary" source of wastewater, it would be equivalent to about **1,400 single family units**. And that makes a lot of sense to me and sounds more realistic. But because the regional mixed use center is calculated as a "secondary" source of wastewater by the City, that equivalency number drops way way

down. My firm is not in a position to debate the reasonablenss of the method. Our licensed civil engineers are obligated by law to follow the standards imposed upon them by the regulating agencies.

Obviously, the City has to balance the cost of building and operating a wastewater treatment plant against the actual volume of wastewater it has to treat. As a result, the City builds assumptions into its equation when it calculates wastewater demand to avoid over building new facilities or expanding existing ones. I guess that's why they call it "wastewater management".

I apologize for the long boring explanation, but hope that it helps communicate the issue better. Please let me know if you need any further information.

Mahalo

RECEIVED

2011 SEP 28 P 2:28

CITY COUNCIL
HONOLULU, HAWAII

27 SEPTEMBER 2011

TERRY R. SCHEIDT

HONOLULU CITY COUNCIL
COUNCILMAN T. BERG

Aloha Councilman,

I am forwarding a copy of the Makakilo senior citizens water/sewer bill which was dated 11/2010. It is not the bill I referenced but it reflects exactly what I was saying.

This bill reflected $11.48 in water fees and a whopping $191.12 base rate sewer fees. There was no sewer usage fees. Isn't it amazing that a senior citizen that had no sewer usage charge is billed $191.12 in base rate fees.

This is reflective of why I have been mailing you weekly to correct this outrageous base rate fee. I recently mailed you with the break down of cost per person of the base rate fee which indicated a near 20 to 1 cost for single resident users verses the non-resident user.

Hope this helps in my plea for help from council. Wastewater could care less, they only want to keep revenues rolling.

Aloha and Mahalo

TERRY R SCHEIDT

BOARD OF WATER SUPPLY
City and County of Honolulu
630 S. Beretania Street
Honolulu, HI 96843-0001
boardofwatersupply.com
Water for Life

DEPT. OF ENVIRONMENTAL SERVICE
City and County of Honolulu
1000 Uluohia Street, Suite 309
Kapolei, HI 96707-2040
ENVhonolulu.org

TOTAL WATER CHARGES **$11.48**

Customer Inquiries? Call 808-748-5000
Water Trouble? Call 808-748-5010 (24 hours)
Office Hours: Monday thru Friday 7:45 am to 4:30 pm

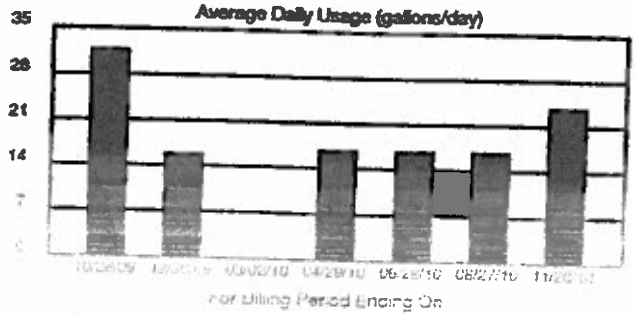
TOTAL SEWER CHARGES **$191.12**

Sewer Questions? Call 808-768-3330
Sewer Trouble? Call 808-768-7272 (24 hours)
Office Hours: Monday thru Friday 7:45 am to 4:30 pm

ACCOUNT INFORMATION

WATER & SEWER BILLING SUMMARY (See back for details)

Service Period	08/27/2010 - 11/20/2010
Previous Balance	$142.69
Payments	$142.69
Adjustments	$0.00
Current Charges	$202.60
TOTAL AMOUNT DUE	**$202.60**
Minimum Amount Due	$101.30
Due Date	12/13/2010



DATE	BILLED	THOUS. GAL.	DAYS	GAL/DAY
11/20/2010	$202.60	2	85	24
08/27/2010	$142.69	1	60	17
06/28/2010	$127.22	1	60	17
04/29/2010	$127.22	1	58	17
03/02/2010	$124.50	0	62	0
12/30/2009	$127.22	1	63	16
10/28/2009	$129.94	2	62	32

Indicate address changes below. Please detach and return bottom portion with your payment.

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
CUSTOMER CARE DIVISION
630 S. BERETANIA STREET
HONOLULU, HI 96843

1096109124073609[illegible]

ACCOUNT NUMBER
1096109-1240736

DUE DATE
12/13/2010

TOTAL AMOUNT DUE
$202.60

AMOUNT ENCLOSED – OAHU

THANK YOU

Make checks payable to:

DATE	PAYMENTS/ADJUSTMENTS/CHARGES	AMOUNT	BALANCE
	Previous Balance		142.69
0/15/2010	Payment - Thank You	-142.69	
	Balance before Current Charges		0.00
	Water Charge		
	Water Billing Charge	5.84	
	Power Cost Adjustment (per 1000 gallons)	0.06	
	2 @ 0.028 = 0.06		
	Water Usage Charge (per 1000 gallons)	5.58	
	2 @ 2.790 = 5.58		
	Total Water Charges		11.48
	Sewer Charge		
	Sewer Base Charge 136.78	191.12	
	Total Sewer Charges		191.12
	TOTAL AMOUNT DUE		
	Due Date 12/13/2010		

1. By mail using the enclosed envelope. Allow sufficient time for your payment to reach us by the DUE DATE.
2. By Automatic Bill Payment from your checking or savings account.
3. In person at our office or at our night deposit box at 630 South Beretania Street.
4. At any Satellite City Hall. Please call 748-5020 for locations and hours of operation.
5. There is a $25 charge for all dishonored payments made by check or Automatic Bill Payment.

MOVING/VACATING

All water and sewer charges will continue to be your responsibility until you notify us to close your account under your name.

1. If payment is not received by the due date on your bill, the entire amount shall become past due and a Final Notice will be issued.
2. If you receive a Final Notice, all past due amounts must be received by the Final Notice date or water may be discontinued.
3. If your water is turned off for non-payment, you will be required to pay your bill in full plus a turn-on charge before your water can be restored.

DIRECT LINE NUMBERS
BOARD OF WATER SUPPLY

Bill Payments, Automatic Bill Payment	748-5020
High Bills, Start/Stop Service	748-5030
Name/Address Changes	748-5030
Tips for efficient water use	748-5041

DEPT. OF ENVIRONMENTAL SERVICES

Sewer Bill Inquiries	768-3330

To receive proper credit to your account, do not punch holes, staple, fold or mutilate this form. Thank you.
Please make sure address appears in the envelope window.

82

Board of Water Supply
City and County of Honolulu
630 S. Beretania Street
Honolulu, HI 96843-0001