NEW ISSUE
BOOK-ENTRY ONLY

RATINGS: Moody's: Aaa
Standard & Poor's: AAA
Fitch: AAA
(See "Ratings" herein)

In the opinion of Orrick, Herrington & Sutcliffe LLP, Bond Counsel to the City and County, based upon an analysis of existing laws, regulations, rulings and court decisions, and assuming, among other matters, the accuracy of certain representations and compliance with certain covenants, interest on the Series 2007 Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, and all of the Series 2007 Bonds and the income therefrom are exempt from all taxation by the State of Hawaii or any county or other political subdivision thereof, except inheritance, transfer, estate and certain franchise taxes. In the further opinion of Bond Counsel, interest on the Series 2007 Bonds is not a specific preference item for purposes of the federal individual or corporate alternative minimum taxes, although Bond Counsel observes that such interest is included in adjusted current earnings when calculating corporate alternative minimum taxable income. Bond Counsel expresses no opinion regarding any other tax consequences related to the ownership or disposition of, or the accrual or receipt of interest on, the Series 2007 Bonds. See "TAX MATTERS" in this Official Statement.

$162,565,000
CITY AND COUNTY OF HONOLULU
Wastewater System Revenue Bonds
(First Bond Resolution)
Senior Series 2007A

Dated: Date of Delivery **Due: July 1, as shown on inside cover**

The Series 2007 Bonds are issuable in fully registered form and when issued will be registered initially in the name of Cede & Co., as nominee of The Depository Trust Company ("DTC"), New York, New York. So long as DTC or its nominee is the registered owner of the Series 2007 Bonds, purchases of the Series 2007 Bonds will be made in book-entry form only, through brokers and dealers who are, or who act through, DTC participants; beneficial owners of the Series 2007 Bonds will not receive physical delivery of Bond certificates; payment of the principal of and interest and any premium on the Series 2007 Bonds will be made directly to DTC or its nominee; and disbursement of such payments to DTC participants will be the responsibility of DTC and disbursement of such payments to the beneficial owners will be the responsibility of DTC participants. Purchases of the Series 2007 Bonds may be made in the denomination of $5,000 or any integral multiple thereof.

The Series 2007 Bonds bear interest payable on January 1 and July 1 of each year, commencing July 1, 2008. The Series 2007 Bonds are subject to redemption prior to the stated maturity thereof as described herein. The proceeds of the Series 2007 Bonds will be used: (i) to fund the cost of certain additions and improvements to the Wastewater System owned by the City and County of Honolulu (the "City and County") in the State of Hawaii; (ii) to provide for a reserve; and (iii) to pay the costs of issuance of the Series 2007 Bonds.

The Series 2007 Bonds will be issued by the City and County under a bond resolution, as supplemented (the "Bond Resolution"), pursuant to which the City and County has previously issued bonds and may issue additional bonds on a parity with the Series 2007 Bonds, as described herein (collectively with the Series 2007 Bonds, the "Bonds"). The Series 2007 Bonds are limited special obligations of the City and County payable solely from, and secured solely by, a pledge of proceeds of Bonds held or set aside under the Bond Resolution, the Net Revenues, and certain funds and accounts established by the Bond Resolution, on a parity with all other Bonds issued under the Bond Resolution. Such pledge of the Net Revenues is senior and superior to any pledge of the Net Revenues to secure obligations issued under any other bond resolution. **The Bonds are not a general or moral obligation of the State of Hawaii or any political subdivision thereof, including the City and County, and the faith and credit of the State of Hawaii or any political subdivision thereof, including the City and County, are not pledged to the payment of the principal of, premium, if any, or interest on the Bonds, and no holder of the Bonds shall have the right to compel the exercise of the taxing power of the State of Hawaii or any political subdivision thereof, including the City and County, in connection with any default with respect to the Bonds.**

Payment of the principal of and interest on the Series 2007 Bonds when due will be insured by a financial guaranty insurance policy to be issued by MBIA Insurance Corporation simultaneously with the delivery of the Series 2007 Bonds.

This cover page contains certain information for quick reference only. It is not a summary of the bond issue. Prospective investors must read the entire Official Statement (including the Appendices) to obtain information essential to the making of an informed investment decision.

The Series 2007 Bonds are offered when, as and if issued and received by the Underwriters, and are subject to the approval of legality by Orrick, Herrington & Sutcliffe LLP, Bond Counsel to the City and County. Certain legal matters will be passed upon for the Underwriters by their counsel, McCorriston Miller Mukai MacKinnon LLP, Honolulu, Hawaii. It is expected that the Series 2007 Bonds in definitive form will be available for delivery to DTC, in New York, New York, on or about August 14, 2007.

UBS Investment Bank **Merrill Lynch & Co.**

Dated: July 24, 2007

MATURITY SCHEDULE

$162,565,000
City and County of Honolulu
Wastewater System Revenue Bonds
(First Bond Resolution)
Senior Series 2007A

Serial Bonds, $70,850,000

Year (July 1)	Principal Amount	Interest Rate	Yield	CUSIP† (438701)
2012	$2,110,000	4.000%	3.830%	JX3
2013	2,200,000	4.250	3.890	JY1
2014	2,295,000	4.250	3.950	JZ8
2015	2,390,000	4.250	4.000	KA1
2016	2,495,000	4.250	4.080	KB9
2017	2,610,000	4.250	4.150	KC7
2018	3,200,000	4.375	4.270*	KE3
2018	1,355,000	4.200	4.270	KD5
2019	3,210,000	4.625	4.320*	KG8
2019	1,550,000	4.250	4.320	KF0
2020	4,985,000	4.750	4.350*	KH6
2021	4,860,000	4.750	4.400*	KK9
2021	365,000	4.375	4.400	KJ2
2022	4,530,000	4.750	4.430*	KM5
2022	950,000	4.375	4.430	KL7
2023	4,525,000	4.750	4.480*	KP8
2023	1,215,000	4.400	4.480	KN3
2024	5,845,000	5.000	4.420*	KR4
2024	180,000	4.500	4.500	KQ6
2025	6,335,000	5.000	4.440*	KS2
2026	6,660,000	5.000	4.460*	KT0
2027	6,985,000	4.500	4.655	KU7

Term Bonds, $91,715,000

$31,630,000 5.00% Term Bonds Due July 1, 2031, Yield 4.54%*, CUSIP† 438701KV5
$60,085,000 4.50% Term Bonds Due July 1, 2037, Yield 4.79%, CUSIP† 438701KW3

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† Copyright 2007, American Bankers Association. CUSIP data provided by Standard & Poor's CUSIP Service Bureau, a division of The McGraw-Hill Companies, Inc. CUSIP Numbers are provided for convenience of reference only. Neither the City and County nor the Underwriter take any responsibility for the accuracy of such numbers.

* Priced to call at par on July 1, 2017.

City and County of Honolulu
State of Hawaii
(Incorporated 1907)

MAYOR

Mufi Hannemann

CITY COUNCIL

Barbara Marshall
Chair and Presiding Officer

Todd K. Apo
Vice-Chair

Nestor R. Garcia
Floor Leader

Romy M. Cachola

Donovan M. Dela Cruz

Charles K. Djou

Ann H. Kobayashi

Gary H. Okino

Rod Tam

DIRECTOR OF BUDGET AND FISCAL SERVICES

Mary Patricia Waterhouse

DIRECTOR OF ENVIRONMENTAL SERVICES

Dr. Eric S. Takamura, P.E.

DEPUTY DIRECTOR OF ENVIRONMENTAL SERVICES

Kenneth A. Shimizu

SECOND DEPUTY DIRECTOR OF ENVIRONMENTAL SERVICES

Ross S. Tanimoto

CORPORATION COUNSEL

Carrie K. S. Okinaga

BOND COUNSEL

Orrick, Herrington & Sutcliffe LLP
San Francisco, California

The information contained in this Official Statement has been obtained from the City and County of Honolulu and other sources deemed reliable. No guaranty is made, however, as to the accuracy or completeness of such information. The Underwriters have provided the following sentence for inclusion in this Official Statement. The Underwriters have reviewed the information in this Official Statement in accordance with, and as part of, their responsibilities to investors under the federal securities laws as applied to the facts and circumstances of this transaction, but the Underwriters do not guarantee the accuracy or completeness of such information. This Official Statement, which includes the cover page and appendices, does not constitute an offer to sell the Series 2007 Bonds in any state to any person to whom it is unlawful to make such offer in such state. No dealer, salesman or other person has been authorized to give any information or to make any representations, other than those contained in this Official Statement, in connection with the offering of the Series 2007 Bonds, and if given or made, such information or representations must not be relied upon. The information contained herein is subject to change without notice and neither the delivery of this Official Statement nor any sale hereunder at any time implies that the information contained herein is correct as of any time subsequent to its date.

THE SERIES 2007 BONDS HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, IN RELIANCE UPON AN EXEMPTION CONTAINED IN SUCH ACT. THE SERIES 2007 BONDS HAVE NOT BEEN REGISTERED OR QUALIFIED UNDER THE SECURITIES LAWS OF ANY STATE. IN CONNECTION WITH THIS OFFERING THE UNDERWRITERS MAY OVER-ALLOT OR EFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN THE MARKET PRICE OF THE SERIES 2007 BONDS OFFERED HEREBY AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

TABLE OF CONTENTS

Page

INTRODUCTORY STATEMENT 1

APPLICATION OF PROCEEDS.....3

THE SERIES 2007 BONDS.....3

General 3
Optional Redemption 4
Mandatory Redemption.....4
Notice of Redemption 4
Effect of Redemption 5
Selection for Redemption.....5
Book-Entry System 5

SECURITY FOR THE BONDS.....7

General 7
Funds and Accounts 8
Common Reserve Account and Separate Series Reserve Accounts.....9
Rate Covenant 10
Additional Bonds and Refunding Bonds.....11

BOND INSURANCE 12

The MBIA Insurance Corporation Insurance Policy 12
MBIA Insurance Corporation.....13
Regulation 13
Financial Strength Ratings of MBIA.....14
MBIA Financial Information.....14
Incorporation of Certain Documents by Reference 14

THE CITY AND COUNTY AND THE DEPARTMENT 15

Purpose and Powers 15
Department Work Force.....16
Department Principal Officers.....17

THE WASTEWATER SYSTEM.....17

Introduction 17
General Description of Existing Facilities 18
Environmental Compliance.....19
Projected Customer Growth 20

CAPITAL IMPROVEMENT PROGRAM 21

1995 Consent Decree 21
Criteria for Ranking CIP Projects by Priority 22
Classification of CIP Projects.....22
2008-2012 Capital Improvement Program.....23
2008-2017 Capital Improvement Program.....23
1998-2017 Capital Improvement Program.....24

Page

HISTORICAL AND PROJECTED REVENUES, EXPENSES AND COVERAGES 25

CONCLUSIONS OF CONSULTING ENGINEER 26

CERTAIN FINANCIAL, OPERATING AND OTHER INFORMATION AND STATISTICS 28

Management's Discussion of Financial Performance 28
Billing and Collection 29
Ten Largest Customers.....29
Rates and Charges 35

DEBT AND FINANCIAL POLICIES AND INDEBTEDNESS.....41

General 41
Indebtedness.....41

FINANCIAL STATEMENTS.....43

PENDING LITIGATION.....46

RATINGS.....47

UNDERWRITING 47

TAX MATTERS 47

APPROVAL OF LEGAL PROCEEDINGS.....49

CONTINUING DISCLOSURE.....49

MISCELLANEOUS.....49

Appendix A: Engineer's Report
Appendix B: Summary of Certain Provisions of the Bond Resolution
Appendix C: Proposed Form of Continuing Disclosure Certificate
Appendix D: Proposed Form of Opinion of Bond Counsel
Appendix E: Specimen Financial Guaranty Insurance Policy

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OFFICIAL STATEMENT

$162,565,000
City and County of Honolulu
Wastewater System Revenue Bonds
(First Bond Resolution)
Senior Series 2007A

INTRODUCTORY STATEMENT

This Official Statement, which includes the cover page and the appendices, provides certain information in connection with the issuance by the City and County of Honolulu (the "City and County") in the State of Hawaii of $162,565,000 aggregate principal amount of Wastewater System Revenue Bonds (First Bond Resolution), Senior Series 2007A (the "Series 2007 Bonds"). The Series 2007 Bonds are to be issued under and secured by the First Wastewater Revenue Bond Resolution adopted by the City Council of the City and County on November 10, 1998, as amended (the "First Bond Resolution"), and the Series 2007 Resolution adopted by the City Council of the City and County on July 5, 2007 (the "Series 2007 Resolution"). The First Bond Resolution, as amended and supplemented, is referred to herein as the "Bond Resolution." The Series 2007 Bonds are also to be issued under a certain Bond Series Certificate of the City and County dated the date of this Official Statement, relating to the Series 2007 Bonds (the "Series 2007 Certificate").

The capitalization of any word herein not conventionally capitalized indicates that such word is defined in the Bond Resolution, the Series 2007 Certificate or this Official Statement. A glossary of certain terms used in this Official Statement and the Bond Resolution is set forth in Appendix B under "Certain Definitions."

The proceeds of the Series 2007 Bonds will be used: (i) to fund the cost of certain additions and improvements to the Wastewater System of the City and County; (ii) to provide for funding of the Common Reserve Account in an amount which, together with amounts on deposit therein, is equal to the Common Reserve Account Requirement; and (iii) to pay the costs of issuance of the Series 2007 Bonds.

The Series 2007 Bonds are the eighth series of bonds (each a "Series" and collectively, the "Bonds") issued under and pursuant to the Bond Resolution and will be secured by and entitled to the protection of the Bond Resolution on a parity with all Bonds heretofore issued and to be hereafter issued under and pursuant to the Bond Resolution. The Bonds are limited special obligations of the City and County payable solely from, and secured solely by a pledge of, proceeds of Bonds held or set aside under the Bond Resolution, the Net Revenues, and certain funds and accounts established by the Bond Resolution. Such pledge of the Net Revenues is senior and superior to any pledge of the Net Revenues to secure obligations issued under and pursuant to any other bond resolution. See "SECURITY FOR THE BONDS."

The City and County has $552,200,000 outstanding principal amount of bonds secured by a pledge of Net Revenues on a parity with the Series 2007 Bonds (collectively with the Series 2007 Bonds, the "Senior Bonds"). The City and County also has $457,077,890 outstanding principal amount of bonds secured by Net Revenues on a subordinate basis to the Senior Bonds (collectively, the "Junior Bonds"). The Junior Bonds were issued by the City and County under a Second Wastewater Bond Resolution adopted by the City and County on November 10, 1998 (as supplemented, the "Second Resolution") and are considered to be Subordinate Obligations for purposes of the Bond Resolution. See "DEBT AND FINANCIAL POLICIES AND INDEBTEDNESS – Indebtedness" herein.

Concurrently with the issuance of the Series 2007 Bonds, the City and County anticipates issuing approximately $8,545,000 aggregate principal amount of Wastewater System Revenue Bonds (First Bond Resolution), Senior Series 2007B, for the purpose of refunding a portion of its outstanding General Obligation Bonds, Refunding and Improvement Series 1993B, and General Obligation Bonds, Series 1997C. Depending upon market conditions, the City and County also may issue approximately $68,975,000 aggregate principal amount of Wastewater System Revenue Bonds (First Bond Resolution), Senior Series 2007C, for the purpose of refunding all

or a portion of its outstanding Wastewater System Revenue Bonds (First Bond Resolution), Senior Series 1998, 2005A and 2006A. In addition, the City and County has authorized the issuance of up to $202,225,000 aggregate principal amount of Wastewater System Revenue Bonds (Second Bond Resolution), Junior Series 2007 Bonds, for the purpose of refunding all or a portion of an outstanding series of Junior Bonds issued in 1998. For purposes of this Official Statement, the debt service figures for the Junior Bonds reflect the principal and interest requirements on the outstanding 1998 Junior Bonds.

The Department of Environmental Services (the "Department") has the full and complete authority to manage, control and operate the Wastewater System owned or managed and under the jurisdiction of the City and County, including all materials, supplies, equipment and properties used or useful in connection with the Wastewater System. The Department was created July 1, 1998, as part of a City and County-wide reorganization. Previously, the Department of Wastewater Management, created by a City Charter change effective July 1, 1993, provided operation, maintenance, planning, design and construction of wastewater facilities in the City and County. The City Charter and Chapter 49, Hawaii Revised Statutes (the "Act") empower the City and County to issue revenue bonds in its name for the purposes of the Wastewater System. See "THE CITY AND COUNTY AND THE DEPARTMENT."

As of April 2007, the Wastewater System serviced approximately 142,000 separate accounts and a population of approximately 640,000, which is approximately 74% of the total population of the City and County. The service area covers nearly 600 square miles. The customer base includes the residential population, business and industrial users, and other users located in the service area. Of the approximately 142,000 accounts, approximately 134,000 are residential, representing approximately 77% of the total revenue from sewer service charges, and the remaining approximately 8,000 are non-residential, representing approximately 23% of the total revenue from sewer service charges. The average total volume of wastewater processed by the City and County's Wastewater System was 115.8 million gallons per day ("MGD") average day annual flow in Fiscal Year 2006. A number of small private wastewater systems also serve some areas in the City and County. The average total volume of wastewater processed by all such private systems is 4.3 MGD. See "THE WASTEWATER SYSTEM."

In 2005, the City and County adopted Ordinance No. 05-018 providing for increases in wastewater rates and for multi-year rate increases for the period effective July 1, 2005 to and including July 1, 2010. In 2007, the City and County adopted Ordinance No. 07-29 (together with Ordinance No. 05-018, the "Rate Ordinance") providing for additional increases in wastewater rates and for multi-year rate increases for the period effective July 1, 2007 to and including July 1, 2010, superseding those approved for that period in Ordinance No. 05-018. See "CERTAIN FINANCIAL OPERATIONS AND OTHER INFORMATION AND STATISTICS — Rates and Charges."

The additions and improvements to the Wastewater System, the costs of which are to be financed from the proceeds of the Series 2007 Bonds, are part of a five-year capital improvement program adopted by the Department and approved by the City Council (the "2008-2012 Capital Improvement Program"). The 2008-2012 Capital Improvement Program is projected to cost approximately $1.527 billion (in inflated dollars, i.e., adjusted from 2007 dollars) and is being undertaken for the purposes, among others, of meeting certain consent decrees, permits, or administrative orders entered into by the Department with Federal and State regulatory bodies and reliably serving projected growth in the number of customers served by the Wastewater System. The 2008-2012 Capital Improvement Program is a part of the 1998-2017 twenty-year capital improvement program (the "1998-2017 Capital Improvement Program") the Department has undertaken. The 1998-2017 Capital Improvement Program is projected to cost approximately $3.71 billion (in inflated dollars) and has been undertaken for the same basic purposes as the 2008-2012 Capital Improvement Program. The cost of the 1998-2017 Capital Improvement Program, including the 2008-2012 Capital Improvement Program, is expected to be financed primarily from (i) proceeds of the Series 2007 Bonds as well as Bonds and Subordinate Obligations previously issued, (ii) proceeds of additional Bonds and Subordinate Obligations to be hereafter issued, (iii) Net Revenues of the Wastewater System, and (iv) Wastewater System Facilities Charges. See "CAPITAL IMPROVEMENT PROGRAM" and Appendix A, "Engineer's Report."

Carollo Engineers, P.C. (the "Consulting Engineer"), has projected revenues, expenses and coverages for the Wastewater System for the Fiscal Years 2008-2017, inclusive. The projections are based on inflated dollars. The projections indicate that with respect to the Fiscal Years 2008-2017 inclusive, the City and County can (i) issue

the Series 2007 Bonds to finance $150 million of necessary additions and improvements to the Wastewater System, to fund the Common Reserve Account in an amount sufficient to satisfy its requirement, and to pay the costs of issuing the Series 2007 Bonds; (ii) finance an additional $2.66 billion of improvements to the Wastewater System from proceeds of additional Bonds and Subordinate Obligations to be hereafter issued, proceeds of Reimbursable Obligations previously issued and currently available, proceeds of Bonds and Subordinate Obligations previously issued and currently available, the Net Revenues and Wastewater System Facility Charges over the ten-year period; and (iii) fully meet all reserve funding and coverage requirements under the Bond Resolution and the Second Resolution by adopting increases of sewer rates and charges by 25% in Fiscal Year 2006, 10% in Fiscal Year 2007, 25% in Fiscal Year 2008, 18% in Fiscal Years 2009 and 2010, and 15% in Fiscal Year 2011, and planning rate increases of between 15% and 6% from Fiscal Year 2012 through Fiscal Year 2017, and (iv) meet all reserve funding and coverage requirements by modifying adopted or projected sewer rates to enable financing of prospective requirements of pending revisions to the City and County's consent decree or other regulatory enforcement actions, and (v) by raising Wastewater System Facility Charges by 3% in Fiscal Year 2008 and another 3% in each of the Fiscal Years thereafter through June 30, 2011. The monthly residential wastewater bill for a customer with metered water consumption of 10,000 gallons, and billed for 7,000 gallons of wastewater volume, is expected to increase from $55.31 to $101.82 between Fiscal Year 2008 and Fiscal Year 2012. The revenues from the Wastewater System Facility Charge were 5.7% of total revenues of the Wastewater System in Fiscal Year 2005-2006 and are projected to be 1.8% by Fiscal Year 2015-2016. The Consulting Engineer has concluded that current customer rates and charges for the City and County are comparable to other similar wastewater agencies in the Western United States. See "CERTAIN FINANCIAL, OPERATING AND OTHER INFORMATION AND STATISTICS — Rates and Charges" and Appendix A, "Engineer's Report" for a discussion of the Rate Ordinance.

Pursuant to the Act and the City Charter, the City Council has the power to impose, prescribe and collect rates, rentals, fees or charges for the use and services of, and the facilities furnished by, the Wastewater System so that the Wastewater System will be and remain self-sustaining. The rates, rentals, fees or charges imposed and prescribed are required to produce revenues which will be at least sufficient to pay debt service on all revenue bonds issued for the purposes of the Wastewater System, including the Bonds and the Subordinate Obligations, to provide reserves therefor, to pay the costs of operation, maintenance and repair of the Wastewater System, and to carry out the covenants of all resolutions authorizing the issuance of revenue bonds for the purposes of the Wastewater System, including the Bond Resolution and the Second Resolution. The rates and charges fixed and imposed by the City Council are not subject to approval by any federal or state regulatory bodies. See discussion under "HISTORICAL AND PROJECTED REVENUES, EXPENSES AND COVERAGES."

APPLICATION OF PROCEEDS

The proceeds of sale of the Series 2007 Bonds, in an amount equal to the principal thereof less original issue discount (net of original issue premium) and the Underwriters' discount, will be applied to make the following deposits:

Improvement Account	$150,003,682.50
Common Reserve Account	10,794,637.77
Costs of Issuance*	463,000.00
Total Uses	$161,261,320.27

* *Includes bond insurance premium.*

THE SERIES 2007 BONDS

General

The Series 2007 Bonds will be dated as of the date of their issuance and will bear interest at the rates and mature on the dates and in the principal amounts set forth on the inside cover page of this Official Statement. The Series 2007 Bonds will be issued in minimum denominations of $5,000 principal amount.

Interest will accrue on the Series 2007 Bonds from the date of their issuance and will be due and payable semiannually on January 1 and July 1 of each year, commencing July 1, 2008.

Optional Redemption

The Series 2007 Bonds maturing on or after July 1, 2018 are subject to redemption at the option of the City and County on or after July 1, 2017, in whole or in part at any time, from any maturities selected by the City and County at a redemption price equal to 100% of the principal amount of the Series 2007 Bonds or portions thereof to be redeemed, plus accrued interest to the date of redemption.

Mandatory Redemption

The Series 2007 Bonds maturing on July 1, 2031 and July 1, 2037 are also subject to redemption, in part, on each of the dates and in the respective principal amounts set forth below, at a Redemption Price of 100% of the principal amount thereof, plus accrued interest to the date of redemption, from mandatory Sinking Fund Installments which are required to be made in amounts sufficient to redeem the principal amount of Series 2007 Bonds of such maturities specified for July of each of the years shown below:

Series 2007 Bonds
Maturing July 1, 2031

Year (July 1)	Principal Amount
2028	$7,325,000
2029	7,700,000
2030	8,095,000
2031†	8,510,000

† Final maturity.

Series 2007 Bonds
Maturing July 1, 2037

Year (July 1)	Principal Amount
2032	$8,920,000
2033	9,335,000
2034	9,765,000
2035	10,210,000
2036	10,680,000
2037†	11,175,000

† Final maturity.

Notice of Redemption

The City and County will mail notice of redemption not less than 30 days prior to the redemption date by registered, certified or regular first-class mail, to the registered owners of any of the Series 2007 Bonds or portions of the Series 2007 Bonds which are to be redeemed, at their last addresses appearing upon the Bond Registry. The City and County may also but is not required to cause such notice to be published at least once in such newspapers as provided in the Bond Resolution not less than thirty (30) days prior to the date fixed for redemption date. Failure of the City and County to publish any such notice shall not affect the validity of the proceedings for the redemption of such Series 2007 Bonds. See "THE SERIES 2007 BONDS - Book-Entry System."

Effect of Redemption

If, on the redemption date, moneys for the redemption of all the Series 2007 Bonds or portions thereof of any maturity to be redeemed, together with interest to the redemption date, shall be held by the City and County or Paying Agent so as to be available therefor on said date and if notice of redemption shall have been given as provided in the Bond Resolution, then, from and after the redemption date, interest on the Series 2007 Bonds or portions thereof of such maturity so called for redemption shall cease to accrue and become payable. If such moneys shall not be so available on the redemption date, such Series 2007 Bonds or portions thereof shall continue to bear interest until paid at the same rate as they would have borne had they not been called for redemption.

Selection for Redemption

So long as the Book-Entry System for the Series 2007 Bonds is in effect, if less than all of the Series 2007 Bonds of any one maturity are to be redeemed, the particular Series 2007 Bonds or portions of Series 2007 Bonds of such maturity to be redeemed will be selected by DTC and its Participants in such manner as DTC and its Participants may determine. If the Book-Entry System for the Series 2007 Bonds is no longer in effect, selection for redemption of less than all Series 2007 Bonds of any one maturity will be made by the Paying Agent by lot as provided in the Bond Resolution.

Book-Entry System

Information on DTC and Book-Entry System. Information concerning DTC and the Book-Entry System contained in this Official Statement has been obtained from DTC and other sources that the City and County and the Underwriters believe to be reliable, and is not guaranteed as to accuracy or completeness by, and is not to be construed as a representation by, the Underwriters or the City and County.

The Depository Trust Company ("DTC"), New York, New York, will act as securities depository for the Series 2007 Bonds. The Series 2007 Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered Bond certificate will be issued for the Series 2007 Bonds of each maturity, in the aggregate principal amount of such issue, and will be deposited with DTC.

DTC and its Participants. DTC, the world's largest depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 2 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments from over 85 countries that DTC's participants ("Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC, in turn, is owned by a number of Direct Participants of DTC and Members of the National Securities Clearing Corporation, Government Securities Clearing Corporation, MBS Clearing Corporation, and Emerging Markets Clearing Corporation, (NSCC, GSCC, MBSCC, and EMCC, also subsidiaries of DTCC), as well as by the New York Stock Exchange, Inc., the American Stock Exchange LLC, and the National Association of Securities Dealers, Inc. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants"). DTC has Standard & Poor's highest rating: AAA. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com.

Purchase of Ownership Interests. Purchases of Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Series 2007 Bonds on DTC's records. The ownership interest

of each actual purchaser of each Bond ("Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Series 2007 Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the Series 2007 Bonds, except in the event that use of the book-entry system for the Series 2007 Bonds is discontinued.

To facilitate subsequent transfers, all Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Series 2007 Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Notices and Other Communications. Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Redemption notices shall be sent to DTC. If less than all of the Series 2007 Bonds within an issue are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such issue to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to Bonds unless authorized by a Direct Participant in accordance with DTC's Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the City and County as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Redemption Proceeds, Distributions, and Dividend Payments. Redemption proceeds, distributions, and dividend payments on the Series 2007 Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the City and County or Paying Agent, on payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, Paying Agent, or the City and County, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of redemption proceeds, distributions, and dividend payments to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the City and County or Paying Agent, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

Discontinuance of Book-Entry System. DTC may discontinue providing its services as depository with respect to the Series 2007 Bonds at any time by giving reasonable notice to the City and County or Agent. Under such circumstances, in the event that a successor depository is not obtained, Bond certificates are required to be printed and delivered.

The City and County may decide to discontinue use of the system of book-entry transfers through DTC (or a successor securities depository). In that event, Bond certificates will be printed and delivered.

Use of Certain Terms in Other Sections of the Official Statement. In reviewing this Official Statement it should be understood that while the Series 2007 Bonds are in the Book-Entry System, references in other sections of

this Official Statement to owners should be read to include the person for which the Participant acquires an interest in the Series 2007 Bonds, but (i) all rights of ownership must be exercised through DTC and the Book-Entry System and (ii) notices that are to be given to owners by the City and County will be given only to DTC. DTC will forward (or cause to be forwarded) the notices to the Participants by its usual procedures so that such Participants may forward (or cause to be forwarded) such notices to the Beneficial Owners.

City and County Disclaimer of Responsibility. The City and County will have no responsibility or obligation to Direct Participants, to Indirect Participants or to Beneficial Owners with respect to (i) the accuracy of any records maintained by DTC, any Direct Participants or Indirect Participants, or (ii) the payment by DTC, any Direct Participants or any Indirect Participants of any amount in respect of principal or redemption price of or interest on the Series 2007 Bonds, or (iii) any notice which is permitted or required to be given to owners (except such notice as is required to be given by the City and County to DTC), or (iv) the selection by DTC of any Participant to receive payment in the event of a partial redemption of the Series 2007 Bonds, or (v) any consent given or other action taken by DTC as Owner of the Series 2007 Bonds, or (vi) any other event or purpose.

So long as Cede & Co. is the registered owner of the Series 2007 Bonds, as nominee for DTC, references herein to the Bondholders or registered owners of the Series 2007 Bonds (other than under the captions "TAX MATTERS" and "CONTINUING DISCLOSURE" herein) shall mean Cede & Co., as aforesaid, and shall not mean the Beneficial Owners of the Series 2007 Bonds.

SECURITY FOR THE BONDS

General

The Bonds issued under and pursuant to the Bond Resolution, including the Series 2007 Bonds, are limited special obligations of the City and County. Pursuant to the Bond Resolution, there has been pledged, as security for the payment of the debt service on the Bonds, proceeds of the Bonds held or set aside under the Bond Resolution, the Net Revenues, and all Funds and Accounts established by the Bond Resolution other than the Rebate Account, the Subordinate Obligation Account, and the Reimbursable Obligation Account and in certain instances pursuant to the Bond Resolution, the Common Reserve Account or Separate Series Reserve Accounts. The Bonds are equally and ratably payable and secured under the Bond Resolution except that the City and County has reserved the right under the Bond Resolution to afford a particular Series of Bonds or particular Bonds additional or different security through a Support Facility, escrow funds, or the establishment of separate funds and accounts with respect to a particular Series of Bonds funded from sources other than the Net Revenues.

Under the Bond Resolution, Net Revenues means, with respect to any period, the Revenues during such period less amounts required to pay Operation and Maintenance Expenses. Revenues means the moneys, including any moneys collected from the City and County or any department thereof other than the Department, derived by the Department from the rates, rentals, fees and charges prescribed for the use and services of, and the facilities and commodities furnished by, the Wastewater System. Revenues include (i) all income, receipts, profits, and other moneys derived from the furnishing or supplying of the services, facilities and commodities through the Wastewater System; (ii) all income from investments of moneys held under the Bond Resolution except the Rebate Account, the Subordinate Obligation Account or the Reimbursable Obligation Account; (iii) all payments made by Counterparties pursuant to Interest Rate Exchange Agreements; and (iv) moneys and Investment Securities transferred from the Rate Stabilization Account to the Sewer Fund within ninety (90) days following the end of a Fiscal Year. Certain items do not constitute Revenues under the Bond Resolution, including certain deposits subject to refund, certain contributions in-aid-of construction and assessment, impact and other similar fees imposed and collected by the Department, income, fees, charges, receipts, profits or other moneys derived by the Department from the ownership or operation of any separate utility system, and certain gifts, grants and donations, moneys and Investment Securities transferred from the Sewer Fund to the Rate Stabilization Account within ninety (90) days following the end of a Fiscal Year, or Wastewater System Facility Charges.

The pledge of the Net Revenues for the security and payment of the Bonds under the Bond Resolution is superior to the pledge and security for Subordinate Obligations and Reimbursable Obligations authorized to be issued pursuant to the Bond Resolution. "Subordinate Obligations" are any obligations of the City and County payable from the Net Revenues, other than the Bonds and the Reimbursable Obligations, issued in compliance with

the provisions of the Bond Resolution. "Reimbursable Obligations" are general obligation bonds payable from moneys in the City and County's general fund, subject to reimbursement from the Net Revenues. As of July 1, 2007, $142,134,197 principal amount of Subordinate Obligations (other than Junior Bonds) and Reimbursable Obligations were outstanding. See "DEBT AND FINANCIAL POLICIES AND INDEBTEDNESS" herein.

The Series 2007 Bonds will constitute Bonds under the Bond Resolution. The Series 2007 Bonds are the eighth Series of Bonds to be issued under the Bond Resolution. The City and County expects to issue additional Bonds under the Bond Resolution on a parity with the Series 2007 Bonds.

The Bonds are not a general or moral obligation of the State of Hawaii or any political subdivision thereof, including the City and County, and the faith and credit of the State of Hawaii or any political subdivision thereof, including the City and County, are not pledged to the payment of the principal or redemption price of or interest on the Bonds, and no holder of the Bonds shall have the right to compel the exercise of the taxing power of the State of Hawaii or any political subdivision thereof, including the City and County, in connection with any default with respect to the Bonds.

Funds and Accounts

The various funds and accounts established under or pledged by the Bond Resolution, the flow of Revenues through such funds and accounts, the rights and remedies of Bondholders under the Bond Resolution and other related matters are summarized in Appendix B, "Summary of Certain Provisions of the Bond Resolution."

The City and County has established the Sewer Fund by ordinance. Revenues are deposited in the Sewer Fund. The Bond Resolution establishes in the Sewer Fund a Debt Service Account, a Rate Stabilization Account, a Renewal and Replacement Account and a Wastewater General Account, all of which are pledged as security for the payment of debt service on all Bonds subject to the terms and provisions of and the exceptions provided in the Bond Resolution. The Bond Resolution also establishes a Common Reserve Account in the Sewer Fund and permits the establishment in the Sewer Fund of one or more Separate Series Reserve Accounts. The Common Reserve Account is pledged as additional security for the payment of debt service on the Bonds of such Series designated by the City and County to be entitled to the benefit of the Common Reserve Account. Each Separate Series Reserve Account is pledged as additional security for the payment of debt service on the Bonds of such individual Series designated by the City and County to be entitled to the benefit of such Separate Series Reserve Account.

The debt service on and redemption price of the Bonds are payable from the Debt Service Account in the Sewer Fund. In the event of a deficiency in the Debt Service Account, debt service on and redemption price of particular Bonds are payable from the Common Reserve Account or the Separate Series Reserve Accounts, as applicable, but only if such Bonds are entitled to the benefit of such reserve accounts.

Moneys deposited and retained in the Sewer Fund may be maintained in an amount which is reasonable and necessary for working capital and reserves. The Rate Stabilization Account is to be used to stabilize the rates and charges of the Wastewater System. The Rate Stabilization Account is to be maintained in an amount as provided in the Annual Budget and is to be funded (i) from the Revenues but only after paying the Operation and Maintenance Expenses and after transferring required amounts to other funds and accounts as provided in the Bond Resolution, and (ii) from transfers from the Wastewater General Account. The Renewal and Replacement Account is to be used to pay the costs of improvements to or reconstruction of the Wastewater System, repairs, major or extraordinary repairs and renewals or replacements of the Wastewater System and under certain conditions, as set forth in the Bond Resolution, to meet deficiencies in the Debt Service Account, the Common Reserve Account, Separate Series Reserve Accounts, if any, the Subordinate Obligation Account and the Reimbursable Obligation Account, and will be maintained in an amount provided for in the Annual Budget. The Wastewater General Account may be used for any lawful purpose of the City and County, including funding of the Rate Stabilization Account, and under certain conditions, may be used to meet deficiencies in the Sewer Fund, the Common Reserve Account, Separate Series Reserve Accounts, if any, the Renewal and Replacement Account, the Rebate Account, the Subordinate Obligation Account and the Reimbursable Obligation Account.

The Bond Resolution also establishes in the Sewer Fund a Rebate Account, a Subordinate Obligation Account and a Reimbursable Obligation Account. Such accounts are not pledged as security for the Series 2007

Bonds, or any other Bonds. The funds in the Subordinate Obligation Account are to be used to pay debt service on and redemption price of Subordinate Obligations, provide necessary debt service reserves and other reserves and pay other costs related to Subordinate Obligations. The funds in the Reimbursable Obligation Account are to reimburse the General Fund for payments of debt service on and redemption price of Reimbursable Obligations. The funds in the Rebate Account are to be used to pay required rebates to the United States Treasury Department incurred in respect of the Bonds.

The Bond Resolution also establishes in the Sewer Fund the Wastewater System Facility Charge Account. Wastewater System Facility Charges collected by the Department are deposited in the Wastewater System Facility Charge Account. The Wastewater System Facility Charge Account is pledged under the Bond Resolution as security for the payment of debt service on and redemption price of the Bonds. However, if any amounts are used to pay debt service on or redemption price of the Bonds, the Wastewater System Facility Charge Account must be reimbursed from the Net Revenues with the priority set forth in the Bond Resolution. The Wastewater System Facility Charges are not considered to be Revenues under the Bond Resolution.

The City and County has also established by ordinance the Improvement Fund. The Bond Resolution establishes in the Improvement Fund an Improvement Account and permits the establishment within the Improvement Account of one or more Series Improvements Subaccounts and one or more Series Improvement Interest Subaccounts. Proceeds of Bonds issued under the Bond Resolution are to be deposited in the Improvement Account or a Series Improvement Subaccount pending application to pay the Costs of Improvements. Proceeds of Bonds issued under the Bond Resolution which are to be used to pay capitalized interest on the Bonds of a Series during the period of construction of an Improvement and for six months thereafter must be deposited in a Series Improvement Interest Subaccount. The Improvement Account, each Series Improvement Subaccount and each Series Improvement Interest Subaccount (but not the Improvement Fund) are pledged under the Bond Resolution as security for the payment of debt service on and redemption price of the Bonds.

Common Reserve Account and Separate Series Reserve Accounts

Common Reserve Account. The Bond Resolution establishes a Common Reserve Account. Under the Bond Resolution, the City and County may designate one or more Series of Bonds to be entitled to the benefit of the Common Reserve Account. The Series 2007 Bonds are entitled to the benefit of the Common Reserve Account. The moneys held in the Common Reserve Account are to be used to pay debt service on the Bonds entitled to the benefit of the Common Reserve Account in the event of a deficiency in the Debt Service Account to pay such debt service. The Common Reserve Account is to be maintained in an amount not less than the Common Reserve Account Requirement. The Common Reserve Account Requirement is an amount that is equal to the greatest amount of Aggregate Debt Service for the then current or any future Fiscal Year on all Outstanding Bonds entitled to the benefit of the Common Reserve Account; provided, however, that if upon the issuance of a Series of Bonds entitled to the benefit of the Common Reserve Account, such amount would require moneys credited to the Common Reserve Account from the proceeds of such Bonds in an amount in excess of the maximum amount permitted under the Code, the Common Reserve Account Requirement will then be the Common Reserve Account Requirement immediately preceding the issuance of such Bonds and the maximum amount permitted under the Code to be deposited from the proceeds of such Bonds, as certified by an Authorized Officer. The Bond Resolution provides that the Aggregate Debt Service is to be computed with respect to each Variable Rate Bond entitled to the benefit of the Common Reserve Account by using the Assumed Long-Term Fixed Rate.

In lieu of cash or securities, the Bond Resolution permits the Department to satisfy the Common Reserve Account Requirement in part or in whole by causing to be deposited into the Common Reserve Account a Support Facility (which may be an irrevocable letter of credit, surety bond, loan agreement, standby bond purchase agreement, or other agreement facility or insurance or guaranty agreement issued by a bank or banks, or other financial institution or institutions, or any combination of the foregoing) in an amount equal to the difference between the Common Reserve Account Requirement and the sums then on deposit in the Common Reserve Account, if any. The Support Facility must be payable (upon the giving of notice as required thereunder) on or before any interest payment date on which moneys will be required to be withdrawn from the Common Reserve Account and applied to the payment of principal or redemption price of or interest on any Bonds and such withdrawal cannot be met by amounts on deposit in the Common Reserve Account or provided from any other available Fund under the Bond Resolution. Any Support Facility deposited in the Common Reserve Account or the

long-term debt of the issuer of any Support Facility deposited in the Common Reserve Account must, in each case, be rated in the highest rating category by each Rating Agency and, if rated by A.M. Best & Company, must also be rated in the highest rating category by A.M. Best & Company. In the event any Support Facility deposited in the Common Reserve Account or the long-term debt of the issuer of any Support Facility deposited in the Common Reserve Account falls below the second highest rating category of each Rating Agency, and A.M. Best & Company, if rated by A.M. Best & Company, the City and County must, within 120 days, obtain a new Support Facility which, or which the long-term debt of the issuer of such new Support Facility, is rated in the highest rating category of such rating agencies; provided, however, that if the new Support Facility is not obtained within 120 days, the City and County must deposit in the Common Reserve Account Net Revenues in the amount provided in the Bond Resolution. If a disbursement is made pursuant to a Support Facility deposited in the Common Reserve Account, the City and County must: first, reinstate the full amount of such Support Facility; and second, if necessary, deposit Net Revenues in the Common Reserve Account in the amount of the disbursement made under such Support Facility, in either case such that the amount in the Common Reserve Account will equal the Common Reserve Account Requirement within a period of time not longer than would be required to restore the Common Reserve Account by application of moneys in the Sewer Fund as required by the Bond Resolution. The City and County may at any time deposit cash or Investment Securities as replacement for one or more Support Facilities.

The City and County may arrange for the delivery, upon issuance of the Series 2007 Bonds, of a Support Facility in the form of a municipal bond debt service reserve fund policy in an amount equal to the amount of the portion of the Common Reserve Subaccount Requirement applicable to the Series 2007 Bonds.

Separate Series Reserve Accounts. The Bond Resolution permits the establishment of a Separate Series Reserve Account to provide additional security for the Bonds of a Series which is not entitled to the benefit of the Common Reserve Account. In the event of a deficiency in the Debt Service Account to pay debt service on the Bonds of a Series entitled to the benefit of a Separate Series Reserve Account, the amounts held in such Separate Series Reserve Account are to be used exclusively to pay such debt service. The amount to be maintained in any such Separate Series Reserve Account for a Series of Bonds is to be determined at the time such Bonds are authorized or sold. The credit quality of a Support Facility to be deposited in any Separate Series Reserve Account for a Series of Bonds is also to be determined at the time such Bonds are authorized or sold. No Separate Series Reserve Account has been established for the Series 2007 Bonds.

Transfers to Reserve Accounts. The Bond Resolution requires that in each month, after paying and setting aside an amount sufficient to pay the Operation and Maintenance Expenses for such month, and after transferring to the Debt Service Account an amount sufficient to pay debt service on the Bonds to accrue in such month, moneys in the Sewer Fund are to be transferred pro rata to the Common Reserve Account and each Separate Series Reserve Account in such amounts as are required so that the balances in the Common Reserve Account and each Separate Series Reserve Account are equal to their respective requirements, or at the election of the Department, so that at least one-sixth of any deficiency in the Common Reserve Account or each Separate Series Reserve Account is eliminated.

Rate Covenant

The City and County is required by the Bond Resolution, among other things, to fix, charge and collect such rates and other charges as shall be required in order that in each Fiscal Year the Net Revenues shall not be less than the Net Revenue Requirement for such Fiscal Year. The Net Revenue Requirement means with respect to any Fiscal Year or any period, an amount equal to the greater of: (i) the sum of (a) the Aggregate Debt Service in such Fiscal Year or such period and (b) the Required Deposits for such Fiscal Year or such period; or (ii) 1.20 times the Aggregate Debt Service in such Fiscal Year plus 1.00 times the aggregate Support Facility Reimbursement Obligations outstanding as of the end of such Fiscal Year. Net Revenues means, with respect to any period, the Revenues during such period less amounts required to pay Operation and Maintenance Expenses. Aggregate Debt Service means, for any period and as of any date of computation, the sum of the amounts of Debt Service for such period with respect to all Series of Bonds. Support Facility Reimbursement Obligations are obligations of the City and County to directly reimburse the Support Facility Provider of a Support Facility for amounts paid thereunder or a Counterparty under an Interest Rate Exchange Agreement for amounts paid, whether or not such obligation to reimburse is evidenced by a promissory note or similar instrument.

Failure by the City and County to comply with the foregoing rate covenant in any Fiscal Year will not constitute an Event of Default under the Bond Resolution so long as the provisions of the Bond Resolution described below are complied with. Prior to the end of each Fiscal Year the Director of Environmental Services or the Director of Budget and Fiscal Services if requested by the Director of Environmental Services is required by the Bond Resolution to complete a review of the financial condition of the Department for the purpose of estimating whether the Net Revenues for such Fiscal Year and for the next succeeding Fiscal Year will be sufficient to comply with the foregoing rate covenant and to make a written certification with respect to compliance or noncompliance. Such review is to take into consideration the completion of any uncompleted Improvements and the issuance of future Series of Bonds if necessary to finance the completion of such Improvements. Such written certification is to set forth a reasonably detailed statement of the actual and estimated Revenues, Operation and Maintenance Expenses, Aggregate Debt Service, and any other estimates or assumptions upon which such determination was based, shall be filed with the City Clerk on or before July 1 in each year. If it is determined in such written certification that the Revenues may not be so sufficient, the Director of Environmental Services or the Director of Budget and Fiscal Services if requested by the Director of Environmental Services must forthwith make a study for the purpose of determining a schedule of fees, rates and charges which, in the opinion of the Director of Environmental Services or the Director of Budget and Fiscal Services, will cause sufficient Revenues to be collected in the following Fiscal Year to comply with such rate covenant, or the Director of Environmental Services or the Director of Budget and Fiscal Services may elect to cause the Consulting Engineer to make such a study and render such certification. The City Council, as promptly as practicable but no later than 120 days following such determination by the Director of Environmental Services or the Director of Budget and Fiscal Services, or receipt of the Consulting Engineer's recommendation, is required to adopt and place in effect a schedule of fees, rates and charges as so determined or recommended. See "CERTAIN FINANCIAL, OPERATING AND OTHER INFORMATION AND STATISTICS – Rates and Charges" for current sewer charges, "HISTORICAL AND PROJECTED REVENUES, EXPENSES AND COVERAGES" and Appendix A, "Engineer's Report" for a discussion of the Department's projected rates, revenues and expenses, and "THE CITY AND COUNTY AND THE DEPARTMENT - Purpose and Powers" for a discussion of the rate making powers of the City Council.

Additional Bonds and Refunding Bonds

The Bond Resolution permits the issuance of additional Series of Bonds (exclusive of refunding Bonds) on a parity with the Bonds then Outstanding ("Additional Bonds") for any lawful use or purpose relating to the Wastewater System, including, without limitation, payment of all or a portion of the Costs of Improvements but only upon compliance as to each such Series with the conditions set forth in the Bond Resolution. The Series 2007 Bonds are being issued as Additional Bonds under the Bond Resolution and their issuance is subject to compliance with such conditions, which include delivery to the Director of Budget and Fiscal Services of the following documents or moneys or securities:

1. A written certificate of the City and County stating the amount required to be in the Common Reserve Account after issuance of the Bonds then to be issued and that the amounts deposited will not be less than the Common Reserve Account Requirement.

2. A written certificate of the City and County stating the amount required to be in the Separate Series Reserve Account established for the Bonds of such Series after issuance of the Bonds then to be issued and that the amounts deposited will not be less than the Separate Series Reserve Account Requirement for the Bonds of such Series.

3. Either:

(I) a written certificate of the City and County based: (i) on audited figures or (ii) to the extent audited figures are not available, on figures taken by an independent certified public accountant from the Department's books and records, showing that the Net Revenues for: (a) the most recent Fiscal Year, or (b) any consecutive 12-month period out of 24 months immediately preceding the month in which such Bonds are issued were not less than 1.20 times the maximum Aggregate Debt Service on all Bonds then Outstanding and on the proposed Series of Bonds in any Fiscal Year plus 1.00 times the aggregate Support Facility Reimbursement Obligations outstanding as of the date of the written certificate of the City and County; or

(II) a written certificate of the City and County or Certificate of the Consulting Engineer that the Net Revenues to be derived in each of the five (5) Fiscal Years following the earlier of: (i) the end of the period during which interest is capitalized or, if no interest is to be capitalized, the Fiscal Year in which the proposed Series of Bonds are issued, and (ii) the date on which substantially all Improvements to be financed with the proceeds of the proposed Series of Bonds are expected to commence operations, or, if the proceeds of such Series of Bonds will not be used to fund the Costs of Improvements, the Fiscal Year in which the proposed Series of Bonds are issued, are estimated to be not less than 1.20 times the maximum Aggregate Debt Service on all Bonds then Outstanding and on the proposed Series of Bonds in any such Fiscal Year, plus 1.00 times the aggregate Support Facility Reimbursement Obligations outstanding as of the date of such written certificate of the City and County or certificate of the Consulting Engineer.

In determining Net Revenues for purposes of the certificates described above, the City and County or the Consulting Engineer, as the case may be, is permitted, and in certain instances is required, to make certain adjustments as provided in the Bond Resolution. In addition, the Bond Resolution requires that certain other adjustments to Net Revenues derived from Debt Service on Variable Rate Bonds and debt service on Bond Anticipation Notes and short-term Subordinate Obligations and Reimbursable Obligations be made for purposes of the written certificates described above. See Appendix B, "Summary of Certain Provisions of the Bond Resolution."

Bonds may be issued as variable rate bonds, fixed rate bonds, bonds providing for the right of the owner thereof to present the Bond for redemption or purchase prior to maturity, zero interest rate or deep discount bonds, bonds providing for the compounding of interest, or any combination thereof. Bonds may be issued or outstanding from time to time with or without credit enhancement provisions. See Appendix B, "Summary of Certain Provisions of the Bond Resolution."

The Bond Resolution also permits the issuance of Bonds ("Refunding Bonds") on a parity with the Bonds then Outstanding to refund all or any part of: (i) a Series of Outstanding Bonds; (ii) Subordinate Obligations; or (iii) Reimbursable Obligations. Refunding Bonds may only be issued by the City and County upon satisfaction of certain conditions set forth in the Bond Resolution.

A more detailed description of the requirements relating to the issuance of Additional Bonds or Refunding Bonds is set forth in Appendix B under "Additional Bonds and Refunding Bonds."

The Bond Resolution also permits the issuance of notes in anticipation of a Series of Bonds if the City and County has theretofore authorized the issuance of such Bonds. The interest on such notes (and any renewal thereof) shall be payable from the proceeds of such notes or other notes or from the proceeds of the sale of the Bonds in anticipation of which such notes are issued. A more detailed description of the provisions for security for payment of such notes and other requirements relating to the issuance of notes is set forth in Appendix B under "Bond Anticipation Notes."

BOND INSURANCE

The MBIA Insurance Corporation Insurance Policy

The following information has been furnished by MBIA Insurance Corporation ("MBIA" or the "Insurer") for use in this Official Statement. Reference is made to Appendix E for a specimen of MBIA's policy (the "Policy").

MBIA does not accept any responsibility for the accuracy or completeness of this Official Statement or any information or disclosure contained herein, or omitted herefrom, other than with respect to the accuracy of the information regarding the Policy and MBIA set forth under the heading "BOND INSURANCE". Additionally, MBIA makes no representation regarding the Series 2007 Bonds or the advisability of investing in the Series 2007 Bonds.

The MBIA Policy unconditionally and irrevocably guarantees the full and complete payment required to be made by or on behalf of the City and County to the Paying Agent or its successor of an amount equal to (i) the principal of (either at the stated maturity or by an advancement of maturity pursuant to a mandatory sinking fund payment) and interest on, the Series 2007 Bonds as such payments shall become due but shall not be so paid (except

that in the event of any acceleration of the due date of such principal by reason of mandatory or optional redemption or acceleration resulting from default or otherwise, other than any advancement of maturity pursuant to a mandatory sinking fund payment, the payments guaranteed by the MBIA Policy shall be made in such amounts and at such times as such payments of principal would have been due had there not been any such acceleration, unless MBIA elects in its sole discretion, to pay in whole or in part any principal due by reason of such acceleration); and (ii) the reimbursement of any such payment which is subsequently recovered from any Owner of the Series 2007 Bonds pursuant to a final judgment by a court of competent jurisdiction that such payment constitutes an avoidable preference to such Owner within the meaning of any applicable bankruptcy law (a "Preference").

MBIA's Policy does not insure against loss of any prepayment premium which may at any time be payable with respect to any Series 2007 Bonds. MBIA's Policy does not, under any circumstance, insure against loss relating to: (i) optional or mandatory redemptions (other than mandatory sinking fund redemptions); (ii) any payments to be made on an accelerated basis; (iii) payments of the purchase price of Series 2007 Bonds upon tender by an owner thereof; or (iv) any Preference relating to (i) through (iii) above. MBIA's Policy also does not insure against nonpayment of principal of or interest on the Series 2007 Bonds resulting from the insolvency, negligence or any other act or omission of the Paying Agent or any other paying agent for the Series 2007 Bonds.

Upon receipt of telephonic or telegraphic notice, such notice subsequently confirmed in writing by registered or certified mail, or upon receipt of written notice by registered or certified mail, by MBIA from the Paying Agent or any owner of a Series 2007 Bond the payment of an insured amount for which is then due, that such required payment has not been made, MBIA on the due date of such payment or within one business day after receipt of notice of such nonpayment, whichever is later, will make a deposit of funds, in an account with U.S. Bank Trust National Association, in New York, New York, or its successor, sufficient for the payment of any such insured amounts which are then due. Upon presentment and surrender of such Series 2007 Bonds or presentment of such other proof of ownership of the Series 2007 Bonds, together with any appropriate instruments of assignment to evidence the assignment of the insured amounts due on the Series 2007 Bonds as are paid by MBIA, and appropriate instruments to effect the appointment of MBIA as agent for such owners of the Series 2007 Bonds in any legal proceeding related to payment of insured amounts on the Series 2007 Bonds, such instruments being in a form satisfactory to U.S. Bank Trust National Association, U.S. Bank Trust National Association shall disburse to such owners or the Paying Agent payment of the insured amounts due on such Series 2007 Bonds, less any amount held by the Paying Agent for the payment of such insured amounts and legally available therefor.

MBIA Insurance Corporation

MBIA Insurance Corporation ("MBIA") is the principal operating subsidiary of MBIA Inc., a New York Stock Exchange listed company (the "Company"). The Company is not obligated to pay the debts of or claims against MBIA. MBIA is domiciled in the State of New York and licensed to do business in and subject to regulation under the laws of all 50 states, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, the Virgin Islands of the United States and the Territory of Guam. MBIA, either directly or through subsidiaries, is licensed to do business in the Republic of France, the United Kingdom and the Kingdom of Spain and is subject to regulation under the laws of those jurisdictions. In February 2007, MBIA Corp. incorporated a new subsidiary, MBIA México, S.A. de C.V. ("MBIA Mexico"), through which it intends to write financial guarantee insurance in Mexico beginning in 2007. To date, MBIA Mexico has had no operating activity.

The principal executive offices of MBIA are located at 113 King Street, Armonk, New York 10504 and the main telephone number at that address is (914) 273-4545.

Regulation

As a financial guaranty insurance company licensed to do business in the State of New York, MBIA is subject to the New York Insurance Law which, among other things, prescribes minimum capital requirements and contingency reserves against liabilities for MBIA, limits the classes and concentrations of investments that are made by MBIA and requires the approval of policy rates and forms that are employed by MBIA. State law also regulates the amount of both the aggregate and individual risks that may be insured by MBIA, the payment of dividends by MBIA, changes in control with respect to MBIA and transactions among MBIA and its affiliates.

The Policy is not covered by the Property/Casualty Insurance Security Fund specified in Article 76 of the New York Insurance Law.

Financial Strength Ratings of MBIA

Moody's Investors Service, Inc. rates the financial strength of MBIA "Aaa."

Standard & Poor's, a division of The McGraw-Hill Companies, Inc., rates the financial strength of MBIA "AAA."

Fitch Ratings rates the financial strength of MBIA "AAA."

Each rating of MBIA should be evaluated independently. The ratings reflect the respective rating agency's current assessment of the creditworthiness of MBIA and its ability to pay claims on its policies of insurance. Any further explanation as to the significance of the above ratings may be obtained only from the applicable rating agency.

The above ratings are not recommendations to buy, sell or hold the Series 2007 Bonds, and such ratings may be subject to revision or withdrawal at any time by the rating agencies. Any downward revision or withdrawal of any of the above ratings may have an adverse effect on the market price of the Series 2007 Bonds. MBIA does not guaranty the market price of the Series 2007 Bonds nor does it guaranty that the ratings on the Series 2007 Bonds will not be revised or withdrawn.

MBIA Financial Information

As of December 31, 2006, MBIA had admitted assets of $10.9 billion (audited), total liabilities of $6.9 billion (audited), and total capital and surplus of $4.0 billion (audited) determined in accordance with statutory accounting practices prescribed or permitted by insurance regulatory authorities. As of March 31, 2007, MBIA had admitted assets of $11.2 billion (unaudited), total liabilities of $7.0 billion (unaudited), and total capital and surplus of $4.2 billion (unaudited) determined in accordance with statutory accounting practices prescribed or permitted by insurance regulatory authorities.

For further information concerning MBIA, see the consolidated financial statements of MBIA and its subsidiaries as of December 31, 2006 and December 31, 2005 and for each of the three years in the period ended December 31, 2006, prepared in accordance with generally accepted accounting principles, included in the Annual Report on Form 10-K of the Company for the year ended December 31, 2006 and the consolidated financial statements of MBIA and its subsidiaries as of March 31, 2007 and for the three month period ended March 31, 2007 and March 31, 2006 included in the Quarterly Report on Form 10-Q of the Company for the quarter ended March 31, 2007, which are hereby incorporated by reference into this Official Statement and shall be deemed to be a part hereof.

Copies of the statutory financial statements filed by MBIA with the State of New York Insurance Department are available over the Internet at the Company's web site at http://www.mbia.com and at no cost, upon request to MBIA at its principal executive offices.

Incorporation of Certain Documents by Reference

The following documents filed by the Company with the Securities and Exchange Commission (the "SEC") are incorporated by reference into this Official Statement:

(1) The Company's Annual Report on Form 10-K for the year ended December 31, 2006; and
(2) The Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2007.

Any documents, including any financial statements of MBIA and its subsidiaries that are included therein or attached as exhibits thereto, filed by the Company pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of the Company's most recent Quarterly Report on Form 10-Q or Annual Report on Form 10-K, and prior to the termination of the offering of the Series 2007 Bonds offered hereby shall be deemed to be

incorporated by reference in this Official Statement and to be a part hereof from the respective dates of filing such documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein, or contained in this Official Statement, shall be deemed to be modified or superseded for purposes of this Official Statement to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Official Statement.

The Company files annual, quarterly and special reports, information statements and other information with the SEC under File No. 1-9583. Copies of the Company's SEC filings (including (1) the Company's Annual Report on Form 10-K for the year ended December 31, 2006, and (2) the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2007) are available (i) over the Internet at the SEC's web site at http://www.sec.gov; (ii) at the SEC's public reference room in Washington D.C.; (iii) over the Internet at the Company's web site at http://www.mbia.com; and (iv) at no cost, upon request to MBIA at its principal executive offices.

THE CITY AND COUNTY AND THE DEPARTMENT

Purpose and Powers

The City and County. The City and County of Honolulu includes the entire island of Oahu and a number of outlying islands. Of the eight major islands that constitute the State of Hawaii, Oahu, with an area of 597 square miles, is smaller than the Islands of Hawaii and Maui but larger than the Islands of Kauai, Molokai, Lanai, Niihau and Kahoolawe. With slightly less than a tenth of the land area in the entire State, Oahu contains nearly three-fourths of the State's resident population. Based on the 2000 U.S. Census, the resident population of the State was 1,211,537, and that of Oahu was 876,156, approximately 72% of the total State population. Honolulu is the seat of the State Government and is the State's trade, finance, communication, and transportation center. Most Federal establishments and personnel (both civilian and military), manufacturing, major educational and scientific, and significant agricultural activities are located on Oahu.

City Council and Mayor. The City Council is the governing body of the City and County and it consists of nine members. All members are elected from nine districts to serve four-year terms with a limitation of two consecutive full terms. Pursuant to the City Charter of the City and County, the City Council has the power, among other things: (i) to exercise the legislative power of the City and County, (ii) to enact operating and capital budget ordinances, (iii) with certain exceptions, to fix fees and charges for services rendered by the City and County, and (iv) to authorize the issuance of revenue bonds for the purpose of initiating, constructing, acquiring, extending, replacing or otherwise improving any revenue-producing facility. The Mayor is the Chief Executive Officer of the City and County. The Mayor is elected to serve a four-year term with a limitation of two consecutive full terms. The Mayor exercises direct supervision over all agencies specifically identified in the City Charter and, through the Managing Director, exercises supervision over all other executive agencies of the City and County.

Department of Environmental Services. The Department was established on July 1, 1998, pursuant to a plan of reorganization which combined certain components of the Department of Wastewater Management, the department which previously administered the Wastewater System, with other administrative departments having compatible functions. The Department, among other things, is charged with the responsibility to administer the planning, design and construction of wastewater facilities, oversee the operation and maintenance of sewer lines, treatment plants and pumping stations, monitor the collection, treatment and disposal of wastewater, provide pumping of cesspools, provide solid waste processing, collection and disposal, promulgate rules and regulations as necessary to administer and enforce requirements established by law, and perform such other duties as may be required by law. The Department consists of four divisions: Environmental Quality, Wastewater Treatment and Disposal, Collection System Maintenance, and Refuse Collection and Disposal, plus an Office of Administrative Support.

Power to Fix and Collect Rates and Charges. By ordinance and resolution, the City Council requires that revenues of the Wastewater System be kept in the Sewer Fund and that the wastewater program shall be self-supporting. Consistent with such requirements, the Department is budgeted as a self-sustaining enterprise for the purpose of determining costs associated with providing wastewater services. Through the adoption of the annual

operating and capital budgets, the revenue requirements and wastewater rates are reviewed to determine the adequacy of revenues to meet needs. Pursuant to the Act and the City Charter, the City Council has the power to impose, prescribe and collect rates, rentals, fees or charges for the use and services of, and the facilities furnished by, the Wastewater System so that the Wastewater System will be and remain self-sustaining. The rates, rentals, fees or charges imposed and prescribed are required to produce revenues which will be at least sufficient to pay debt service on all revenue bonds issued for the purposes of the Wastewater System, including the Bonds, and including reserves therefor, to pay the costs of operation, maintenance and repair of the Wastewater System, and to carry out the covenants of all resolutions authorizing the issuance of revenue bonds for the purposes of the Wastewater System, including the Bond Resolution and the Second Resolution. The rates and charges fixed and imposed by the City Council are not subject to approval by any federal or state regulatory bodies. Rates and charges are determined on the basis of a recommendation by the Director of Environmental Services and the Mayor, subject to approval by ordinance of the City Council. An ordinance requires three readings and a public hearing for enactment by the City Council.

Department Work Force

The Department employs approximately 700 persons in various managerial, clerical, engineering and operational positions in support of wastewater activities. This work force, with the exception of 18 excluded and 4 exempt employees, is represented by one blue-collar, non-supervisory bargaining unit, one blue-collar, supervisory bargaining unit, one white-collar, non-supervisory bargaining unit, one white-collar, supervisory bargaining unit, and one professional and scientific bargaining unit. All bargaining unit contracts are state-wide and apply to all State government and county government activities. Of the five public bargaining units representing Department employees, all have received final and binding arbitration awards or have reached negotiated settlements resulting in two-year contracts beginning July 1, 2007 and ending June 30, 2009.

All employees are covered by the Hawaii State Employees Retirement System. As of June 30, 2006, the total unfunded actuarial accrued liability for the State Retirement System was $5.1 billion. The actuary for the State Retirement System does not provide a breakdown of the unfunded liability for the counties. Historically, the City and County's contribution has been approximately 14.7% of the total employer appropriation to the State Retirement System, of which the Department's contribution has been approximately 6.0%. Effective July 1, 2005, a fixed percentage of payroll is contributed (15.75% for Police and Fire and 13.75% for all other employees).

In addition to pension benefits, beginning with the Fiscal Year ending June 30, 2008, state and local governments are required to account for and report other post-employment benefits ("OPEBs") under Statement No. 45 ("GASB 45") issued by the Governmental Accounting Standards Board. OPEBs consist of certain health and life insurance benefits provided through the State of Hawaii Public Employer-Union Health Benefit Trust Fund (the "Trust Fund") to retired state and county employees, including retired Department employees. Employer contributions to the Trust Fund for these benefits are determined by the Trust Fund based on employees' hiring dates and years of service.

In April 2007, the State's independent actuarial consultant issued a report on the actuarial accrued liabilities and annual OPEB costs to be recognized by the respective employers with respect to Trust Fund OPEBs under GASB 45. The report includes estimates of the actuarial accrued liabilities and annual OPEB costs for the State and the counties based on two scenarios: (1) no prefunding of obligations; and (2) full prefunding of obligations. The actuarial accrued liabilities for Trust Fund OPEBs were estimated to be approximately $9.679 billion (with no prefunding) or $6.270 billion (with full prefunding) as of July 1, 2006 for the State and the counties. The corresponding annual OPEB costs for the Fiscal Year ended June 30, 2007 were estimated to be approximately $705.3 million (with no prefunding) or $514 million (with full prefunding), as compared to an estimated $247 million funding amount for that Fiscal Year based on the current "pay-as-you-go" funding method.

The report estimates actuarial accrued liabilities totaling approximately $1.793 billion (with no prefunding) or $1.137 billion (with full prefunding) are allocable to the City and County as of July 1, 2006, and annual OPEB costs totaling approximately $132 million (with no prefunding) or $93 million (with full prefunding) are allocable to the City and County for the Fiscal Year ended June 30, 2007. Historically, the Department has accounted for approximately 6.3% of the City and County's OPEB annual contribution.

In the recently passed FY2008 Operating Budget, the City and County appropriated $85.633 million, including 5.377 million from the Sewer Fund, for current Trust Fund requirements and appropriated $40.011 million, including $3.875 million from the Sewer Fund, to the OPEB Trust Fund.

Department Principal Officers

The principal officers of the Department include the Director, Deputy Director and Executive Assistant. The following are brief biographies of the Department's principal officers:

Dr. Eric S. Takamura, P.E., Director. Dr. Takamura was appointed Director on April 6, 2005, after serving as Acting Director for approximately four months. Dr. Takamura's professional experiences include Assistant Professor in the Department of Civil Engineering at both Portland State University and the University of Hawaii; Assistant General Manager of Kuilima Development Company; Project Manager for R.M. Towill Corporation; and most recently, Vice President and Chief Operating Officer of a local engineering firm. He has a Doctor of Philosophy degree in Civil Engineering (with emphasis in Environmental Health) from the University of Texas at Austin, a Master of Science degree in Environmental Health Engineering from the University of Texas at Austin, and a Bachelor of Science degree with Honors in Civil Engineering from the University of Hawaii at Manoa.

Kenneth A. Shimizu, Deputy Director. Mr. Shimizu was appointed Deputy Director on January 3, 2005, and brings his experiences as a controller and business owner. His knowledge of corporate administrative and financial functions, cash flow management, and customer service contributes to his oversight of the operation and management of the Department. Mr. Shimizu has a Bachelor of Business Administration degree in Finance from the University of Hawaii at Manoa.

Ross S. Tanimoto, Second Deputy Director. Mr. Tanimoto became Second Deputy Director on April 19, 2007. Mr. Tanimoto has been with the Department of Environmental Services and it predecessor agencies since 1992 and has served as both the Assistant Chief, Division of Environmental Quality, and Branch Chief, Monitoring and Compliance Branch. He has a Masters of Science Degree in Mechanical Engineering from California State University, Long Beach, and Bachelor of Science degrees in Mechanical Engineering and Meteorology from the University of Hawaii. Mr. Tanimoto is a registered Professional Engineer in Mechanical Engineering in the States of Hawaii and California.

Timothy A. Houghton, Executive Assistant. Mr. Houghton served as Executive Assistant for the Department of Wastewater Management from its creation on July 1, 1993, and has continued in that role with the Department of Environmental Services, except for the period from July, 2003, through December, 2004, when he served as Deputy Director of the Department. As Executive Assistant, among other things, Mr. Houghton is responsible for Department financial and personnel activities. Prior to that he worked on the Honolulu Rapid Transit Project and with the Department of Auditoriums. Mr. Houghton has a Bachelor of Arts degree from San Francisco State University and a Master of Science in Systems Management degree from the University of Southern California.

THE WASTEWATER SYSTEM

Introduction

As of April 2007, the Wastewater System serviced approximately 142,000 separate accounts and a population of approximately 640,000, which is approximately 74% of the total population of the City and County. The service area covers nearly 600 square miles. The customer base includes the residential population, business and industrial users, and other users located in the service area. Of the approximately 142,000 accounts, approximately 134,000 are residential and provide approximately 77% of the total revenue from sewer service charges; the remaining approximately 8,000 are non-residential, representing approximately 23% of the total revenue from sewer service charges. See "CERTAIN FINANCIAL, OPERATING AND OTHER INFORMATION AND STATISTICS." The average total volume of wastewater processed by the City and County's Wastewater System was 115.8 MGD average day annual flow in Fiscal Year 2006. A number of small private wastewater

systems also serve some areas in the City and County. The average total volume of wastewater processed by all such private systems is approximately 4.3 MGD.

General Description of Existing Facilities

The Wastewater System serving the island of Oahu is divided into eight wastewater basins for planning purposes: Central Oahu, East Mamala Bay, Kailua/Kaneohe/Kahaluu, North Oahu (East), North Oahu (West), Waianae, Waimanalo, and West Mamala Bay. Each basin is served by a major wastewater treatment plant ("WWTP"). The function of each WWTP is to treat wastewater by removing or reducing organic and inorganic materials to levels that satisfy federal and state permit requirements for the discharge of such wastewater into the ocean, streams, reservoirs or injection wells. In addition to treatment facilities, the Wastewater System includes collection, pumping and other related facilities.

A description of the wastewater basins and major facilities is as follows:

East Mamala Bay. The largest and the most densely populated basin is East Mamala Bay. Approximately 385,300 people reside in East Mamala Bay, representing approximately 44% of the resident population of the entire island. The basin is served by the Sand Island WWTP, a primary plant, and the largest treatment facility in terms of wastewater flow. The treatment plant has a primary treatment capacity of 86 MGD, and in Fiscal Year 2006, average daily flows were 66.550 MGD.

West Mamala Bay. West Mamala Bay is the second largest basin and includes Ewa, Central Oahu as far north as Mililani, and the Halawa to Pearl City area. The population of the basin area is approximately 251,200, or 29% of the estimated population of Oahu. The basin is served by the Honouliuli WWTP, which is the second largest treatment plant in the Wastewater System, with a primary treatment design capacity of 40 MGD and a secondary treatment design capacity of 13 MGD. In Fiscal Year 2006, average daily flows were 26.983 MGD. The secondary treated effluent is provided to a recycled water facility.

Kailua/Kaneohe/Kahaluu. The third largest basin includes the communities of Kailua, Kaneohe, and Kahaluu and surrounding areas in the eastern part of the island. The eastern portion of Oahu is also referred to as the Windward basin area. The basin area population is nearly 105,000, or approximately 12% of the island's population. The basin is served by the Kailua Regional WWTP, the third largest treatment plant in the Wastewater System. The Kailua WWTP has a design capacity of 16 MGD and in Fiscal Year 2006 average daily flows were approximately 15.813 MGD.

North Oahu (East and West). Most of the North Oahu area does not have centralized sewer service though there are two small facilities including the Kahuku WWTP (0.4 MGD capacity, secondary) and the Pa'alaa Kai WWTP (0.15 MGD capacity, secondary). In Fiscal Year 2006, these facilities had average daily flows of 0.196 MGD and 0.084 MGD, respectively. The City and County began operating the Laie wastewater system on November 1, 2006, and expects to assume full ownership shortly. The Laie Water Reclamation Facility (LWRF) has a capacity of 0.9 MGD at the tertiary level and had an average flow of 0.47 MGD in Fiscal Year 2006.

Waianae. The Waianae basin serves the west coast of the island, which has a population of approximately 40,600. The Waianae WWTP has the capacity to process 5.5 MGD at a secondary level.

Central Oahu. Central Oahu, including military bases and the communities of Wahiawa and Whitmore Village, is served by the Wahiawa WWTP (2.6 MGD capacity, secondary).

Waimanalo. The Waimanalo basin is served by the Waimanalo WWTP, which is owned by the State and operated by the City and County. It is a secondary plant with a capacity of 0.7 MGD and serves the Waimanalo community of 9,100.

The Sand Island WWTP, the Honouliuli WWTP and the Kailua Regional WWTP are the three largest WWTPs. The remaining WWTPs provide treatment of wastewater to the rest of the island. Though the five basin areas of Central Oahu, North Oahu (East and West), Waianae, and Waimanalo comprise the majority of the

geographical area of the island, the population density is much lower in comparison to the East and West Mamala Bay and the Kailua/Kaneohe/Kahaluu basin areas. The combined population of the five basin areas is less than 15% of the total population of Oahu. The total design capacity of the WWTPs in the five basin areas is approximately 9 MGD and the current wastewater flow is approximately 7 MGD. A private wastewater system provides collection and treatment for the community of Hawaii Kai. The Hawaii Kai system has an average flow of 4.2 MGD, including flows from the City and County's Kuliouou Wastewater Pumping Station ("WWPS"). The system processes less than 4% of the average flow of the City and County's Wastewater System.

For a more detailed description of the Wastewater System, see Appendix A, "Engineer's Report."

Environmental Compliance

The WWTPs and other facilities operated by the Department are governed by either National Pollutant Discharge Elimination System (NPDES) permits or State of Hawaii Department of Health Underground Injection Control permits. Since 1991, the United States Environmental Protection Agency ("EPA"), the State of Hawaii and several environmental groups have filed various legal and regulatory actions against the City and County alleging violations of the federal Clean Water Act and the several NPDES and State of Hawaii permits held by the Department. The City and County has entered into settlements with respect to several of such actions. The consent decrees entered into by the City and County in connection with such settlements require the City and County, among other things, to rehabilitate and expand certain existing facilities, to implement pretreatment programs, to institute efficient effluent and biosolids reuse, and to construct new facilities. The Department has undertaken the rehabilitation and expansion of existing facilities, the implementation of pretreatment programs, effluent reuse and biosolids reuse, and the construction of new facilities in the last several years for the purpose of complying with the existing consent decrees. The Department has developed the 1998-2017 Capital Improvement Program, in part, to comply with existing consent decrees as well as any federal and state administrative orders and NPDES permit requirements. See also "PENDING LITIGATION."

A rupture of the Beachwalk force main on Kaiolu Street occurred in March 2006, resulting in the release of 48.7 million gallons of untreated wastewater into the Ala Wai Canal in Waikiki. The City and County repaired the force main, which was put back into service on March 29, 2006. The City and County is currently installing a construction bypass force main which is being done in two phases. Once this is completed, the Beachwalk Wastewater Pump Station will be operated utilizing the existing force main. The new force main segment and construction bypass force main will be used only as a backup force main. A leak detection and monitoring plan was developed with the State Department of Health, and will be implemented by the City and County whenever the construction bypass force main is utilized. Ultimately, this bypass will be removed after the City and County constructs a new force main.

As a result of the March 2006 Beachwalk spill and after one year of negotiations, the EPA, DOJ, DOH and the City entered into a Stipulated Order that addresses the Beachwalk force main, five other force mains, and one pump station. The estimated cost of the work required by the Stipulated Order is approximately $300 million, which costs are included in the City and County's 1998-2017 Capital Improvement Program. No penalties have been assessed at this time but the EPA has reserved the right to assess penalties for the Beachwalk spill, among others. The City and County has also reserved the right to contest these penalties.

In March 2007, the EPA issued its tentative decision to deny the Honouliuli WWTP application for a renewed variance from secondary treatment ("301(h) waiver"). The City is vigorously challenging this tentative decision. The denial of the 301(h) waiver for the Honouliuli WWTP will require approximately $400 million in project costs. These costs are not included in the City and County's 1998-2017 Capital Improvement Program. The City and County has until August 27, 2007 to submit public comments to the EPA on its tentative decision. At this point, it is speculative to estimate any further impacts in relation to this tentative decision. The City is also expecting a tentative decision to deny the Sand Island WWTP application for a renewed variance from secondary treatment in October 2007. The City will also vigorously challenge this tentative decision. The denial of the 301(h) waiver for the Sand Island WWTP will require approximately $800 million in project costs. These costs are not included in the City and County's 1998-2017 Capital Improvement Program. At this point, it is speculative to estimate any further impacts in relation to this tentative decision.

The cost of any potential liability for the above referenced events for alleged violations or penalties, beyond the City and County's approximate $3.712 billion (in inflated dollars) 1998-2017 Capital Improvement Program to upgrade its collection systems and wastewater treatment plants, is speculative.

See "CAPITAL IMPROVEMENT PROGRAM" and Appendix A, "Engineer's Report."

Projected Customer Growth

The resident population in Oahu, the area served by the Wastewater System, is projected to grow modestly through 2020. The actual and projected resident population, by basin area, for the years 1990 through 2020 is shown in the following tables. The majority of growth between the years 1990 and 2020 is expected to occur in East and West Mamala Bay. Of the total population growth projected to occur between 1990 and 2020, approximately 94,000 or 59% is expected to take place in West Mamala Bay and over 54,000, or 34%, is expected to occur in East Mamala Bay. The tables show an estimated average annual population increase of 5,308 between 1990 and 2020, or roughly 0.5% annually.

Table 1

Actual and Projected Resident Population
By Basin, Oahu, 1990-2020

Basin	1990	2000	2005	2010	2015	2020
East Mamala Bay	380,157	374,366	385,303	402,731	421,828	434,250
West Mamala Bay	199,005	239,713	251,239	267,301	273,752	293,036
North Oahu (East/West)[1]	29,992	31,094	31,331	31,372	34,325	33,374
Waianae	37,411	39,271	40,635	41,094	41,336	42,183
Central Oahu	44,540	45,254	44,996	44,716	44,546	44,231
Kailua/Kaneohe/Kahaluu	108,639	106,300	105,502	104,738	108,812	109,214
Waimanalo	9,055	9,161	9,099	9,043	9,631	9,749
Total	808,799	845,159	868,105	900,995	934,230	968,037

[1] Includes population of Laie, which is currently served by a privately owned sewer system operated by the City and County.

Source: City and County of Honolulu, Department of Environmental Services; City and County of Honolulu, Department of Planning and Permitting, 2001.

Table 2

Actual and Projected Percentage Growth in Resident Population
By Basin, Oahu, 1990-2020

Basin	1990-2000 Average Annual Change	Percent of Total Growth	1990-2020 Average Annual Change	Percent of Total Growth
North Oahu (East)	(45)	-1.2%	49	0.9%
Kailua-Kaneohe/Kahaluu	(234)	-6.4	19	0.4
Waimanalo	11	0.3	23	0.4
East Mamala Bay	(579)	-15.9	1,803	34.0
West Mamala Bay	4,071	112.0	3,134	59.1
Waianae	186	5.1	159	3.0
Wahiawa	71	2.0	(10)	-0.2
North Oahu (West)	155	4.3	131	2.5
Total	3,636	100.0	5,308	100.0

Source: City and County of Honolulu, Department of Environmental Services; City and County of Honolulu, Department of Planning and Permitting, 2001.

The Department has developed the 2008-2012 Capital Improvement Program, the 2008-2017 Capital Improvement Program and the 1998-2017 Capital Improvement Program, in part to provide new facilities which will be required to reliably serve projected growth in the number of customers served by the Wastewater System. See "CAPITAL IMPROVEMENT PROGRAM" and Appendix A, "Engineer's Report."

CAPITAL IMPROVEMENT PROGRAM

The Department staff manages and updates at least annually a long-range Capital Improvement Program (the "CIP") to achieve several goals. The CIP is a long-range planning tool used to estimate project costs and timing of expenditures over a 20-year period, currently through 2017. The 2008-2012 Capital Improvement Program and the 2008-2017 Capital Improvement Program are part of this 20-year plan. The Department develops the CIP with the objective of providing safe and reliable facilities to process the wastewater discharge of all sewer customers throughout Oahu. CIP projects are needed for the rehabilitation of existing facilities, the expansion of capacity to accommodate growth, and the improvement of facilities and processes.

1995 Consent Decree

The City and County, the EPA and the State DOH entered into a consent decree filed in the United States District Court, District of Hawaii, on May 15, 1995 that has established the City and County's direction on future wastewater issues. The overall goal established by the consent decree is to develop a proactive plan to reduce and prevent wastewater spills and bypasses from the collection system, pump stations, and treatment plants. See "PENDING LITIGATION" herein for a description of actions filed against the City and County by the EPA, the State Department of Health, the Sierra Club and other environmental groups.

A number of projects identified in the CIP are designed to comply with the 1995 Consent Decree. Consent decree projects are developed to meet three major program objectives:

1. *Pretreatment:* Source control program to control introduction of inappropriate materials into the collection and treatment system. This program does not require funding of any CIP project.
2. *Collection system compliance:* Spill reduction program for both dry weather spills, and wet weather spills.

3. *Supplemental environmental projects:* City and County commitment to undertake beneficial and feasible effluent and sludge reuse projects.

Criteria for Ranking CIP Projects by Priority

The Department considers the CIP to be a flexible tool which allows the Department staff to determine the impact of adjusting the phasing and priority of projects. As of the middle of 2006, the long-range CIP covering the 20-year period from 1998 through 2017 included a list of projects with estimated appropriations totaling approximately $3.712 billion (in inflated dollars). Many of the projects shown in the CIP may not begin in the year specified or at all if needs change. The Department staff has developed a policy for ranking the CIP projects by priority to determine order and timing of projects. The policy is shown in the following table, with the highest priority criteria listed first:

Table 3

Priority for CIP Projects

Priority Class	Description
I	Safety and public health – immediate
II	Protection of the environment – immediate
III	Permit and regulatory compliance – immediate
IV	Completion of ongoing projects
V	Preventive
VI	Funding requirements
VII	System expansion
VIII	Other

The rankings are intended as guidelines for CIP project planning, not as hard and fast rules. A project considered in a low priority class may be upgraded to a high priority position in the CIP due to any number of factors. For example, if a service area is very close to reaching and surpassing the capacity of its wastewater facilities, the expansion of the system in that area rises in priority. System expansion can entail projects which affect permit and regulatory compliance, protection of the environment, or safety and public health. Through the use of these guidelines combined with analyses of funding and other resource constraints, staff can develop a CIP which best satisfies the needs of the Department customer base. The 1998-2017 Capital Improvement Program was developed using these CIP guidelines and constitutes the current 20-year CIP.

Classification of CIP Projects

The City and County expects to use various funding sources to finance CIP projects: (i) proceeds of the Series 2007 Bonds, (ii) proceeds of additional Bonds and Subordinate Obligations to be issued, (iii) proceeds of Reimbursable Obligations previously issued and currently available, (iv) proceeds of wastewater revenue bonds previously issued and currently available, (v) the Net Revenues of the Wastewater System, and (vi) Wastewater System Facilities Charge. Revenues from Wastewater System Facility Charges are intended to cover a portion of the project expenditures relating to expansion of the Wastewater System to serve future growth in the number of customers. Revenues from sewer service charges are earmarked for the expenditures resulting from rehabilitation or upgrade of the wastewater system for existing users. To effectively determine the costs to be recouped by these respective charges, the Department makes a fair estimate of the share of costs attributable to expansion and rehabilitation. Where an improvement benefits both existing and future users, the Department identifies the relative portion allocable to each. The classes of CIP projects include system expansion, system upgrade, and replacement/rehabilitation.

System expansion: Improvements which increase the design capacity of treatment, transmission, or support facilities and equipment to accommodate new or future growth. Future users would finance system expansion project costs partially through revenues from Wastewater System Facility Charges.

System upgrade: Improvements which upgrade the service level standard. For example, an upgrade to secondary treatment processes where only primary treatment processes were used. To fairly allocate costs between future and existing users, the portions of upgrade costs attributable to expansion and current use must be identified.

Replacement/rehabilitation: Improvements which replace or rehabilitate facilities serving existing development. Existing users pay the costs of replacement and rehabilitation projects through sewer service charges.

2008-2012 Capital Improvement Program

To meet certain consent decrees entered into by the Department with Federal and State regulatory bodies and to reliably serve projected growth in the number of customers served by the Wastewater System, the Department has developed and adopted the 2008-2012 Capital Improvement Program. The additions and improvements to the Wastewater System, the costs of which are to be financed in part from the proceeds of the Series 2007 Bonds, are part of the 2008-2012 Capital Improvement Program. The City and County expects to appropriate approximately $1.527 billion (in inflated dollars) for the 2008-2012 Capital Improvement Program. A portion of these appropriations will actually be expended after the 2008-2012 period. For actual expenditures during the 2008-2012 period, see Appendix A, "Engineer's Report." The projected appropriations for the various CIP projects of and the expected sources of funding for the 2008-2012 Capital Improvement Program are set forth in the following tables.

Table 4

Projected Appropriations for 2008-2012 Capital Improvement Program

Project	Projected Cost
CIP Projects	$1,470,584
Project Management	32,580
Capital Equipment	24,050
Total	$1,527,214

Table 5

Expected Sources of Funding for 2008-2012 Capital Improvement Program

Funding Source	Projected Amount
Subordinate Obligations[1]	$ 151,144
Facility Charges[2]	43,080
Net Revenues[3]	157,417
Series 2007 Bonds	150,000
Additional Bonds	1,025,573
Total	$1,527,214

[1] *State revolving fund loan proceeds.*

[2] *Fees collected for new Wastewater System connections.*

[3] *Cash funded CIP.*

2008-2017 Capital Improvement Program

The 2008-2017 Capital Improvement Program is part of the 1998-2017 Capital Improvement Program. The City and County expects to appropriate approximately $2.433 billion (in inflated dollars) for the 2008-2017 Capital Improvement Program. A portion of these appropriations will actually be expended after the 2008-2017 period. For actual expenditures during the 2008-2017 period, see Appendix A, "Engineer's Report." The projected

appropriations for the various CIP projects of and the expected sources of funding for the 2008-2017 Capital Improvement Program are set forth in the following tables.

Table 6

Projected Appropriations for 2008-2017 Capital Improvement Program

Project	Projected Cost
CIP Projects	$2,284,184
Project Management	92,880
Capital Equipment	56,300
Total	$2,433,364

Table 7

Expected Sources of Funding for 2008-2017 Capital Improvement Program

Funding Source	Projected Amount
Subordinate Obligations[1]	$ 201,144
Facility Charges[2]	93,020
Net Revenues[3]	866,241
Series 2007 Bonds	150,000
Additional Bonds	1,122,959
Total	$2,433,364

[1] *State revolving fund loan proceeds.*

[2] *Fees collected for new Wastewater System connections.*

[3] *Cash funded CIP.*

1998-2017 Capital Improvement Program

The 1998-2017 Capital Improvement Program ("CIP") is the current twenty-year CIP the Department has undertaken. The City and County expects to appropriate approximately $3.714 billion (in inflated dollars) for the 1998-2017 Capital Improvement Program. A portion of these appropriations will actually be expended after the 1998-2017 period. The projected appropriations for the various CIP projects of and the expected sources of funding for the 1998-2017 Capital Improvement Program are set forth in the following tables.

Table 8

Projected Appropriations for 1998-2017 Capital Improvement Program

Project	Projected Cost
CIP Projects	$3,427,539
Project Management	117,960
Capital Equipment	84,430
Ongoing Projects	83,985
Total	$3,713,914

Table 9

Expected Sources of Funding for
1998-2017 Capital Improvement Program

Funding Source	Projected Amount
Reimbursable Obligations[1]	$ 83,985
Subordinate Obligations[2]	336,165
Facility Charges[3]	129,944
Net Revenues[4]	903,290
Prior Bonds	685,022
Series 2007 Bonds	150,000
Additional Bonds	1,425,508
Total	$3,713,914

[1] *Previously issued general obligation bonds.*

[2] *State revolving fund loan proceeds.*

[3] *Fees collected for new Wastewater System connections.*

[4] *Cash funded CIP.*

HISTORICAL AND PROJECTED REVENUES, EXPENSES AND COVERAGES

Since its initial revenue bond issue in 1998, the Department has exceeded coverage requirements, as shown in Table 10, which sets forth historical and projected revenues, expenses and debt service coverage of the Wastewater System.

Table 10

Historical and Projected Revenues, Expenses and Debt Service Coverages
($ in thousands)
(Fiscal Year Ending June 30)

		Actual		Budgeted		Projected	
	2004	2005	2006	2007	2008	2009	2010
Revenues[1]							
Sewer Service Charges[2]	$111,886	$112,746	$142,167	$157,390	$197,280	$233,430	$276,210
Interest Earnings	1,540	1,590	4,166	3,300	8,600	8,700	8,600
Other Revenues	69	808	211	150	106	106	106
Total Revenues	$113,495	$115,144	$146,544	$160,840	$205,986	$242,236	$284,916
Operating Expenses[3]	63,336	68,326	70,195	101,112	123,222	134,570	136,710
Net Revenues	$50,159	$46,818	$76,349	$59,728	$82,764	$107,666	$148,206
Annual Debt Service							
Senior Lien Bonds[4]	10,641	10,642	12,947	21,857	34,422	44,889	67,304
D/S Coverage[5]	4.71x	4.40x	5.90x	2.73x	2.40x	2.40x	2.20x
Senior and Junior Lien Bonds[6]	22,102	22,649	24,406	41,465	59,127	70,079	94,664
D/S Coverage[5]	2.27x	2.07x	3.13x	1.44x	1.40x	1.54x	1.57x
Total Obligations[7]	33,572	44,139	35,929	53,796	72,865	82,593	107,901
D/S Coverage[5]	1.59x	1.18x	2.37x	1.26x	1.25x	1.40x	1.45x

[1] *Does not include System Facility Charges, which are pledged under the Resolution but are not defined in Revenues.*

[2] *Sewer service charges increased by 25% in 2006, 10% in 2007, 25% in 2008 18% in 2009 and 18% in 2010.*

[3] *Operating expense projections reflect both anticipated operational changes and beyond 2008 are inflated at 3% per year for expenses and 3% per year for personnel costs. In 2007 and 2008, additional electrical costs are included for required one year test of full operation of newly installed ultraviolet disinfection facility at the Sand Island WWTP. Operating expenses do not include debt service, depreciation, or cash expenditures on capital improvements.*

[4] *Includes actual debt service for Senior Series 1998, 2001, 2005 and 2006 and assumes 5.5% interest rate for all future issues.*

[5] *Minimum debt service coverage requirements are: Senior Lien Bonds – 1.2x; Senior and Junior Lien Bonds – 1.1x; Total Obligations – 1.0x. Debt service coverage for Total Obligations includes revenue from System Facility Charges. System Facility Charge revenues are shown in Table 18 and in Appendix A.*

[6] *Includes actual debt service for Senior and Junior Series 1998 and Senior Series 2001, 2005 and 2006 Bonds and assumes a 4% interest rate for Junior Series 2003 Bonds (auction rate certificates) and a 5.5% interest rate for all future Senior Bond issues.*

[7] *Includes actual debt service for existing obligations including Senior and Junior Bonds; reimbursable General Obligation Bonds; State Revolving Fund Loans; and any other debt obligations and assumes future interest rates for Revenue Bonds as indicated above.*

CONCLUSIONS OF CONSULTING ENGINEER

The Consulting Engineer has projected revenues, expenses and coverages for the Wastewater System for the Fiscal Years 2008 to 2017, inclusive. The projections are based on inflated dollars (*i.e.*, adjusted from 2007 dollars). The projections indicate that with respect to the Fiscal Years 2008 to 2017, inclusive, the City and County can (i) issue the Series 2007 Bonds to finance $150 million of necessary additions and improvements to the Wastewater System, to fund the Common Reserve Account in an amount sufficient to satisfy its requirement, and to pay the costs of issuing the Series 2007 Bonds; (ii) finance an additional $2.66 billion of improvements to the Wastewater System from proceeds of additional Bonds and Subordinate Obligations to be hereafter issued, proceeds of Reimbursable Obligations previously issued and currently available, proceeds of Bonds and Subordinate Obligations previously issued and currently available the Net Revenues and Wastewater System Facility Charges over the ten year period; and (iii) fully meet all reserve funding and coverage requirements under the Bond Resolution and the Second Resolution by adopting increases of sewer rates and charges by 25% in Fiscal Year 2006, 10% in Fiscal Year 2007, 25% in Fiscal Year 2008, 18% in Fiscal Years 2009 and 2010, and 15% in Fiscal Year

2011, and planning rate increases of between 15% and 6% from Fiscal Year 2012 through Fiscal Year 2017, and (iv) meet all reserve funding and coverage requirements by modifying adopted or projected sewer rates to enable financing of prospective requirements of pending revisions to the City and County's consent decree or other regulatory enforcement actions, and (v) by raising Wastewater System Facility Charges by 3% in Fiscal Year 2008 and another 3% in each of the Fiscal Years thereafter through June 30, 2011. The monthly residential wastewater bill for a customer with metered water consumption of 10,000 gallons, and billed for 7,000 gallons of wastewater volume, is expected to increase from $55.31 to $101.82 between Fiscal Years 2008 and 2012. The revenues from the Wastewater System Facility Charge were 5.7% of total revenues of the Wastewater System in Fiscal Year 2005-2006 and are projected to be 1.8% by Fiscal Year 2015-2016. The Consulting Engineer has concluded that current customer rates and charges for the City and County are comparable to other similar wastewater agencies in the Western United States. See "CERTAIN FINANCIAL, OPERATING AND OTHER INFORMATION AND STATISTICS — Rates and Charges" and Appendix A, "Engineer's Report" for a discussion of the Rate Ordinance.

The Consulting Engineer, based upon its studies, the assumptions discussed in the Engineer's Report and its review of the data and analysis provided by the City and County and its consultants, has concluded in its Engineer's Report that:

1. Department management has qualifications and experience commensurate with its responsibilities, and demonstrated commitment to the Department's vision and mission.

2. The Fiscal Year 2008 to Fiscal Year 2012 CIP Projects implement WWTP modifications required to improve plant operations, accommodate planned growth, and assure compliance with current federal and state regulatory requirements.

3. The CIP includes improvements to the Wastewater System collection and pumping facilities to assure compliance with current federal and state regulatory requirements. These collection and pumping facilities constitute much of the need for capital facility improvements.

4. Projects included in the Department's Fiscal Year 2008 to Fiscal Year 2017 CIP appropriations, which are estimated to cost $2.43 billion (adjusted for inflation), have been estimated based on known regulatory requirements and to conform to industry standard engineering practices. Project cost estimation procedures, which rely on consulting engineers' individual cost estimates, appear to be reasonable, and the construction schedules are achievable given implementation of effective construction management and program management. The existing construction climate, worldwide demand for construction materials, is creating significant volatility in project costs thereby introducing uncertainty in construction cost estimates.

5. The projects to be financed by proceeds of the Series 2007 Bonds are the highest priority projects required to meet consent decree requirements and protect public health. They are included in recently completed facility plans and updates thereto, which identify the need for projects through the year 2017.

6. The Department's financial planning and rate practices are both comprehensive and conform to established industry standard approaches.

7. The Department and City Council have demonstrated through historical financial planning, adopted rate increases, and Wastewater System performance, a commitment to conforming to established financial policies, as well as effectiveness in balancing rate increases with the financial requirements of the Wastewater System (including debt service coverage requirements).

8. The principal assumptions used in the financial forecast are reasonable given recent experience and current economic conditions. Variations in actual inflationary or interest rates may cause subsequent adjustments to future financial plans.

9. Projected operating results are consistent with the Department's established financial policies and debt service requirements, and will provide funding necessary to implement the CIP as currently envisioned. Specifically, the projected sewer service charges will provide revenue sufficient to:

   - Meet currently projected costs of operation, maintenance, and routine replacement of sewer system facilities.

   - Meet the existing debt service obligations and the projected requirements for the Series 2007 Bonds and future bond issues.

   - With Water System Facility Charges ("WSFC's") and other capital-related funding sources, provide sufficient revenue to pay the costs of the Department's CIP through the end of the forecast period.

   - Meet reserve requirements of the Bond Resolution.

10. The ability of the Department to meet its debt obligations is not dependent on projected growth in customer accounts nor are its obligations under the City and County's consent decrees.

11. Monthly residential bills for wastewater service for a customer with metered water consumption of 10,000 gallons, and billed for 7,000 gallons of wastewater volume, are forecasted to increase from $55.31 to $101.82 between Fiscal Year 2008 and Fiscal Year 2012.

12. The Department's debt and financial policies target debt service coverage in excess of 1.60x on senior lien revenue bonds and 1.25x on all revenue bonds. Based on the forecast rate increases, net revenues of the Department are projected to be sufficient to meet or exceed these targets and therefore all future debt service obligations, including a 1.2x parity coverage requirement on senior lien debt in accordance with the First Bond Resolution. The Department is also projected to meet the debt service coverage requirements of the Additional Bonds Test in connection with the Series 2007 Bonds. Accordingly, the Department has the capacity and the ability to issue parity lien revenue bonds under the First Bond Resolution to provide future CIP funding.

CERTAIN FINANCIAL, OPERATING AND OTHER INFORMATION AND STATISTICS

Management's Discussion of Financial Performance

In the period since the wastewater program became fully self-supporting in 1993, the program's financial position has been consistently strong. The change to enterprise fund status in 1998 further strengthened the position of the utility through clearer definition of enterprise assets, understanding of their current value, and clarity in responsibilities. The issue of the initial Wastewater Revenue bonds in 1998 accompanied by a strong debt and financial policy adopted by the City Council served to insure a continuing commitment to a strong financial posture for the wastewater enterprise.

Sewer service charge revenue grew with the rate increase effective July 1, 1993, and held steady through Fiscal Year 2005. In 2005, the City and County adopted a rate ordinance providing for increases in wastewater rates and future rate adjustments for a period covering July 1, 2005 through July 1, 2011, and in 2007 adopted increases to those rates for the period July 1, 2007 through July 1, 2011. See "Rates and Charges" below. Revenues have been sufficient throughout the period to meet all operation and maintenance and debt service requirements, including coverage since 1998. Water conservation efforts have limited growth in water use for several years; however, the significant base component of the rate structure and growth in customers has precluded these efforts from having a major impact on revenues. The sewer service charge program will remain strong reflecting the high residential component of wastewater customers and the lack of any single large commercial customer.

Receipts from the Wastewater System Facility Charge have increased over the past two years reflecting improved local economic conditions allowing development, a significant rate increase effective July 1, 2003, and annual rate increases thereafter. However, the Wastewater System Facility Charge accounts for less than 4.6% of revenues, is solely dedicated to expansion, and is not considered when calculating debt service coverage for the Bonds and Subordinate Obligations.

While efforts continue to control increases in expenses, operational expenditures and budgets have grown by approximately 16% per year since 2002 reflecting increased operational requirements, additional facilities, and cost escalation. Continuing analysis of staffing levels, operational procedures, and automation opportunities will help control expenses in the long term.

Net revenues have increased through Fiscal Year 2006, reflecting increased revenue from rate increases. The enterprise has continued to maintain a surplus throughout the period.

As part of the commitment to ensure the financial strength of the Wastewater System, the City Council adopted Ordinance No. 05-006 on March 31, 2005, pledging not to transfer Sewer Fund monies to the City and County's General Fund.

In the opinion of the Department, the financial position of the Wastewater System is strong, with a substantial reserve balance which provides reasonable protection against unforeseen events and financial flexibility for the future. Financial planning continues to identify the best alternative to maintain a strong financial posture while providing quality service to the customer and the community at a reasonable price. City Council and administration policies support the continuing revenue levels necessary to provide for current and future requirements.

Billing and Collection

Over 90% of Wastewater System sewer service charge billing is done by the Board of Water Supply through inclusion on the water bill. This billing program consistently has a delinquency (bills over 90 days old) of less than 2.4% and an uncollectable rate of less than 1.0%.

Should bills not be paid, the authority exists, and has been exercised, to terminate water service for non-payment of water and sewer service charges.

Ten Largest Customers

The ten largest customers of the Wastewater System in Fiscal Year 2006 (see table below) account for less than 6.5% of the annual revenues of the system.

Table 11

Ten Largest Customers

Customer	Sewer Service Charges	Percentage of Revenues
Housing & Community Development Corp of Hawaii	$1,733,087	1.22%
State of Hawaii, Department of Education	1,527,858	1.07
State of Hawaii, Department of Transportation, Airports	1,416,158	1.00
Hilton Hotel Corp	1,250,146	0.88
University of Hawaii	1,164,900	0.82
State of Hawaii, Halawa Correctional Facility	336,631	0.24
United Laundry Service	332,011	0.23
Hyatt Regency Waikiki	312,938	0.22
City and County of Honolulu, Department of Parks & Recreation	267,051	0.19
State of Hawaii, Central Service Division	256,362	0.18

Certain operating and financial statistics of the Department are summarized in the following tables. Unless otherwise noted, tables provided herein contain data furnished by the City and County.

Table 12

Board of Water Supply (BWS) and Wastewater Customer Accounts as of April 30, 2007

Customer Class	A Sewer Regular Monthly Charges	B Cesspool Monthly Charge (Contract)	C Cesspool Per Call	D Separate BWS Water Meter (domestic use)	E Cesspool Chemical Treat	F Agreed to Monthly Charge	G Sewer No Charge	J Non-residential SS surcharge	L Private Water Well	M Private Waste-water Meter	N Private Water Meter	P Minimum Monthly Charge Only	Q Septic System	S Submetr Program	Total	Percent Accounts
1 - Public Sewer																
10 – Single family/duplex	127,166	9	11,159	0	0	5	9,366	0	0	0	3	1	629	66	148,404	88.23%
15 – Mixed residential	0	0	4	0	0	0	190	0	0	0	10	0	1	0	205	0.12%
20 - Multi-family	5,834	0	117	0	0	0	482	0	0	0	0	0	3	90	6,526	3.88%
25 – Mixed users	3	0	6	0	0	2	259	0	0	0	19	0	0	0	289	0.17%
Total BWS residential accounts	133,003	9	11,286	0	0	7	10,297	0	0	0	32	1	633	156	155,424	92.40%
WW Res Accts	133,003	0	0	0	0	7	0	0	0	0	32	1	0	132	133,175	94.64%
30 – Commercial	4,696	0	635	1	0	18	2,720	620	0	1	33	71	28	76	8,899	5.29%
40- Hotels	262	0	6	0	0	0	5	0	0	1	0	0	0	0	274	0.16%
50 – Industrial	464	0	87	0	0	1	19	0	0	0	0	0	2	0	573	0.34%
61 - US Military Installation	11	0	13	0	0	0	13	0	0	0	2	0	1	0	40	0.02%
62 - US Non-military	25	0	7	0	0	0	5	0	0	0	1	0	0	0	38	0.02%
63 - State	212	0	109	0	0	165	348	0	1	0	8	0	2	3	848	0.50%
65 - City	148	0	149	0	0	191	538	0	0	0	4	44	5	0	1,079	0.64%

Table 12

Board of Water Supply (BWS) and Wastewater Customer Accounts as of April 30, 2007

	A	B	C	D	E	F	G	J	L	M	N	P	Q	S		
Customer Class	**Sewer Regular Monthly Charges**	**Cesspool Monthly Charge (Contract)**	**Cesspool Per Call**	**Separate BWS Water Meter (domestic use)**	**Cesspool Chemical Treat**	**Agreed to Monthly Charge**	**Sewer No Charge**	**Non-residential SS surcharge**	**Private Water Well**	**Private Waste-water Meter**	**Private Water Meter**	**Minimum Monthly Charge Only**	**Septic System**	**Submetr Program**	Total	**Percent Accounts**
70 – Agriculture	2	0	434	0	0	0	31	0	0	0	0	0	15	0	482	0.29%
80 – Religious	458	0	52	0	0	2	13	0	0	0	4	0	3	17	549	0.33%
Total BWS Non-res Accts	6,278	0	1,492	1	0	377	3,692	620	1	2	52	115	56	96	12,782	7.60%
WW Non-res Accts	6,278	0	0	1	0	377	0	620	1	2	52	115	0	93	7,539	5.36%
Total BWS Accounts	139,281	9	12,778	1	0	384	13,989	620	1	2	84	116	689	249	168,206	100.00%
Total WW Accts	139,281	0	0	1	0	384	0	620	1	2	84	116	0	381	140,714	100.00%
% Total BWS Accts	82.80%	0.01%	7.60%	0.00%	0.00%	0.23%	8.32%	0.37%	0.00%	0.00%	0.05%	0.07%	0.41%	0.15%	100.00%	
% WW Accts	98.98%	0.00%	0.00%	0.00%	0.00%	0.27%	0.00%	0.44%	0.00%	0.00%	0.06%	0.08%	0.00%	0.27%	100.00%	

Table 13

History of New Sewer Connections by Type

Fiscal Year Ending	Single Family	Multi Family		Nonresidential	Total
	New Units	New Units	ESDUs	ESDUs	ESDUs
2002	974	541	379	36	1,389
2003	1,078	915	638	135	1,851
2004	1,437	1,519	1,063	19	2,519
2005	1,491	431	302	46	1,839
2006	1,210	1,664	1,165	2	2,377
5 year average	1,238	1,014	709	48	1,995
Projected annual growth	1,200	529	370	30	1,600

Table 14

Existing Sewer Users
Fiscal Year Ended June 30, 2006

Customer Classification	Number of Living Units	Number Of Equivalent Single-Family Dwelling Units (ESDUs)	Estimated Wastewater Flow (MGD)
Residential			
Single family/duplex	133,325	133,325	40.664
Multi-family residences	115,050	79,956	24.621
Total residential	248,375	213,281	65.285
Nonresidential	N/A	78,034	29.857
Infiltration/Inflow	N/A	N/A	24.111
Total	248,375	291,315	118.950

Table 15

Historic Population Growth
Oahu, 1997 - 2006

Calendar Year	Resident Population	De facto Population*
1997	886,711	932,931
1998	886,909	931,439
1999	878,906	927,689
2000	876,156	924,940
2001	879,180	923,301
2002	885,678	929,817
2003	891,548	930,645
2004	897,969	940,827
2005	904,645	946,425
2006	909,863	

* Includes visitor population.

Source: State of Hawaii, Department of Business, Economic Development & Tourism, Data Book, 2005/6.

Table 16

Number of Equivalent Single Family Dwelling Units (ESDUs)

Fiscal Year Ending 6/30	Single-Family Units	Multifamily Units	Multifamily ESDUs	Commercial ESDUs	Total ESDUs
1994	128,193	111,436	78,005	71,967	284,165
1995	129,397	111,717	76,202	78,117	285,710
1996	120,810	108,437	75,907	77,359	274,076
1997	121,725	109,514	76,405	77,561	275,691
1998	122,723	109,740	76,563	77,679	276,965
1999	124,110	109,862	76,648	77,704	278,462
2000	125,637	109,931	76,696	77,740	280,073
2001	126,873	110,226	76,742	77,786	281,401
2002	128,109	110,521	76,788	77,832	282,729
2003	129,187	111,436	78,005	77,967	284,580
2004	130,624	112,955	78,489	77,986	287,099
2005	132,115	113,386	79,370	78,032	289,517
2006	133,325	115,050	79,956	78,034	291,315

Table 17

Wastewater Flows by Treatment Facility (MGD)[1]

Treatment Facility[2]	Design Capacity[3]	2006 Flow[5]	Projected Flow (2020)
Sand Island	86.10	66.550	92.60
Kahuku WWTP	0.42	0.196	0.15
Honouliuli WWTP	39.90	26.983	32.80
Waimanalo WWTP	0.74	0.761	0.62
Kuliouou WWPS (Hawaii Kai WWTP)[2, 4]	N/A	0.407	0.38
Wahiawa WWTP	2.63	1.896	1.89
Kailua WWTP	16.01	15.813	13.40
Waianae WWTP	5.46	3.540	3.50
Paalaa Kai WWTP	0.15	0.084	0.14

[1] *Average day annual flow (ADAF), MGD.*

[2] *Does not include 0.398 MGD of flow from the City and County's Kuliouou WWPS which is treated by the Hawaii Kai WWTP, a private treatment facility.*

[3] *ADAF estimated based on 105% of design capacity for average dry weather flow.*

[4] *The Kuliouou WWPS does not provide treatment, but pumps wastewater from a Department Collection System to a private treatment plant (Hawaii Kai WWTP). Inclusion here is to show total volume of wastewater handled by the Department.*

[5] *Actual average daily flow during 2006 may have exceeded ADAF Design Capacity or Projected Flow due to extremely heavy rain events in the spring of 2006 for 40 days.*

Table 18

History of Major Wastewater Revenue Sources

Fiscal Year Ending	Sewer Service Charges*	Wastewater Facilities Charge
1997	110,609,000	1,166,000
1998	111,840,586	1,027,389
1999	111,377,449	1,665,827
2000**	121,703,000	2,279,175
2001	111,554,998	1,485,629
2002	112,147,942	1,662,009
2003	111,878,243	3,868,965
2004	111,886,155	3,145,439
2005	112,746,081	5,339,000
2006	142,167,282	8,822,000

* *Sewer service charge only - does not include connection or lateral installation charges.*

** *Sewer service charge revenue converted to accrual accounting in Fiscal Year 2000.*

Rates and Charges

The City and County adopted the Rate Ordinance in June 2005 which provided for immediate increases in wastewater rates and future rate adjustments over the six-year period from July 1, 2005 through June 30, 2011. The City and County adopted an amendment to the Rate Ordinance in June 2007 which provides for immediate and greater increases in wastewater rates and future rate adjustments from July 1, 2007 through June 30, 2011. The schedule of rates under the Rate Ordinance is intended to allow for financial planning and projection for the Department and the City and County. Tables 19 and 20 below set forth schedules under the Rate Ordinance for residential and non-residential users, respectively.

Table 21 sets forth a schedule of Wastewater Facility Charges, effective July 1, 2005 (Ordinance No. 05-019).

Table 19

Schedule of Residential Sewer Service Charges

	Effective July 1 of:	
Single-family and duplex dwellings served by city water system per dwelling unit per month:		
1. Monthly base charge	2007	$42.71
	2008	50.40
	2009	59.47
	2010	68.39
2. Monthly usage charge – First 2,000 gallons of metered water consumed.		No charge
3. 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 the water irrigation factor.	2007	$1.80
	2008	2.12
	2009	2.51
	2010	2.88
Single-family and duplex dwellings not served by city water system per dwelling unit per month		
	2007	$52.58
	2008	62.04
	2009	73.21
	2010	84.19
Multiple-unit dwellings served by city water system per dwelling unit per month		
1. Monthly base charge	2007	$29.91
	2008	35.30
	2009	41.65
	2010	47.90
2. Monthly usage charge—First 2,000 gallons of metered water consumed		No charge
3. 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 water irrigation factor	2007	$1.80
	2008	2.12
	2009	2.51
	2010	2.88

	Effective July 1 of:	
Multiple-unit dwellings not served by city water		
	2007	$40.48
	2008	47.76
	2009	56.36
	2010	64.81

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Table 20

Schedule of Non-Residential Sewer Service Charges

	Effective July 1 of:	
Domestic Strength Wastewater:		
1. Metered Water Usage:		
a. If 9,000 gallons or less per month:		
(1) Monthly base charge:		
	2007	$38.41
	2008	45.33
	2009	53.49
	2010	61.51
(2) Charge per 1,000 gallons:		
	2007	$1.95
	2008	2.31
	2009	2.72
	2010	3.13
b. If more than 9,000 gallons per month, charge per 1,000 gallons	2007	$6.22
	2008	7.34
	2009	8.66
	2010	9.96
2. Metered Wastewater Discharge:		
a. If 7,000 gallons or less per month:		
(1) Monthly base charge:		
	2007	$38.41
	2008	45.33
	2009	53.49
	2010	61.51
(2) Charge per 1,000 gallons:		
	2007	$2.50
	2008	2.95
	2009	3.48
	2010	4.00
b. If more than 7,000 gallons per month, charge per 1,000 gallons	2007	$7.90
	2008	9.32
	2009	11.00
	2010	12.65

	Effective July 1 of:	
Extra Strength Wastewater		
1. Charge per 1,000 gallons of water usage: use the following formula:	2007	$6.22
	2008	7.34
0.857 + 0.143(SSm/200) multiplied by	2009	8.66
applicable rate	2010	9.96
2. Charge per 1,000 gallons of wastewater discharge, use the following formula:	2007	$7.90
	2008	9.32
0.857 + 0.143(SSm/200) multiplied by	2009	11.00
applicable rate	2010	12.65

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Table 21

Schedule of Wastewater Facility Charges

(1) Residential wastewater system facility charge per ESDU:

Fiscal Year	Amount
2006/07	$4,923
2007/08	5,071
2008/09	5,223
2009/10	5,380
2010/11	5,541

(2) Low-income housing wastewater system facility charges per ESDU:

Amount
$1,146

(3) Nonresidential wastewater system facility charge for domestic strength wastewater per ESDU:

Fiscal Year	Amount
2006/07	$4,923
2007/08	5,071
2008/09	5,223
2009/10	5,380
2010/11	5,541

(4) Nonresidential wastewater system facility charge for extra-strength wastewater per ESDU based on the following formula:

Wastewater System Facility Charge for extra-strength wastewater = A + ((SSi/200) x B)

where SSi = the imputed suspended solids loading, in mg/L and applicable values for terms "A" and "B" are set forth as follows:

Fiscal Year	Terms in Extra-Strength Surcharge Formula	
	A	B
2006/07	4,231	692
2007/08	4,358	713
2008/09	4,489	734
2009/10	4,624	756
2010/11	4,763	778

Each fiscal year, the council shall review the wastewater system facility charge to determine if it remains appropriate or should be revised."

DEBT AND FINANCIAL POLICIES AND INDEBTEDNESS

General

The City Council, by resolution adopted on November 10, 1998, established the Debt and Financial Policies for the Wastewater System to provide a general framework for the conduct of financial activities and has been in compliance with such policies since their adoption. Such debt and financial policies specify, among other things, that the City and County will target to maintain revenues (excluding Wastewater System Facility Charges) of 1.60 times senior revenue bond debt service and 1.25 times debt service for all revenue bonds, regardless of the priority of lien. It is expected that the City and County will adopt increases in the sewer service charges necessary to meet the debt service coverage requirements prescribed in its debt and financial policies. The debt and financial policies do not constitute an agreement with holders of Bonds, and the City and County has not undertaken any obligation to such holders or any other person to comply with such policies or to meet such targets.

Since establishment of these policies in November 1998, the Wastewater Enterprise has consistently met or exceeded all policy requirements.

Indebtedness

Table 22 sets forth the outstanding revenue bonds of the City and County secured by the Net Revenues under the Bond Resolution and the Second Resolution; and Table 23 sets forth the debt service requirements for such revenue bonds.

Table 22

Outstanding Wastewater Revenue Bonds

Bonds	Original Issue Amount	Bonds	Amount Outstanding as of July 1, 2007
Senior Bonds		**Outstanding Senior Bonds**	
1998 Senior Bonds	$ 55,300,000	1998 Senior Bonds	$ 47,300,000
2001 Senior Bonds	136,020,000	2001 Senior Bonds	11,765,000
2005 Senior Bonds	152,815,000	2005 Senior Bonds	152,815,000
2006 Senior Bonds	340,760,000	2006 Senior Bonds	340,320,000
		Total	$552,200,000
Junior Bonds		**Outstanding Junior Bonds**	
Junior Series 1998 Bonds[1]	$264,152,890	Junior Series 1998 Bonds[(1)]	$264,152,890
Junior Series 2003 Bonds	218,400,000	Junior Series 2003 Bonds	192,925,000
		Total	$457,077,890

[1] Used to refund certain reimbursable general obligation bonds of the City and County issued to finance the wastewater system of the City and County.

In addition, as of July 1, 2007, $142,134,197 principal amount of Subordinate Obligations (other than Junior Bonds) and Reimbursable Obligations were outstanding. Subordinate Obligations include Junior Bonds and State Revolving Fund loans, and do not include Reimbursable Obligations.

Table 23

Revenue Bond Debt Service Requirements
(Years Ending June 30)[1]

Year	Principal Series 2007 Bonds	Interest Series 2007 Bonds[2]	Total Series 2007 Debt Service[2]	Debt Service on Outstanding Senior Bonds[2]	Total Senior Debt Service[2]	Debt Service on Outstanding Junior Bonds[2, 3]	Total Debt Service[2]
2008	$0	$0	$0	$13,283,573	$13,283,573	$9,986,043	$23,269,616
2009	--	10,442,127	10,442,127	31,295,887	41,738,014	25,140,685	66,878,699
2010	--	7,563,714	7,563,714	31,291,928	38,855,642	26,939,204	65,794,846
2011	--	7,563,714	7,563,714	34,418,028	41,981,742	29,682,541	71,664,283
2012	--	7,563,714	7,563,714	38,161,356	45,725,070	34,104,830	79,829,900
2013	2,110,000	7,521,514	9,631,514	38,159,820	47,791,334	35,711,069	83,502,403
2014	2,200,000	7,432,564	9,632,564	38,156,718	47,789,282	35,693,019	83,482,301
2015	2,295,000	7,337,045	9,632,045	38,160,852	47,792,897	35,718,963	83,511,860
2016	2,390,000	7,237,489	9,627,489	38,160,618	47,788,107	35,689,313	83,477,420
2017	2,495,000	7,133,683	9,628,683	38,155,305	47,783,988	35,701,581	83,485,569
2018	2,610,000	7,025,201	9,635,201	38,158,980	47,794,181	35,711,663	83,505,844
2019	4,555,000	6,871,284	11,426,284	38,162,668	49,588,952	35,718,006	85,306,958
2020	4,760,000	6,665,660	11,425,660	38,158,799	49,584,459	35,709,925	85,294,384
2021	4,985,000	6,440,098	11,425,098	38,167,777	49,592,875	35,700,425	85,293,300
2022	5,225,000	6,198,294	11,423,294	38,163,224	49,586,518	35,679,925	85,266,443
2023	5,480,000	5,946,516	11,426,516	38,160,861	49,587,377	35,708,550	85,295,927
2024	5,740,000	5,683,949	11,423,949	38,164,971	49,588,920	35,678,675	85,267,595
2025	6,025,000	5,399,575	11,424,575	38,158,156	49,582,731	35,690,738	85,273,469
2026	6,335,000	5,091,025	11,426,025	38,157,950	49,583,975	35,695,638	85,279,613
2027	6,660,000	4,766,150	11,426,150	38,161,750	49,587,900	35,692,438	85,280,338
2028	6,985,000	4,442,488	11,427,488	38,164,763	49,592,251	35,678,850	85,271,101
2029	7,325,000	4,102,200	11,427,200	38,161,069	49,588,269	35,701,588	85,289,857
2030	7,700,000	3,726,575	11,426,575	34,598,050	46,024,625	12,760,375	58,785,000
2031	8,095,000	3,331,700	11,426,700	34,599,019	46,025,719	12,766,750	58,792,469
2032	8,510,000	2,916,575	11,426,575	34,601,875	46,028,450	12,769,875	58,798,325
2033	8,920,000	2,503,125	11,423,125	25,433,238	36,856,363	12,759,000	49,615,363
2034	9,335,000	2,092,388	11,427,388	25,433,125	36,860,513	--	36,860,513
2035	9,765,000	1,662,638	11,427,638	25,434,875	36,862,513	--	36,862,513
2036	10,210,000	1,213,200	11,423,200	25,429,375	36,852,575	--	36,852,575
2037	10,680,000	743,175	11,423,175	15,006,000	26,429,175	--	26,429,175
2038	11,175,000	251,438	11,426,438	--	11,426,438	--	11,426,438
Total	$162,565,000	$156,868,814	$319,433,814	$1,017,720,610	$1,337,154,424	$783,789,669	$2,120,944,093

[1] *Based on payments, not on accruals.*

[2] *Totals may not add due to rounding.*

[3] *Assumes interest at an average rate of 4% per annum on Junior Series 2003A-2 and 2003B-2 auction rate certificates.*

FINANCIAL STATEMENTS

The operations of the Department are accounted for in the Sewer Fund and the Wastewater System Facility Charge Account. The Sewer Fund is classified as an enterprise fund of the City and County and is currently audited as a part of the City and County's general purpose financial statements that are prepared annually.

The financial statements of the City and County as of June 30, 2006, including information relating to the Sewer Fund, together with the auditor's report thereon delivered by Nishihama & Kishida, CPA's, Inc., may be found at the Website of the City and County at http://www.co.honolulu.gov/budget/cafr.htm, or may be obtained from the Department by request to the attention of the Director of Budget and Fiscal Services, City and County of Honolulu, 530 South King Street, Honolulu, Hawaii 96813. Nishihama & Kishida, CPA's, Inc. has not reviewed and has no responsibility with respect to this Official Statement.

The following tables have been extracted from audited financial statements of the City and County relating to the Department. It should be noted that "Revenues" as defined in the First Bond Resolution does not include Wastewater System Facility Charges.

Table 24 summarizes revenues and expenses and Table 25 provides fund balances, both reflecting enterprise accounting and consistency with GASB 34 reporting requirements.

Table 24

Department of Environmental Services
Sewer Fund
Enterprise Fund Statement of Revenues, Expenses and Charges in Retained Earnings (Deficit)
(amounts in thousands)*

	2003/2004	2004/2005	2005/2006
Operating Revenues:			
Sewer Service Charges	$111,886	$112,746	$142,167
Other Revenue	3,146	6,147	9,033
Total Operating Revenues	115,032	118,893	151,200
Operating Expenses:			
Administrative and general	29,990	30,362	33,762
Maintenance	192	176	174
Depreciation	30,575	30,647	31,438
Contractual services	8,231	8,837	9,950
Fringe benefits	10,348	11,344	11,876
Materials and supplies	5,336	6,598	6,431
Fuel and lubricants	1,654	2,179	2,049
Utilities	7,585	8,830	11,757
Other	0	0	0
Total Operating Expenses	93,911	98,973	107,437
Operating Income	21,121	19,920	43,763
Nonoperating Revenues (Expenses):			
Interest income	1,540	1,590	4,166
Interest expense	(26,573)	(27,677)	(29,556)
Other	(3,168)	(4,802)	(3,249)
Total Nonoperating Expenses	(28,202)	(30,889)	(28,639)
Income before operating transfers and contributed capital	(7,081)	(10,969)	15,124
Operating Transfers Out	(31,077)	(6,254)	(6,963)
Contributed Capital	,443	1,148	2,673
Change in Net Assets	(36,716)	(16,075)	10,834
Net Assets at Beginning of Year, as previously reported			
Prior period adjustment			
Net Assets at Beginning of Year, as restated	708,373	671,657	655,582
Net Assets at End of Year	$671,657	$655,582	$666,416

* *Differs from presentation in Table 10 due to the fact that information presented in this Table 24 is presented in conformance with GAAP whereas information in Table 10 is presented in accordance with definitions presented in the First Bond Resolution.*

Table 25

Department of Environmental Services
Sewer Fund
Enterprise Fund Balance Sheet
(amounts in thousands)

	2003/2004	2004/2005	2005/2006
ASSETS			
Current Assets:			
Cash and cash equivalents	$ 59,971	$ 15,525	$ 34,350
Investments	63,673	8,362	75,343
Receivables			
Accounts	15,658	15,735	20,875
Interest	199	100	995
Due from other funds	4,885	4,169	3,967
Inventories of parts, materials and supplies at cost	4,711	4,208	3,915
Total Current Assets	$ 149,097	$ 48,099	$ 139,445
Fixed Assets:			
Land	5,856	5,882	6,003
Land improvements	3,675	3,675	3,675
Buildings and Improvements	437,944	436,357	449,269
Transmission and distribution system	794,390	808,051	872,543
Equipment and machinery	24,384	26,055	28,409
Construction work in progress	262,114	345,582	359,204
Accumulated depreciation	(143,975)	(174,912)	(205,500)
Total Assets	$1,533,483	$1,498,789	$1,513,603
LIABILITIES AND FUND EQUITY (DEFICIENCY)			
Current Liabilities:			
Accounts payable	17,391	12,917	19,221
Interest payable-current	11,438	11,830	18,120
Notes payable-current	5,756	5,894	6,044
Bonds payable-current	10,832	13,163	13,097
Tax-exempt commercial paper	10,022	10,022	0
Other current liabilities	836	666	530
Total Current Liabilities	56,276	54,492	57,039
Notes payable	74,124	68,230	62,294
General obligation bonds payable	48,344	38,812	29,478
Revenue bonds payable	677,652	675,817	834,459
Deferred credits and other liabilities	5,430	5,856	5,079
Total Liabilities	861,827	843,207	988,348
Commitments and Contingencies Net Assets:			
Invested in capital assets	638,114	648,889	600,603
Reserved for debt service	22,584	26,882	35,424
Unrestricted	10,959	(20,189)	30,388
Total net assets	$671,657	$655,582	$666,416

The Bond Resolution requires the Department to maintain and keep proper books of account relating to the Wastewater System and in accordance with generally accepted accounting principles. The Bond Resolution also requires that within one hundred eighty (180) days after the end of each Fiscal Year the Department will cause such books of account to be audited by an independent certified public accountant. Such audit may be part of a comprehensive audit of the City and County if the Wastewater System in such audit is treated as an "enterprise fund" and the revenues and expenses of the Wastewater System are stated in a manner which permits identification by category of the sources and uses of the Revenues.

PENDING LITIGATION

In the normal course of business, claims and lawsuits are filed against the City and County and the Department and their respective officers and employees. The City and County and the Department generally are self-insured with respect to general liability claims. In the Fiscal Years ended June 30, 2005, 2006 and 2007, the Department reached settlements of lawsuits and claims totaling $68,088, $1,996,235 and $327,817, respectively, which have been paid with general funds from the Department of Budget and Fiscal Services' Judgment and Losses fund. The Fiscal Year ended June 30, 2007 included a judgment in the amount of $145,491. Except as set forth below, the City and County's Corporation Counsel is of the opinion that no pending litigation will be determined so as to result individually or in the aggregate in a final judgment against the Department which would constitute a material impairment of the Department's financial position.

A lawsuit filed against the City and County in July 2004 by the Sierra Club and other environmental groups seeks injunctive relief and penalties for alleged Clean Water Act violations arising from the City and County's wastewater collection and treatment systems. Since the litigation is presently in the preliminary motion and discovery phases, and the parties are pursuing negotiation, the cost of any potential liability for alleged violations or penalties, beyond the City and County's approximate $2.49 billion CIP plan to upgrade its collection systems and wastewater treatment plants, is speculative.

An earlier lawsuit filed by EPA and State Department of Health against the City and County in 1994, resulted in the 1995 Consent Decree, which requires the City and County, among other things, to comply with the Clean Water Act, to establish a schedule under which the City and County shall implement preventive maintenance and sewer replacement and rehabilitation necessary to reduce and prevent spills, to require the City and County to implement and enforce its pretreatment program to regulate industrial discharges, and to develop and implement an effluent and sludge reuse program. The Sierra Club and other environmental groups were not a party to this earlier lawsuit.

Pursuant to a September 2005 Court Order in the Sierra Club lawsuit, the Court dismissed Plaintiffs' collection system spill claims. Plaintiffs subsequently sought to revive their spill claims by filing a Motion to Intervene in the earlier lawsuit. The Motion to Intervene was granted in May 2007, subject to limited conditions.

As a result of the March 2006 Beachwalk spill and after one year of negotiations, the EPA, DOJ, DOH and the City signed a Stipulated Order that requires the City to take certain actions to evaluate, repair, rehabilitate or replace certain force mains and one pump station in its wastewater collection system, and develop site-specific spill contingency plans. The Stipulated Order is subject to a public comment period of thirty days, which has been extended by Court order. The Plaintiffs have objected to the entry of the Stipulated Order, however, the EPA, DOJ, DOH and the City intend to pursue entry of the Stipulated Order. This Stipulated Order, if accepted by the Court, will resolve the entire civil enforcement action that was simultaneously filed with the Stipulated Order against the City, Civil No. CV07-00235DAE -KSC, United States of America, et al. v. City and County of Honolulu. The estimated cost of the work in the Stipulated Order is approximately $300 million dollars.

In March 2007, EPA issued its tentative decision to deny an application for a renewed variance from secondary treatment for the Honouliuli WWTP. The City is also expecting a tentative decision to deny an application for a renewed variance from secondary treatment for the Sand Island WWTP in October 2007. The City is vigorously challenging these tentative decisions. If the City's applications are denied, the cost of secondary treatment at Honouliuli and Sand Island is estimated to be $400 million and $800 million in project costs, respectively.

The Corporation Counsel reports that there is no controversy or litigation now pending or, to the best of the City and County's and the Department's knowledge, threatened, which seeks to restrain or enjoin the execution, issuance, sale or delivery of the Series 2007 Bonds or that in any way contests the validity of the Series 2007 Bonds; or any proceedings of the City and County taken with respect to the authorization, sale, or issuance of the Series 2007 Bonds, the pledge or application of any moneys provided for the payment of or security for the Series 2007 Bonds.

RATINGS

Fitch, Inc., Moody's Investors Service and Standard & Poor's Ratings Group, a division of the McGraw Hill Companies, Inc., are expected to assign ratings of "AAA," "Aaa" and "AAA", respectively, to the Series 2007 Bonds with the understanding that upon delivery of the Series 2007 Bonds, the Policy insuring the payment of the principal of and interest on the Series 2007 Bonds will be issued by the Insurer. Such ratings reflect only the respective views of such organizations, and an explanation of the significance of such ratings may be obtained from the rating agency furnishing the same, at the following addresses: Fitch, Inc., One State Street Plaza, New York, New York 10004, Moody's Investors Service, Inc., 99 Church Street, New York, New York 10007 and Standard & Poor's Ratings Group, 55 Water Street, New York, New York 10041. There is no assurance that such ratings will continue for any given period of time or that they will not be revised or withdrawn entirely by such rating agencies, if in the judgment of such rating agencies, circumstances so warrant. Any such downward revision or withdrawal of such ratings may have an effect on the market price of the Series 2007 Bonds.

UNDERWRITING

The Series 2007 Bonds are being purchased for reoffering by UBS Securities LLC on behalf of the Underwriters. The Underwriters have agreed to purchase the Series 2007 Bonds at an aggregate purchase price of $161,261,320.27, being an amount equal to the principal amount of the Series 2007 Bonds, less a net original issue discount of $152,878.35 and less an underwriting discount of $1,150,801.38. The contract of purchase with respect to the Series 2007 Bonds provides that the Underwriters will purchase all the Series 2007 Bonds if any are purchased. The initial public offering prices are set forth on the inside cover page of this Official Statement. The Underwriters may offer and sell the Series 2007 Bonds to certain dealers (including depositing the Series 2007 Bonds into investment trusts) and others at prices lower than the initial public offering prices stated on the cover page hereof. The public offering prices may be changed from time to time by the Underwriters.

TAX MATTERS

In the opinion of Orrick, Herrington & Sutcliffe LLP, Bond Counsel to the City and County, based upon an analysis of existing laws, regulations, rulings, and court decisions, and assuming, among other matters, the accuracy of certain representations and compliance with certain covenants, interest on the Series 2007 Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986 (the "Code"), and the Series 2007 Bonds and the income therefrom are exempt from all taxation by the State or any county or other political subdivision thereof, except inheritance, transfer, estate and certain franchise taxes. Bond Counsel is of the further opinion that interest on the Series 2007 Bonds is not a specific preference item for purposes of the federal individual or corporate alternative minimum taxes, although Bond Counsel observes that such interest is included in adjusted current earnings when calculating corporate alternative minimum taxable income. A complete copy of the proposed form of the opinion of Bond Counsel for the Series 2007 Bonds is set forth in Appendix D hereto.

To the extent the issue price of any maturity of the Series 2007 Bonds is less than the amount to be paid at maturity of such Series 2007 Bonds (excluding amounts stated to be interest and payable at least annually over the term of such Series 2007 Bonds), the difference constitutes "original issue discount," the accrual of which, to the extent properly allocable to each owner thereof, is treated as interest on the Series 2007 Bonds which is excluded from gross income for federal income tax purposes and State tax purposes. For this purpose, the issue price of a particular maturity of the Series 2007 Bonds is the first price at which a substantial amount of such maturity of the Series 2007 Bonds is sold to the public (excluding bond houses, brokers, or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers). The original issue discount with respect to any maturity of the Series 2007 Bonds accrues daily over the term to maturity of such Series 2007 Bonds on the basis of a constant interest rate compounded semiannually (with straight-line interpolations between compounding dates). The accruing original issue discount is added to the adjusted basis of such Series 2007 Bonds to determine taxable gain or loss upon disposition (including sale, redemption, or payment on maturity) of such Series 2007 Bonds. Owners of the Series 2007 Bonds should consult their own tax advisors with respect to the tax consequences of ownership of the Series 2007 Bonds with original issue discount, including the treatment of purchasers who do not purchase such Series 2007 Bonds in the original offering to the public at the first price at which a substantial amount of such Series 2007 Bonds is sold to the public.

Series 2007 Bonds purchased, whether at original issuance or otherwise, for an amount greater than their principal amount payable at maturity (or, in some cases, at their earlier call date) ("Premium Bonds") will be treated as having amortizable bond premium. No deduction is allowable for the amortizable bond premium in the case of bonds, like the Premium Bonds, the interest on which is excluded from gross income for federal income tax purposes. However, the amount of tax-exempt interest received, and a purchaser's basis in a Premium Bond, will be reduced by the amount of amortizable bond premium allocable to such purchaser. Owners of Premium Bonds should consult their own tax advisors with respect to the proper treatment of amortizable bond premium in their particular circumstances.

The Code imposes various restrictions, conditions and requirements relating to the exclusion from gross income for federal income tax purposes of interest on obligations such as the Series 2007 Bonds. The City and County has made certain representations and covenanted to comply with certain restrictions designed to insure that interest on the Series 2007 Bonds will not be included in federal gross income. Inaccuracy of these representations or failure to comply with these covenants may result in interest on the Series 2007 Bonds being included in gross income for federal income tax purposes, possibly from the date of original issuance of the Series 2007 Bonds. The opinion of Bond Counsel assumes the accuracy of these representations and compliance with these covenants. Bond Counsel has not undertaken to determine (or to inform any person) whether any actions taken (or not taken) or events occurring (or not occurring) or any other matters coming to Bond Counsel's attention after the date of issuance of the Series 2007 Bonds may adversely affect the value of, or the tax status of interest on, the Series 2007 Bonds. Accordingly, the opinion of Bond Counsel is not intended to, and may not, be relied upon in connection with any such actions, events or matters.

Although Bond Counsel is of the opinion that interest on the Series 2007 Bonds is excluded from gross income for federal income tax purposes and that the Series 2007 Bonds and the income therefrom are exempt from taxation by the State or any political subdivision thereof, except inheritance, transfer, estate and certain franchise taxes, the ownership or disposition of, or the accrual or receipt of interest on, the Series 2007 Bonds may otherwise affect a Bondholder's federal or state tax liability. The nature and extent of these other tax consequences will depend upon the particular tax status of the Bondholder or the Bondholder's other items of income or deduction. Bond Counsel expresses no opinion regarding any such other tax consequences.

Future legislative proposals, if enacted into law, clarification of the Code or court decisions may cause interest on the Series 2007 Bonds to be subject, directly or indirectly, to federal income taxation, or otherwise prevent Bondholders from realizing the full current benefit of the tax status of such interest. As one example, on May 21, 2007, the United States Supreme Court agreed to hear an appeal from a Kentucky state court which ruled that the United States Constitution prohibited the state from providing a tax exemption for interest on bonds issued by the state and its political subdivisions but taxing interest on obligations issued by other states and their political subdivisions. The introduction or enactment of any such future legislative proposals or clarification of the Code or court decisions may also affect the market price for, or marketability of, the Series 2007 Bonds. Prospective purchasers of the Series 2007 Bonds should consult their own tax advisers regarding any pending or proposed federal tax legislation, as to which Bond Counsel expresses no opinion.

The opinion of Bond Counsel is based on current legal authority, covers certain matters not directly addressed by such authorities, and represents Bond Counsel's judgment as to the proper treatment of the Series 2007 Bonds for federal income tax purposes. It is not binding on the Internal Revenue Service ("IRS") or the courts. Furthermore, Bond Counsel cannot give and has not given any opinion or assurance about the future activities of the City and County, or about the effect of future changes in the Code, the applicable regulations, the interpretation thereof or the enforcement thereof by the IRS. The City and County has covenanted, however, to comply with the requirements of the Code.

Bond Counsel's engagement with respect to the Series 2007 Bonds ends with the issuance of the Series 2007 Bonds, and, unless separately engaged, Bond Counsel is not obligated to defend the City and County or the Bondholders regarding the tax-exempt status of the Series 2007 Bonds in the event of an audit examination by the IRS. Under current procedures, parties other than the City and County and its appointed counsel, including the Bondholders, would have little, if any, right to participate in the audit examination process. Moreover, because achieving judicial review in connection with an audit examination of tax-exempt bonds is difficult, obtaining an independent review of IRS positions with which the City and County legitimately disagrees, may not be practicable.

Any action of the IRS, including but not limited to selection of the Series 2007 Bonds for audit, or the course or result of such audit, or an audit of bonds presenting similar tax issues may affect the market price for, or the marketability of, the Series 2007 Bonds, and may cause the City and County or the Bondholders to incur significant expense.

APPROVAL OF LEGAL PROCEEDINGS

Certain legal matters incident to the issuance of the Series 2007 Bonds are subject to the approval of Orrick, Herrington & Sutcliffe LLP, Bond Counsel to the City and County. The form of the opinion Bond Counsel proposes to render is set forth in Appendix E hereto. Copies of the approving opinion of Bond Counsel will be available at the time of delivery of the Series 2007 Bonds. Bond Counsel undertakes no responsibility for the accuracy, completeness or fairness of this Official Statement. Certain legal matters will be passed upon for the Underwriters by their counsel, McCorriston Miller Mukai MacKinnon LLP, Honolulu, Hawaii.

CONTINUING DISCLOSURE

In order to assist the Underwriters in complying with Rule 15c2-12 promulgated by the Securities and Exchange Commission ("Rule 15c2-12"), the City and County will undertake in a Master Continuing Disclosure Certificate of the City and County, as supplemented, constituting a written agreement for the benefit of the holders of the Series 2007 Bonds (the "Continuing Disclosure Certificate"), to provide to each Nationally Recognized Municipal Securities Information Repository (as referred to in Rule 15c2-12) and others, on an annual basis, certain financial and operating data concerning the Department, financial statements, notice of certain events if material, and certain other notices, all as described in the Continuing Disclosure Certificate. The undertaking is an obligation of the Department that is enforceable as described in the Continuing Disclosure Certificate. Beneficial Owners of the Series 2007 Bonds are third party beneficiaries of the Continuing Disclosure Certificate. The execution of the Continuing Disclosure Certificate is a condition precedent to the obligation of the Underwriters to purchase the Series 2007 Bonds. The form of the Master Continuing Disclosure Certificate and the proposed form of the Series Certificate for the Series 2007 Bonds are contained in Appendix C. The City and County has never failed to comply with any previous undertaking under Rule 15c2-12.

MISCELLANEOUS

Additional information may be obtained, upon request, from either the Department of Budget and Fiscal Services or the Department of Environmental Services of the City and County.

Reference in this Official Statement to the Act, the City Charter, the Bond Resolution, the Series 2007 Resolution and the Series 2007 Certificate do not purport to be complete. Refer to the Act, the City Charter, the Bond Resolution, the Series 2007 Resolutions and the Series 2007 Certificate for full and complete details of their provisions. Copies of the City Charter, the Bond Resolution and the Series 2007 Resolution are on file with the City Clerk of the City and County.

The agreements of the City and County with holders of the Series 2007 Bonds are fully set forth in the Bond Resolution and the Series 2007 Resolution. Neither any advertisement of the Series 2007 Bonds nor this Official Statement is to be construed as a contract with purchasers of the Series 2007 Bonds.

Any statements in this Official Statement involving matters of opinion or of estimates, whether or not expressly stated, are intended merely as expressions of opinion or estimates, and not as representations of fact, and no representation is made that any of the estimates will be realized.

The City and County's use of certain information included in this Official Statement has been furnished or reviewed and authorized by the sources described below. While the City and County believes that these sources are reliable, the City and County has not independently verified this information and does not guarantee the accuracy or completeness of the information furnished by the respective sources. The City and County is relying on certificates from certain sources, to be delivered at or prior to the time of delivery of the Series 2007 Bonds, as to the accuracy of such information provided or authorized by such sources.

The information regarding DTC and DTC's book-entry system has been furnished by DTC.

Extracts of the financial statements of the City and County as of June 30, 2006, relating to the Sewer Fund, together with the auditor's report thereon, may be found at http://www.co.honolulu.hi.us/budget/cafr.htm.

Appendix A, "Engineer's Report" has been prepared by Carollo Engineers, P.C., Consulting Engineer.

The execution and delivery of this Official Statement by the Director of Environmental Services and the Director of Budget and Fiscal Services have been duly authorized by the City and County.

/s/ Mary Patricia Waterhouse
Director of Budget and Fiscal Services
City and County of Honolulu

/s/ Dr. Eric S. Takamura
Director of Environmental Services
City and County of Honolulu

Appendix A

Engineer's Report

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carollo

Engineers...Working Wonders With Water™

Final Report

Consulting Engineer's Study
Wastewater System Revenue Bonds
Series 2007

Prepared for

City and County of Honolulu
Department of Environmental Services

Honolulu, Hawaii

July 2007

ROBERT A GILLETTE
LICENSED PROFESSIONAL ENGINEER
10390 C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.

Signature

CAROLLO ENGINEERS

2700 Ygnacio Valley Road, Suite 300
Walnut Creek, CA 94568

Executive Summary

UBS Investment Bank (UBS) engaged Carollo Engineers (Carollo) to prepare this report on the financial feasibility of the City and County of Honolulu's Department of Environmental Services (Department) Senior Series 2007A, Series 2007B, and Series 2007C Revenue Bonds (Series 2007 Bonds) and to evaluate the Department's capital improvement and financial plans.

The Series 2007 Bonds are expected to be issued in the following approximate amounts, based on preliminary analysis:

- $160,120,000[1] Senior Series 2007A Bonds (combined with interest earnings) will finance improvements to the Department's treatment facilities, pump stations, collection system, equipment, and program management.
- $8,545,000[1] Senior Series 2007B Bonds will refund the outstanding general obligation (GO) reimbursable bonds that are scheduled to mature in fiscal year (FY) 2008.
- $68,975,000[1] Senior Series 2007C Bonds are expected to be used to advance refund a portion of the outstanding Series 1998, 2005A, and 2006A senior bonds for debt service savings. For the purposes of this report, debt service for the Senior Series 2007C Bonds reflect the principal and interest requirements on the outstanding Series 1998, 2005A, and 2006A Senior Bonds.

The information presented in this report demonstrates that the Department can support projected operation and maintenance (O&M) expenses, meet requirements of existing bond covenants, and fund planned capital improvements over the next 10 years. This report also presents information on the Department's management and organization, and the characteristics of the wastewater systems (collectively, the "System"). This report has been developed based on, and relies on, information provided by Department staff responsible for planning, operating, maintaining, and upgrading the System.

To prepare this report, Carollo has:

- Reviewed the Department's organizational structure, management, record of performance, and key initiatives to assess the capability of the Department to manage the operational and project delivery requirements contemplated by its planned capital program.
- Reviewed the Department's capital planning in the context of identified System needs and regulatory requirements, and its cost estimation procedures, scheduling, and project delivery protocols. This review builds on the Department's regular re-evaluation of capital project plans, ensuring both the adequacy of the Department's facilities and planned projects to meet all regulatory requirements, as well as the operational integrity and adequate renewal and replacement of system assets.
- Reviewed projections of O&M expenses based on the Department's FY 2008 budget, cost escalation factors, adjustments for one-time expenditures, and expected variances

[1] Preliminary, subject to change.

between budgeted and actual expenditures. The underlying forecast assumptions are included within the body of this report.

- Projected System financial performance for the period FY 2008 to FY 2017, determining the Department's ability to fund O&M expenses, meet debt service coverage targets, and comply with established financial policies based on projected rate increases as presented in this report.
- Evaluated the impacts of adopted and planned rate increases on typical residential and non-residential ratepayer bills, and the comparability of these bills with other wastewater systems in Hawaii and the western United States.

In conducting our review of the Department, the System, the Capital Improvement Plan (CIP), and financial projections, the following information and factors are particularly noteworthy for assessing the feasibility of the Series 2007 Bonds:

- The Department has an authorized staffing level of 1,141 full time equivalent (FTE) positions related to the System[2] that is adequate to enable effective project delivery and operation of the System. Of the City and County of Honolulu's (City's) five public bargaining units representing Department employees, all have received final and binding arbitration awards or have reached negotiated settlements resulting in 2-year contracts beginning July 1, 2007 and ending June 30, 2009. The Department has secured external program management assistance, which has been successfully employed by numerous other communities, several of which were subject to wastewater consent decrees. This assistance helps ensure timely and cost-effective delivery of its significantly expanded capital improvement program.
- The Department operates and maintains a complex wastewater system comprising eight drainage basins, each served by separate wastewater treatment facilities and related infrastructure (e.g., pump stations and collection lines).
- The Department has developed a comprehensive long-term planning program for the System, which includes the completion of facility plans and preliminary designs for most of the major wastewater facilities. The current 20-year CIP covers the years from FY 1998 to FY 2017.
- The City has entered into settlements, with respect to various legal and regulatory actions against the City, alleging violations of the federal Clean Water Act and several National Pollutant Discharge Elimination System (NPDES) and State of Hawaii permits held by the Department. The Department has developed the FY 2008 to FY 2012 CIP and the FY 1998 to FY 2017 CIP, in part, to comply with these consent decrees, federal and state administrative orders, and NPDES permit requirements. The Department has undertaken the rehabilitation and expansion of existing facilities, the implementation of pre-treatment programs, effluent reuse, and biosolids reuse, and the construction of new facilities in the last several years in large part for the purpose of complying with these consent decrees and regulatory requirements.

[2] The Department also includes 421 FTEs assigned to the Refuse Collection and Disposal Division.

- The Department's FY 2008 to FY 2012 CIP identifies appropriations of $1.53 billion (inflated) as shown in Table ES-1. Appropriations reflect total project costs and are assumed to be expended over a 4 year cycle, but may vary.

TABLE ES-1
Summary of FY 2008 to FY 2012 CIP Appropriations[1] (in thousands of dollars)

Project Type	FY 2008[2]	FY 2009	FY 2010	FY 2011	FY 2012	Total Appropriations FY 2008 to FY 2010	Total Appropriations FY 2008 to FY 2012
Collection System							
Mandated	$131,544	$156,203	$151,988	$182,044	$239,997	$439,735	$861,776
Discretionary	43,518	22,626	114,826	50,169	78,272	180,971	309,412
Subtotal Collection	$175,062	$178,829	$266,814	$232,212	$318,269	$620,706	$1,171,188
Treatment Plant							
Mandated	$5,609	$5,671	$ -	$ -	$4,120	$11,280	$15,401
Discretionary	146,151	33,335	12,482	9,680	11,474	191,967	213,121
Subtotal Treatment	$151,760	$39,006	$12,482	$9,680	$15,594	$203,248	$228,522
Project Mgmt, Equip and Other[3]	23,901	17,387	21,725	42,108	22,384	$63,014	$127,506
Total CIP	$350,724	$235,223	$301,021	$284,000	$356,248	$886,967	$1,527,215

Note: Numbers may not add up exactly, due to rounding.
(1) Inflated dollars are used in this table.
(2) FY 2008 values are conformed values.
(3) Includes all miscellaneous projects not included in collection system or treatment plant costs as well as appropriations for project management and equipment.

- Based on appropriated projects, the Department's capital financing plan contemplates $1.65 billion (inflated) in CIP expenditures during the FY 2008 through FY 2012 period. These expenditures will be primarily funded by net revenue bond proceeds ($1.28 billion for FY 2008 through FY 2012), operating revenue such as service charge and system facility charge revenue ($157 million for FY 2008 through FY 2012), and State Revolving Fund (SRF) loans ($151 million for FY 2008 through FY 2012).
- The Department is committed to full compliance with all federal, state, and local water quality regulations. In the event that modifications to the CIP result from ongoing discussions with federal agencies, the Department will implement adjustments to the capital project delivery and financing plans, including rate adjustments, to ensure continued compliance.
- The Department's financial policy framework was designed to meet a number of objectives related to management of the wastewater system enterprise, including (1) continued financial integrity and self-sufficiency, (2) equitable cost allocation, (3) risk management, (4) economic efficiency, and (5) rate affordability. Related to these objectives, the City has committed, through the adoption of Ordinance No. 05-006 (March 31, 2005), not to transfer Sewer Fund monies to the City's General Fund.

- The Department's strategic financial plan was developed to ensure adequate cash flows to support the Department's operations and projected expenditures on capital improvements.
- On June 22, 2005, the City adopted an ordinance which provides for six consecutive annual rate increases, with the first increase effective July 1, 2005. Prior to 2005, rates had not been increased since July 1,1993[3]. The rate package adopted in 2005 is intended to provide the necessary revenues to meet projected System costs and conform to adopted financial policies. The initial rate increase (effective July 1, 2005) resulted in a 25 percent increase in rates and charges for all customer classes. This was followed by a 10 percent rate increase on July 1, 2006. Additional increases above the adopted levels are in order to meet future expenditures. This new rate package will begin in FY 2008 with a 25 percent increase followed by 18 percent increases in FY 2009 and FY 2010. The new rate package bill (Bill 37) was passed by the Budget Committee and was adopted by the City Council on June 6, 2007. The public process for the rate package began on March 1. Per staff, there has been no notable opposition to the proposed rates.
- Application of the adopted system-wide average rate increases uniformly across customer classes indicates that the nominal monthly wastewater bill, for a typical single family residential customer with metered use of 10,000 gallons (and therefore billed volume of 7,000 gallons), will increase from $44.25 in FY 2007 to $55.31 in FY 2008; the projected FY 2012 bill is $101.82, a cumulative increase of $46.51 between FY 2008 and FY 2012. For non-residential customers with domestic strength wastewater and billed volumes of 25,000 gallons, the nominal wastewater bill will increase from $85.50 in FY 2007 to $155.50 in FY 2008; the bill is expected to increase to $286.25 in FY 2012, a cumulative increase of $130.75 between FY 2008 and FY 2012.
- Gross revenues are projected to increase 81 percent, from $214.1 million in FY 2008 to $388.5 million in FY 2012. Operating expenses are projected to increase in FY 2008 and FY 2009 to account for treatment and disposal costs.
- Annual operating expenditures are projected to increase at roughly 3 percent per year beginning FY 2010.
- Capital appropriations and expenditures are projected to increase at 7 percent per year beginning FY 2009.

Based on our review, Carollo concludes that:

- Department management has qualifications and experience commensurate with its responsibilities, and demonstrated commitment to the Department's vision and mission.
- The Department's CIP balances the need to meet known regulatory requirements, adequacy of wastewater facilities to meet projected flows, enhances utility business systems, and provides for the operation of the System.

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[3] The Department did modify the wastewater user charge structure in 1998 following completion of a consultant study and considerable public involvement; however, the revised rates were revenue neutral (i.e., did not generate additional revenue on a system-wide basis compared to previous rates).

The Department's FY 2008 to FY 2012 CIP has been established to meet known regulatory requirements and to be in conformance with industry-standard engineering practices. Project cost estimation procedures, which rely on consulting engineers' individual project cost estimates, appear reasonable, and the associated construction schedules appear achievable with the implementation of effective construction management and program management. The City has hired a program management team which provides oversight and guidance related to project planning, cost and implementation. The existing construction climate, and worldwide demand for construction materials is creating significant volatility in project costs thereby requiring construction cost estimates to be updated regularly.

- The projects to be financed by proceeds of the Series 2007 Bonds are the highest priority projects, required to meet consent decree requirements and protect public health. They are included in recently completed facility plans and updates thereto, which identify the need for projects through FY 2017.

All financial plans and projections related to the System have been made in compliance with provisions of the City's revenue bond covenants and the Department's practices and policies.

- The Department and City Council have demonstrated through historical financial planning, adopted rate increases, and System performance, a commitment to conforming to established financial policies, as well as effectiveness in balancing rate increases with the financial requirements of the System (including debt service coverage requirements). The Department's financial planning and rate practices are both comprehensive and conform to industry standard approaches.
- The principal assumptions used in the financial forecast are reasonable, given recent experience and current economic conditions. Per the City's adopted financial policies, the City Council will revise rates (as needed in the future) to accommodate, if necessary, all bond resolutions.
- Projected operating results are consistent with the Department's established financial policies, and debt service requirements, and will provide funding necessary to implement the CIP as currently envisioned. Specifically, the projected sewer service charges will provide revenue sufficient to:
  - Meet currently projected costs of operation, maintenance, and routine replacement of System facilities.
  - Meet the existing debt service obligations and the projected requirements for the Series 2007 Bonds and future bond issues.
  - With System facilities charge and other capital-related funding sources, provide sufficient revenue to pay the costs of the Department's CIP through the end of the forecast period.
  - Meet reserve requirements of the initial Bond Resolution.
- The ability of the Department to meet its debt obligations is not dependent on projected growth in customer accounts, nor are its obligations under the Department's consent decrees.

- Current customer rates and charges for the Department are comparable to other similar wastewater agencies in the western US.
- The Department's debt and financial policies target debt service coverage in excess of 1.60x on senior lien revenue bonds and 1.25x on all revenue bonds. Net revenues (gross revenues less O&M expenses) of the Department are projected to be sufficient to meet or exceed these targets and therefore, to meet future debt service obligations, including a 1.20x parity coverage requirement on senior lien debt in accordance with the First Bond Resolution. The Department is also projected to meet the debt service coverage requirements of the Additional Bonds Test, in connection with the Series 2007 Bonds. Accordingly, the Department has the capacity and the ability to issue parity lien revenue bonds under the City's First Bond Resolution to provide future funding for the CIP.
- The financial forecast relies on certain assumptions related to future System conditions. The principal assumptions used in this forecast are:
  - Growth in equivalent single family dwelling units (ESDUs) is assumed to occur at 1,600 per year through FY 2017, resulting in an average annual rate of growth of 0.3 percent.
  - Metered water usage and wastewater discharges per account will remain at current levels.
  - Capital expenditures are assumed to be required and incurred in order to meet consent decree and regulatory requirements, and accommodate modest population growth. The capital expenditures reflect an average inflation factor of 7.0 percent, and a 4-year spend-down schedule provided by the Department. Per the City's adopted financial policies, the City Council will revise rates as needed in the future to accommodate any additional inflation.
  - The estimates for secondary treatment project costs at the Honouliuli and Sand Island WWTPs (in the event that the City’s applications for a renewed variance from secondary treatment are ultimately denied) are not included in the FY 1998 to FY 2017 CIP.
  - Planned rate increases through FY 2017 (identified in Table 5-6), will be implemented on schedule and revised as necessary in the future to accommodate any additional capital improvement requirements associated with pending negotiations with regulatory agencies.
  - Interest earnings on fund balances are assumed at 3.0 percent.
  - Debt service reserve requirements will be funded from revenue bond proceeds.
  - Debt service on all future revenue bond issues is based on an interest rate of 5.5 percent, 30-year term, and interest only payments for 5 years. All future revenue bonds issued to fund the CIP are assumed to be issued on parity with the Series 2007 Bonds.

- The issuance costs includes funding the bond reserve. It is assumed that the bond reserve requirements would be borrowed as part of the bond issuance for all future issues.
- Any future rate structure changes will conform to established system-wide revenue requirements.
- Operation and maintenance costs will increase on average 3.0 percent per year, beginning in FY 2010. This forecast captures projected increases in treatment and disposal costs and non-salary personnel costs.
- Discharge characteristics from existing customers will not vary significantly from the values identified in the various wastewater facilities plans.
- No catastrophic events resulting from natural or human causes will occur that will have a substantial adverse impact on the integrity of the Department's facilities or the activities of customers served.

1.0 Introduction

1.1 Purpose

The purpose of this report is to review the City and County of Honolulu's Department of Environmental Services' (Department) wastewater systems (collectively, the System) and capital improvement plans (CIPs), and to summarize a forecast of the Department's prospective financial operating results and cash flows. This report has been developed based on discussions with Department personnel that are responsible for planning, operating, maintaining, and upgrading the System, and review of system planning and financial documents and models provided by the Department. Carollo Engineers has prepared this report to provide an independent assessment of the viability of financing the CIP.

1.2 Scope

This report summarizes the results of Carollo's review of the System, including regulatory and legal requirements, and the Department's capital and financial plans. Our financial evaluation has included review of financial performance reports, as well as the Department's strategic financial planning model that forecasts System cash flows. The strategic financial plan employs Fiscal Year (FY) 2007 departmental operating budgets and forecasts of capital financing expenses using long-term revenue bonds, low-interest Hawaii State Revolving Fund (SRF) loans, Wastewater System Facility Charge (WSFC) revenues, and Net Revenues[4]. The resultant financial plan, which is discussed within this report, projects financial performance under the proposed rate plan assumed to be adopted by the City Council on June 6, 2007, and demonstrates compliance with covenants of the City and County of Honolulu's (City's) first Bond Resolution.

1.3 Series 2007 Bonds

The proceeds of the Series 2007 Senior Bonds will be used: (1) to fund the cost of certain additions and improvements to the Wastewater System owned by the City and County of Honolulu (the “City and County”) in the State of Hawaii; (2) to provide for a reserve; (3) to refund certain outstanding obligations of the City and County; and (4) to pay the costs of issuance of the Series 2007 Bonds. The portion of the proceeds used to fund the common reserve and cover cost of issuance are expected to be applied in the following approximate amounts;

- $10,540,000 to fund the common reserve account; and
- $2,100,000 costs of issuance

The City and County of Honolulu has authorized the issuance of Junior Series Bonds, secured on a subordinate basis to the Series 2007 Bonds, for the purpose of refunding all or a portion of an outstanding series of Junior Series Bonds previously issued in 1998. For purposes of this

[4] As defined in the First Bond Resolution, Net Revenue means, with respect to any period, the Revenues during such period less amounts required to pay operation and maintenance expenses.

report, the debt service figures for the Junior series Bonds reflect the principal and interest requirements on the outstanding 1998 Junior Series Bonds.

1.4 Carollo Engineers Qualifications

Carollo Engineers, P.C. (Carollo) was selected to prepare this report as a result of their familiarity and knowledge of the City and County of Honolulu's wastewater treatment and conveyance facilities and operation and maintenance practices. Carollo Engineers was responsible for the overall report and financial analysis.

Carollo is familiar with the City and County of Honolulu's wastewater facilities through previous studies and evaluations. Carollo Engineers has performed a Wastewater Asset Evaluation and Condition Assessment as part of the City and County's Wastewater Asset Management Program. Carollo has also performed an Operations and Maintenance Evaluation of the Sand Island Wastewater Treatment Plant (WWTP) to assess overall effectiveness and efficiency. Carollo has also completed several projects for the City and County of Honolulu, including the 1998, 2001, and 2005 Wastewater System Revenue Bonds Engineering Reports, and various projects, in conjunction with R. M. Towill Corporation.

Carollo Engineers is a professional services engineering firm specializing in water and wastewater environmental engineering with 27 main offices and several project offices throughout the country. Carollo was founded in 1933 and is currently ranked number 72 in the top 500 engineering design firms in the United States by Engineering News Record.

Carollo has a total staff of over 750 professional employees including over 300 registered engineers in such disciplines as civil, structural, environmental, mechanical, chemical, and sanitary engineering. Subconsultants are retained as needed in specialized fields.

1.5 References

Carollo reviewed and relied upon information provided by the Department to develop this report. Although Carollo offers no assurances regarding information not independently verified, it has no reason to believe that the information is invalid for the purposes of this report. Information used to complete this report is referenced in Appendix A.

1.6 Report Organization

This Consulting Engineer's report has been organized into six sections, with three appendices, as follows:

- Section 1- Introduction: Outlines the purpose and scope of the report, a review of the Series 2007 Bonds, consulting engineer's qualifications, references, and report organization.
- Section 2 - Department of Environmental Services: Provides an overview of the Department, its mission and functions, organization, and key initiatives.

- Section 3 - Wastewater System: Describes the System's service areas, facilities, operations, and assets.
- Section 4 - Capital Improvement Program: Describes the Department's capital planning process and a summary of the FY 1998 through FY 2017 CIP, including recent accomplishments and near-term (FY 2008 through FY 2012) and longer-term planned improvements. Projects are assessed in terms of compliance with regulatory requirements as well as the operational integrity and reliability of the System.
- Section 5 - Financial Performance: Provides information on the Department's current wastewater rates and wastewater system facility charges (WSFCs), and historical operating results; and establishes projections of revenues and expenses and financial performance metrics, including debt service coverage and fund balances for the period FY 2008 through FY 2017.
- Section 6 - Conclusions: Summarizes the results of the study, including confirmation of the Department's ability to meet its covenants with the City's first Bond Resolution for the issuance of the Series 2007 Bonds.
- Appendix A - References: Provides references for publications used to prepare this report.
- Appendix B - Capital Improvement Projects Requiring Funding through FY 2008 and FY 2009: Provides a list of planned capital projects that require funding through FY 2009.
- Appendix C - Adopted Rate Schedule: Provides the rate schedule adopted by Ordinance No. 05-018, effective on July 1st each year from FY 2007 through FY 2011.

2.0 Department of Environmental Services

2.1 Background

The Department was established on July 1,1998, pursuant to a plan of reorganization which combined certain components of the Division of Wastewater Treatment and Disposal with other administrative departments having compatible functions. Previously, the Division of Wastewater Treatment and Disposal, created by a City Charter change effective July 1,1994, provided for planning, design, construction, operation, and maintenance of the City's wastewater facilities. Prior to that time, wastewater management services were delivered through a division of the Department of Public Works.

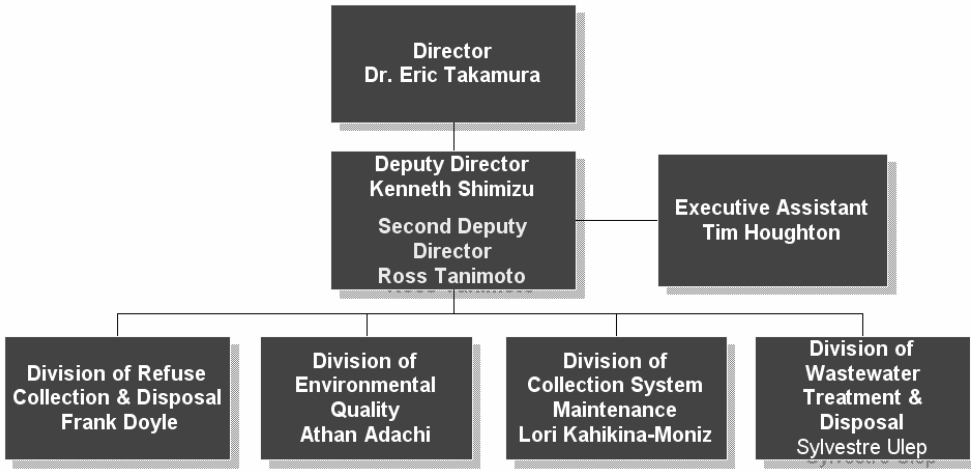
2.2 Mission, Duties, and Functions

The Department's mission is: To protect public health and the environment by providing effective and efficient management of the wastewater, storm water and solid waste disposal systems for the City and County of Honolulu. With respect to wastewater service[5], the Department fulfills this mission by operating and maintaining WWTPs, pump stations and pipelines, chemical treatment and pumping of cesspools, and management of the City's stormwater permit program.

2.3 Organization

The Department consists of four divisions: Environmental Quality, Wastewater Treatment and Disposal, Collection System Maintenance, and Refuse Collection and Disposal. The Department also includes an Office of Administrative Support.

FIGURE 2-1
Department of Environmental Services, Organization Chart by Division City and County of Honolulu



[5] The Department is also responsible for the City's refuse collection and disposal programs, designated separately in Figure 2.1. and for which a separate enterprise fund is established.

2.3.1 Office of Administrative Support

The Office of Administrative Support directs and coordinates financial planning and CIP development, scheduling, and tracking for the Department. The office also provides centralized personnel, financial, and administrative services and is responsible for development and coordination of the Department's enterprise asset management system and information technology enhancement initiatives (see Section 2.4 below). The FY 2008 budget for the Office of Administrative Support is $12.6 million.

2.3.2 Collection System Maintenance

The Collection System Maintenance Division is responsible for operation, maintenance and repair of the wastewater collection system including cleaning and closed circuit television inspection of wastewater collection lines, cured-in-place pipe (CIPP) lining, and cesspool pumping. Collection System Maintenance is initiating an active flow monitoring program to support optimization of system flow characteristics and hydraulic analysis. The FY 2008 budget for the Collection System Maintenance Division is $12.2 million.

2.3.3 Environmental Quality

The Environmental Quality Division coordinates and manages activities related to state and federal regulatory compliance including industrial pre-treatment, wastewater discharge, permitting, water quality monitoring, and stormwater management. The Division includes four branches: Regulatory Control, Monitoring Compliance, Stormwater Quality and Water Quality Laboratory. In recent years, the Division has increased enforcement activities (informational letters, written warnings, notices of violations, and fines) to enhance grease management, prevent illegal discharges, and monitor industrial site and construction activity. In addition, the Division has facilitated a broad array of community relations and outreach activities, highlighted on the Environmental Protection Agency's (EPA's) web site, including public service announcements and partnerships with other government agencies, businesses, and community organizations. The regulatory control branch oversees the pretreatment program whilst the monitoring compliance branch prepares the permit-required annual assessment reports for the wastewater treatment plants. The storm water quality branch is responsible for administering the municipal storm water management program required under the City's NPDES permit, which was reissued effective March 31, 2006. The Division's Water Quality Laboratory conducts compliance monitoring activities of industrial wastewater, non-industrial wastewater, treatment plant effluent, receiving waters, well water, sludge, sediment, and fish tissue. The FY 2007 budget for the Environmental Quality Division is $14.5 million.

2.3.4 Wastewater Treatment and Disposal

The Wastewater Treatment and Disposal Division is responsible for operation, maintenance, and continuous monitoring of pump stations, preliminary treatment facilities, treatment plants, and storm drain pump stations. The Division includes a Technical Services Branch, Central Shop, Office Services section, and three operations branches - Metro, Leeward, and Windward.

Operations and maintenance activities are facilitated by an advance Supervisory Control and Data Acquisition (SCADA) system, and are a primary focus of the Department's business process improvement and asset management initiatives, each of which is supported by the implementation of an advanced computerized maintenance management system (CMMS). Implementation of ultraviolet disinfection at the Kailua, Sand Island, and Wahiawa WWTPs enhances effluent quality. The Sand Island WWTP is also implementing an In-vessel Bioconversion to provide for beneficial reuse of biosolids. The Wastewater Treatment and Disposal Division's FY 2008 budget is $60.9 million.

2.3.5 Supporting Organizations/Program Management

Wastewater permitting is consolidated in the City's Department of Planning and Permitting. Currently, the Department of Design and Construction provides wastewater project planning, design, and construction services in support of the Department. During construction, detailed up-to-date critical path method (CPM) schedules are maintained.

The Department has secured program management assistance to help ensure timely and cost-effective delivery of its significantly expanded capital improvement program. Program management assistance has been successfully employed by numerous other communities, perhaps most notably several communities under wastewater consent decrees. Program management assistance will support project scheduling and cost-estimation functions, ensure standardization and documentation of project planning and design, and enhance quality assurance / quality control procedures. It will also facilitate use of alternative project delivery mechanisms to help the Department ensure schedule compliance and manage project delivery risks.

2.4 Accomplishments

The Department has a history of success in design and delivery of capital projects and has been recognized by the engineering and construction community on a number of occasions including:

- 2001 Grand Award - American Consulting Engineers Council Nimitz Highway Reconstructed Sewer
- 2001 Grand Conceptor Award - Consulting Engineer's Council of Hawaii Nimitz Highway Reconstructed Sewer
- 2002 American Council of Engineering Companies, "Honor Award" Hart Street WWPS Force Main Project
- 2002 American Public Works Association (HI Chapter), Project of the Year Hart Street WWPS Force Main Project
- 2007 North American Society for Trenchless Technology, 15th Anniversary National Achievement Award

Similarly, the Department has demonstrated exemplary capabilities in the operation of its major treatment plants, particularly in the last few years as demonstrated by their earning National Association of Clean Water Agency Peak Performance Awards as shown in Table 2-1.

TABLE 2-1
National Association of Clean Water Agencies (NACWA), Peak Performance Awards
City and County of Honolulu

Wastewater Treatment Plant	2003	2004	2005
Honouliuli	GOLD	GOLD	SILVER
Kailua	GOLD	GOLD	GOLD
Sand Island	SILVER	SILVER	SILVER
Waianae	GOLD	GOLD	GOLD
Wahiawa	GOLD	SILVER	SILVER

*NACWA's peak performance awards are granted for compliance with National Pollutant Discharge Elimination System (NPDES) permits. The Gold Award honors treatment works that have achieved 100 percent compliance for an entire calendar year. The Silver Award honors treatment works that have no more than five NPDES permit violations in the calendar year.

2.5 Initiatives

In addition to, and largely supporting, its substantial CIP, the Department is pursuing a number of initiatives to improve operating efficiencies, enhance customer services, strengthen local enforcement of environmental regulations, and engage stakeholders. Several such initiatives are described below.

2.5.1 Asset Management

The Department has initiated implementation of asset management practices oriented toward minimizing asset life-cycle costs while delivering desired levels of customer service at acceptable levels of risk. Supporting this program, the Department's CMMS is being used to integrate all fleet vehicles online with City Automotive Equipment Services, to track fixed assets at the component level to improve equipment life cycle histories, and to manage collection system maintenance at the asset (pipe segment) level.

2.5.2 Business Process Improvement

Recognizing opportunities to enhance operational efficiency as well as the need to anticipate operational requirements of forthcoming capital improvements, the Department has initiated a business process improvement program (ENV Change Process). This program, which includes and complements the Department's information technology enhancement efforts (described below) has facilitated:

- Implementation of formal work planning processes at plants
- Redesign of storeroom function to improve materials handling
- Improved work backlog management
- Reorganization of treatment and disposal operations and maintenance staffs
- Established a full-time Communications Officer and pending establishment of full service communications staff.

2.5.3 Community Relations/Outreach

The Department has implemented a broad array of community relations / outreach activities oriented toward enhancing awareness of businesses and the general public of the appropriate uses of the System. Activities include:

- Public service announcements, including a movie slide show presented at Consolidated Theatres, and a radio spot featuring Mayor Mufi Hannemann urging citizens to: "Help protect our waters ... for life'
- Participation in various community events including an Earth Day celebration at Fort DeRussy and the 2005 Hawaii Business Expo
- Watershed Partnerships with other government agencies, businesses, and community groups including the Ala Wai Watershed Association
- Training and partnerships with public schools in the Aiea, Waipahu, and Campbell high school districts

In addition, the Department has successfully articulated the need for investment in the System and had not encountered notable adverse reaction to the adopted FY 2007 to FY 2010 rate plan, nor to the newly adopted rate plan.

2.5.4 Energy Management

Given the significance of electricity costs in its operating cost structure, the Department is pursuing a number of means to reduce overall energy costs at its facilities. For example, at the Kailua WWTP, the Department is conducting cogeneration feasibility studies to determine the potential to realize savings in energy costs through limited plant modifications. Cogeneration system benefits may be realized through the Department entering into either an Energy Performance Contract with the Hawaiian Electric Company or a shared savings contract with the successful cogeneration system contractor. These studies and parallel efforts have provided a foundation for energy management efforts including the use of variable speed drive pumps, redesign of lighting, and a coordinated attempt to reduce energy bills through demand management.

2.5.5 IT Enhancement

While the Department has regularly upgraded individual information management technologies, an Information Technology Master Plan (ITMP) was completed in early 2007. This plan is oriented toward ensuring that information technology investments will facilitate development of a fully integrated information management system. In particular, the plan contemplates integration of Computerized Maintenance Management System (CMMS), geographical information system, SCADA, and regulatory and permitting databases. The ITMP vision of "one view: complete, correct and consistent" reflects a focus on addressing system redundancies and inefficiencies, accelerating implementation of recent technology investments, and support of interdivisional collaboration.

With an emphasis on IT governance, the ITMP provides for organizational changes and resource allocation to support the selected plans and strategies. The most significant organizational change is the recommendation of a new Information Technology Manager (ITM) position. The ITM will have department-wide responsibility for IT management in all divisions and for ensuring that IT hardware and software meet the standards for compatibility specified in the ITMP. Additional organizational changes include the identification of Key Application Managers and IT Project Managers, responsible for day-to-day applications and specific IT projects, respectively.

The ITMP also addresses asset management goals, and seeks to provide the best informational support to the asset management goals of long-term risk management and reduced life-cycle costs. Through interviews, the ITMP effort determined that benefits of the CMMS have been realized but not maximized. The ITMP will support developing, updating, and reporting asset information through the CMMS. The CMMS will be integrated with other tools, as has already been demonstrated with GIS and SPL/Synergen. Data currently being integrated includes scanned Environmental Impact Report (EIR) documents.

Regarding computer hardware, the ITMP provides for an IT infrastructure that will be vital within the 5-year planning horizon. Computer technology trends are addressed in the ITMP, and recommendations are presented with an emphasis on connectivity for monitoring, instrumentation and control, and security programs; work management systems and electronic documentation; and potential base stations for wireless field access to department systems. Statistics will be tracked on CPU utilization, memory utilization and swap file activity, disk input/output usage, and end-to-end typical response times. The Department of Environmental Services will establish or expand formal service level agreements with other organizations.

2.5.6 Human Resource Management

The Department has also recognized that successful implementation of capital and operational improvements will require substantial training of staff, leadership development, and adequate succession planning (given the Department's age demographics which are typical of the wastewater industry). Accordingly, the Department has invested in a new training curriculum based on peer group learning which has reached over a third of front line supervisors. The department has also initiated a senior leadership training program, the Ala'kaina program, to enhance the capability of senior managers and to encourage integration in operation. Even temporary supervisors now receive training as part of the new program, which should provide improved candidates for future leadership positions.

2.5.7 Capacity Management and Operation and Maintenance

The Department has monitored the development of EPA's Capacity Management and Operation and Maintenance (CMOM) performance-based regulation related to collection system management. The CMOM planning framework covers operation and maintenance (O&M) planning, capacity assessment and assurance, capital improvement planning and financial planning. The Department has informally reviewed its activities through the EPA's self

assessment checklist and determined that it is well positioned for compliance with the prospective regulations. The Department plans to continue to monitor CMOM developments, ensure compliance with regulatory requirements, and employ CMOM prescribed activities to enhance system performance.

2.6 Employee Population and Bargaining Units

The Department's FY 2007 Budget provides funding for 1,141 Full-Time Equivalent (FTE) positions, seven Temporary Equivalent positions, and 0.75 Contract Full-Time Equivalent positions. These positions are distributed across Divisions as shown in Table 2-2.

TABLE 2-2
Distribution of FY 2008 Budget Full-Time Equivalent Positions

Operating Division	Number of Budgeted FTEs
Administrative Support, Office of	40
Collection System Maintenance	185
Environmental Quality (Wastewater)	106.75
Wastewater Treatment and Disposal	396
Subtotal	**727.75**
Refuse Collection and Disposal	421
Total	**1,148.75**

This workforce, with the exception of 18 excluded and four exempt employees, is represented by:

- One blue-collar, non-supervisory bargaining unit.
- One blue collar, supervisory bargaining unit.
- One white-collar, non-supervisory bargaining unit.
- One white-collar, supervisory bargaining unit.
- One professional and scientific bargaining unit.

All bargaining unit contracts are statewide and apply to all State government and county government activities. Of the five public bargaining units representing Department employees, all have received final and binding arbitration awards or have reached negotiated settlements resulting in 2-year contracts beginning July 1, 2007 and ending June 30, 2009. All employees are covered by the Hawaii State Employees Retirement System.

3.0 Wastewater System

3.1 Overview

The System services a population of approximately 640,000, which is approximately 74 percent of the total population of the City and County. The service area covers nearly 600 square miles. The customer base includes a residential population, businesses and industries, and other users located in the service area. As shown in Table 3-1, of the 139,281 accounts, 133,003 are residential and provide about 77 percent of the total revenue from sewer service charges; the remaining 6,278 accounts are non-residential, representing about 23 percent of the total revenue from sewer service charges.

TABLE 3-1
Account and Wastewater Sales Distribution by Customer Class

Customer Class	Number of Accounts (June 2006)	Percentage of Accounts	Percentage of FY 2006 Wastewater Service Charge Revenues
Residential	133,003	95.5%	77%
Commercial and Industrial	6,276	4.5%	23%
Agricultural	2	-	0.0%
Total	**139,281**	**100.0%**	**100.0%**

3.2 System Description

The System is divided into eight drainage basins as shown in Figure 3-1. The eight wastewater basins are: East Mamala Bay, West Mamala Bay, North Oahu (West), Waianae, Central Oahu, Kailua/Kaneohe/Kahaluu, North Oahu (East), and Waimanalo. Population figures by basin are presented in Table 3-2. Estimated island-wide total population was 868,105 in 2005, and is projected to increase at an average rate of about 0.7 percent through 2020, to about 968,000. As mentioned previously, the Department services approximately 74 percent of the total population of Oahu.

TABLE 3-2
Actual and Projected Resident Population[1]
By Basin, Oahu-1990-2020

Basin	1990	2000	2005	2010	2015	2020
East Mamala Bay	380,157	374,366	385,303	402,731	421,828	434,250
West Mamala Bay	199,005	239,713	251,239	267,301	273,752	293,036
North Oahu (East/West)[2]	29,992	31,094	31,331	31,372	34,325	33,374
Waianae	37,411	39,271	40,635	41,094	41,336	42,183
Central Oahu	44,540	45,254	44,996	44,716	44,546	44,231
Kailua/Kaneohe/Kahaluu	108,639	106,300	105,502	104,738	108,812	109,214
Waimanalo	9,055	9,161	9,099	9,043	9,631	9,749
Total	**808,799**	**845,159**	**868,105**	**900,995**	**934,230**	**968,037**

[1] Population from Planning Department. Military bases are included (City and County of Honolulu Planning Department, 2000; City and County of Honolulu).

[2] Includes population of Laie, which is currently privately owned but operated by the City. City ownership of the Laie plant is expected to occur in FY 2008.

Source: City and County of Honolulu, Department of Environmental Services, City & County of Honolulu, Department of Planning and Permitting, 2001.

Each basin is served by a major WWTP as shown in Table 3-3 with corresponding FY 2006 actual flow and discharge location.

TABLE 3-3
FY 2006 Wastewater Flows by Treatment Facility and Drainage Basin

Region	Drainage Basin	Treatment Facility	FY 2006 Actual Flow (mgd)[1]	Discharge Location
Metro	East Mamala Bay	Sand Island	66.60	Ocean
Leeward	West Mamala Bay	Honouliuli	27.00	Ocean/Reuse
	North Oahu (West)	Pa'alaa Kai	0.08	Injection Wells
	Waianae	Waianae	3.54	Ocean
	Central Oahu	Wahiawa	1.90	Reservoir
Windward	Kailua/KaneohelKahaluu	Kailua Regional	15.80	Ocean
	North Oahu (East)	Kahuku	0.20	Injection Wells
	North Oahu (East)	Laie	0.47[2]	Reuse
	Waimanalo	Waimanalo	0.76	Injection Wells
TOTAL			**116.34**	

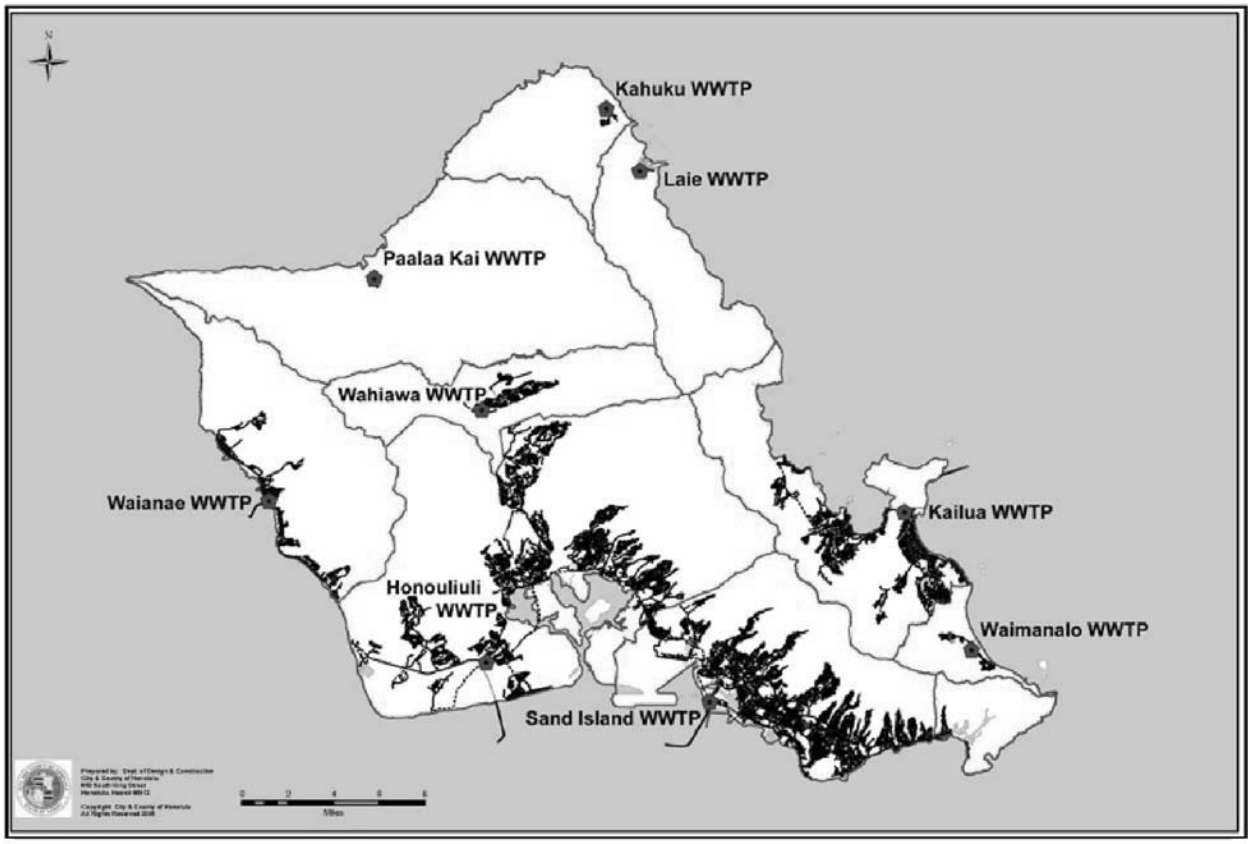
[1] From FY 2006 Financial Report.

[2] Pending confirmation with operational data.

The function of each WWTP is to treat wastewater by removing or reducing organic and inorganic materials to levels that satisfy federal and state permit requirements for the discharge of such wastewater into the ocean, streams, reservoirs or injection wells. In addition to treatment facilities, the System includes collection, pumping, and other related facilities.

Descriptions of the basins and major facilities are provided in the following subsections.

FIGURE 3-1
Service Area Map



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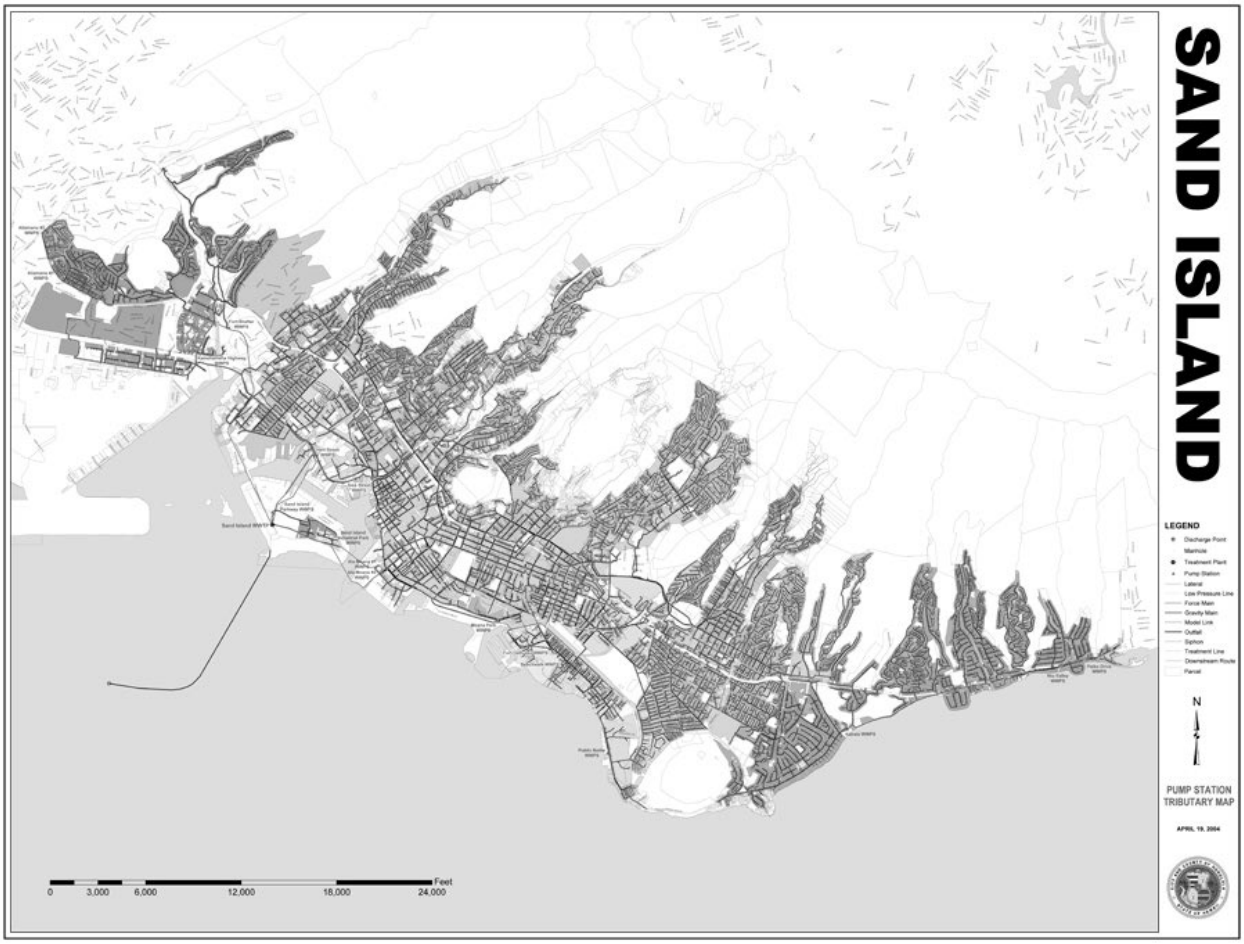
3.2.1 East Mamala Bay

The largest and the most densely populated basin is East Mamala Bay. Approximately 385,300 people reside in East Mamala Bay, representing approximately 44 percent of the resident population of the entire island. The basin is served by the Sand Island WWTP, a primary treatment plant, and the largest treatment facility in the System in terms of wastewater flow. The eastern most end of the basin, including Hawaii Kai, is served by a private wastewater facility. The Sand Island WWTP has a primary treatment average annual flow (ADAF) capacity of 86 mgd of wastewater flow and treated average flows of 66.6 mgd in FY 2006. The Hawaii Kai system has an average flow of 4.3 mgd including flows from the City and County's Kuliouou WWPS.

There are approximately 19,479 gravity main segments in the area served by the Sand Island WWTP, representing 571 miles of total pipe length. Lateral segments totaling 51,218 make up almost 244 miles of pipe length. Figure 3-2 shows the area served by the Sand Island WWTP and associated pipe segments and major facilities.

FIGURE 3-2
Sand Island Service Area

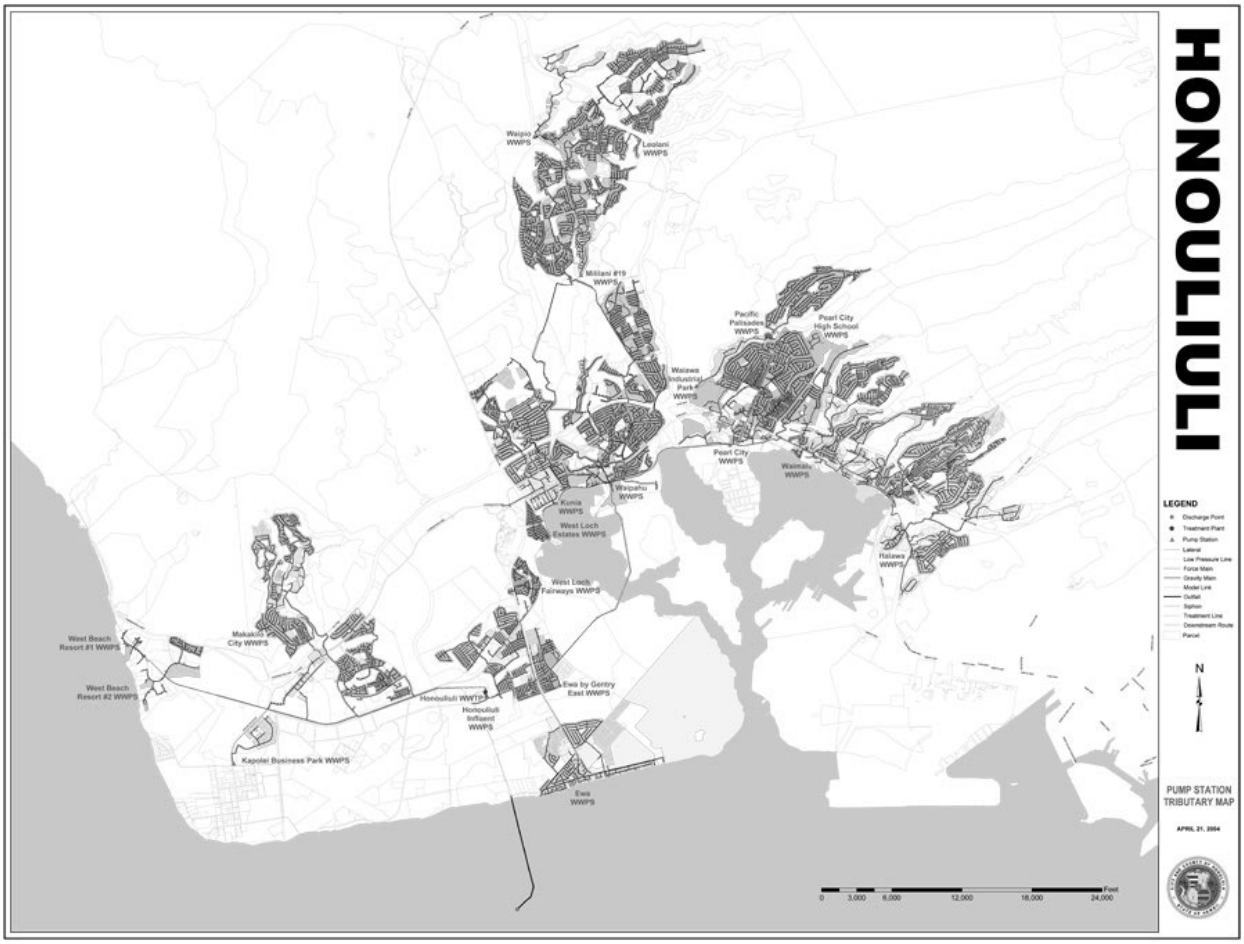


3.2.2 West Mamala Bay

West Mamala Bay is the second largest basin and includes Ewa, Central Oahu as far north as Mililani, and the Halawa to Pearl City area. The population of the basin area is approximately 251,200, or 29 percent of the estimated population of Oahu. The basin is served by the Honouliuli WWTP, which is the second largest treatment plant in the System, with a primary treatment ADAF design capacity of 40 mgd and a secondary treatment design capacity of 13 mgd. In FY 2006, average flows were 27.0 mgd. The secondary treated effluent is provided to a recycled water facility.

There are approximately 15,312 gravity main segments in the area served by the Honouliuli WWTP, representing over 495 miles of total pipe length. There are 50,891 lateral segments that make up approximately 220 miles of pipe length. Figure 3-3 shows the area served by the Honouliuli WWTP and associated pipe segments and major facilities.

FIGURE 3-3
Map of Honouliuli



3.2.3 Kailua/Kaneohe/Kahaluu

The third largest basin includes the communities of Kailua, Kaneohe, and Kahaluu and surrounding areas in the eastern part of the island. The eastern portion of Oahu is also referred to as the Windward basin area. The basin area population is about 105,000, or approximately 12 percent of the island's population. The basin is served by the Kailua Regional WWTP, the third largest treatment plant in the System. The Kailua WWTP has an ADAF design capacity of 16 mgd and in FY 2006, average flows were 15.8 mgd.

There are approximately 6,876 gravity main segments in the area served by the Kailua Regional WWTP, representing 209 miles of total pipe length. There are 22,260 lateral segments that make up approximately 101 miles of pipe length. Figure 3-4 shows the area served by the Kailua Regional WWTP and associated pipe segments and major facilities.

FIGURE 3-4
Map of Kailua

3.2.4 North Oahu (East and West)

Most of the North Oahu area (population 31,300) does not have centralized sewer service, though there are three small System facilities including the Kahuku WWTP (0.4 mgd ADAF capacity, secondary), the Pa'alaa Kai WWTP (0.15 mgd ADAF capacity, secondary), and the formerly private Laie WWTP (0.90 mgd ADAF capacity, tertiary). The City began operation of the Laie system in November 2006 and is expected to take ownership of the system in FY 2008. In FY 2006, these facilities treated estimated average flows of 0.196 mgd, 0.084 mgd, and 0.47 mgd respectively.

There are approximately 125 gravity main segments in the area served by the Kahuku WWTP, representing 4.1 miles of total pipe length. 496 lateral segments make up 1.7 miles of pipe length. In the area served by the Paalaa Kai WWTP, there are 53 gravity main segments with a combined length of 1.6 miles and 308 lateral segments representing 1.3 miles of pipe. In the area served by the Laie WWTP, there are 86 gravity main segments with a combined length of 5.6 miles and 506 lateral segments representing 6.1 miles of pipe.

3.2.5 Waianae

The Waianae basin serves the west coast of the island, which has a population of approximately 40,600. The Waianae WWTP has an ADAF capacity to process 5.5 mgd at a secondary level. In FY 2006, average flows were 3.54 mgd.

There are approximately 1,697 gravity main segments in the area served by the Waianae WWTP, representing 62.6 miles of total pipe length. 6,543 lateral segments make up 25.4 miles of pipe.

3.2.6 Central Oahu

Central Oahu (population of almost 45,000), including military bases and the communities of Wahiawa and Whitmore Village, is served by the Wahiawa WWTP (2.6 mgd ADAF capacity, secondary with sand filtration). In FY 2006, average flows were 1.90 mgd.

There are approximately 1,290 gravity main segments in the area served by the Wahiawa WWTP, representing 44.7 miles of total pipe length. 4,643 lateral segments make up 20.1 miles of pipe length.

3.2.7 Waimanalo

The Waimanalo basin is served by the Waimanalo WWTP, which is owned by the State and operated by the Department. It is a secondary plant with sand filtration, with an ADAF capacity of 0.7 mgd and serves the Waimanalo community of 9,100. In FY 2006, average flows were estimated at 0.761 mgd. The State is currently upgrading the facility to an ADAF of 1.155 mgd.

There are approximately 277 gravity main segments in the area served by the Waimanalo WWTP, representing 9.8 miles of total pipe length. 880 lateral segments make up 5.4 miles of pipe length.

3.2.8 Summary

The Sand Island WWTP, the Honouliuli WWTP, and the Kailua Regional WWTP are the three largest treatment facilities. Almost 95 percent of the System wastewater flows were treated by these facilities in FY 2006; the Sand Island WWTP treated 66.6 mgd from Honolulu, the Honouliuli WWTP treated 27.0 mgd from the Ewa, Mililani, and Pearl Harbor areas, and the Kailua Regional WWTP treated 15.8 mgd from the eastern populated areas of the island.

Although the other five basin areas (including Central Oahu, North Oahu [East and West], Waianae, and Waimanalo) comprise the majority of the geographical area of the island, the population density is much lower in comparison to the East and West Mamala Bay and the Kailua/Kaneohe/Kahaluu basin areas. The combined population of the five basin areas is less than 15 percent of the total population of Oahu. The total ADAF design capacity of the WWTPs in the five basin areas is approximately 9.35 mgd and 2006 average wastewater flows were approximately 6.95 mgd.

In addition to the treatment facilities, gravity mains, and lateral pipe segments described by individual WWTP service areas, the Department maintains approximately 276,400 feet (50 miles) of force mains. Roughly 80,000 feet (15 miles) of these force mains are more than 30 inches in diameter. The Department also operates 65 active pump stations which pumped an average of 121 mgd - or more than 44 billion gallons - in FY 2006. Twenty-one pump stations handle an average of more than 1 mgd, and the largest facility (Ala Moana #2 Pump Station) pumps an average of almost 47 mgd.

3.3 Private Systems

A private wastewater system provides collection and treatment for the community of Hawaii Kai. The Hawaii Kai system had an average flow of 4.3 mgd in FY2006, including flows from the City's Kuliouou WWPS.

The Hawaii Kai system consists of 262 gravity main segments, representing 8.5 miles. 893 lateral segments make up 4.2 miles of pipe length.

3.4 System Performance

3.4.1 WWTP Discharge Requirements

WWTP discharges and compliance with Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) permit limits are presented for the three largest WWTPs within the System.

3.4.1.1 Sand Island WWTP

The Sand Island WWTP has a permitted discharge limit of 116 milligrams per liter (mg/L) for BOD and 69 mg/L for TSS. Figures 3-5 and 3-6 compare the actual discharges between January 2006 and April 2007 to the permit limit for BOD and TSS, respectively.

The average BOD discharge for the Sand Island WWTP was 110 mg/L over this time period, ranging between 91 and 128 mg/L. This represents discharges of between 78 and 110 percent of the BOD permit limit.

The average TSS discharge for the Sand Island WWTP was 45 mg/L over this time period, ranging between 39 and 50 mg/L. This represents discharges of between 56 and 72 percent of the TSS permit limit.

FIGURE 3-5
Sand Island WWTP Concentrations and Permit Limits, BOD

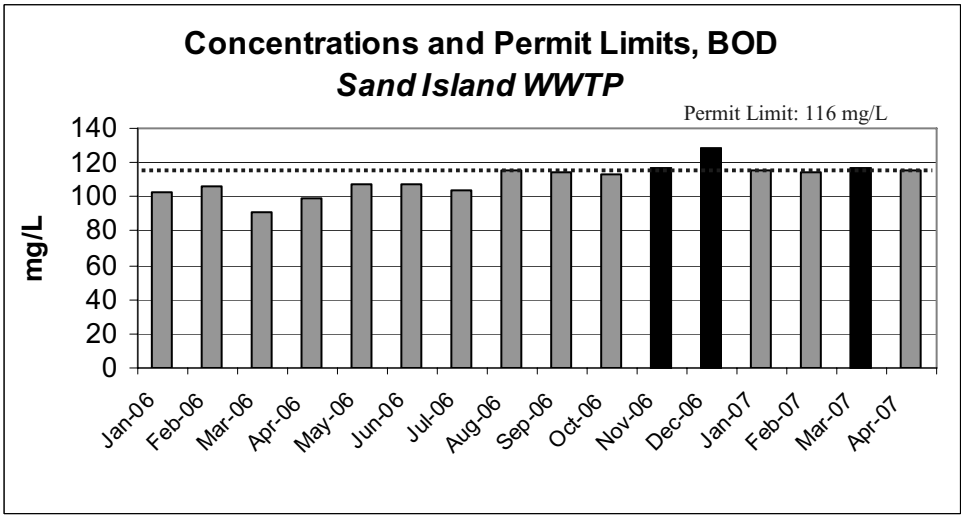
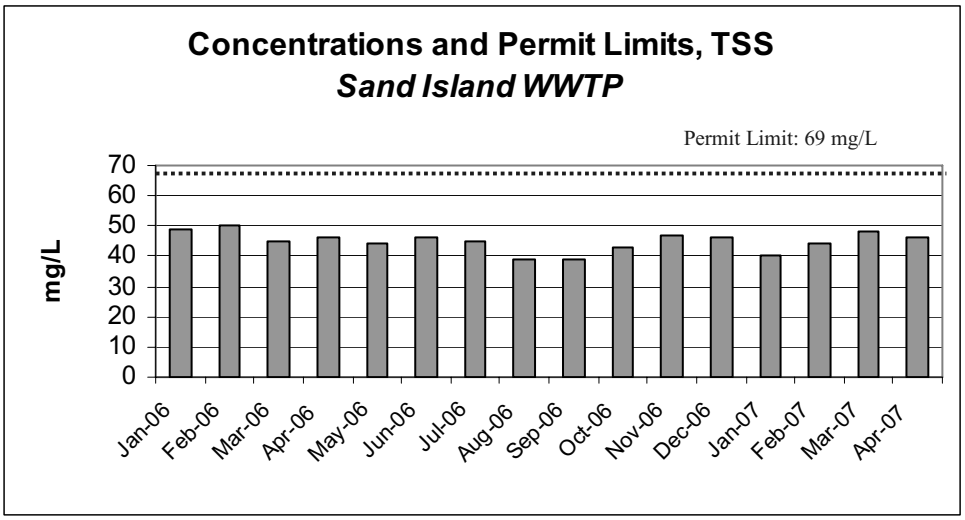


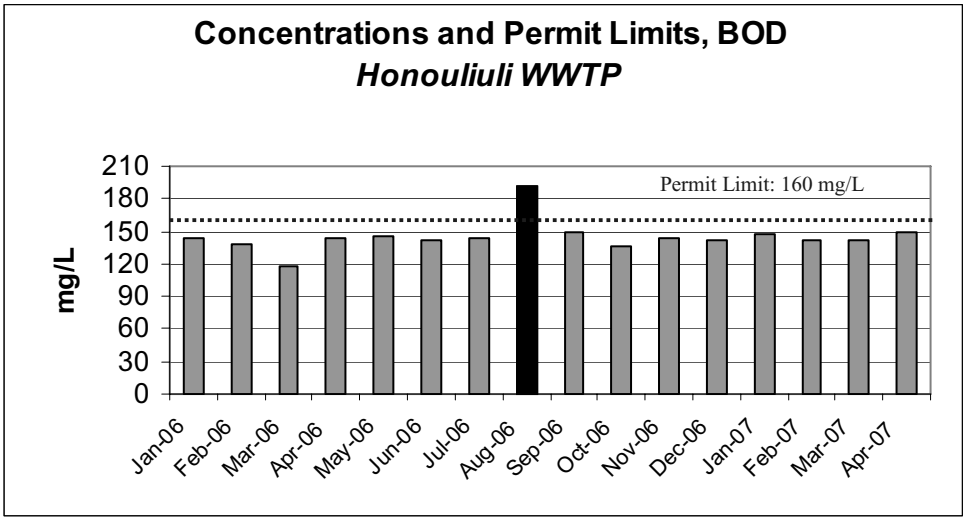
FIGURE 3-6
Sand Island WWTP Concentrations and Permit Limits, TSS



3.4.1.2 Honouliuli WWTP

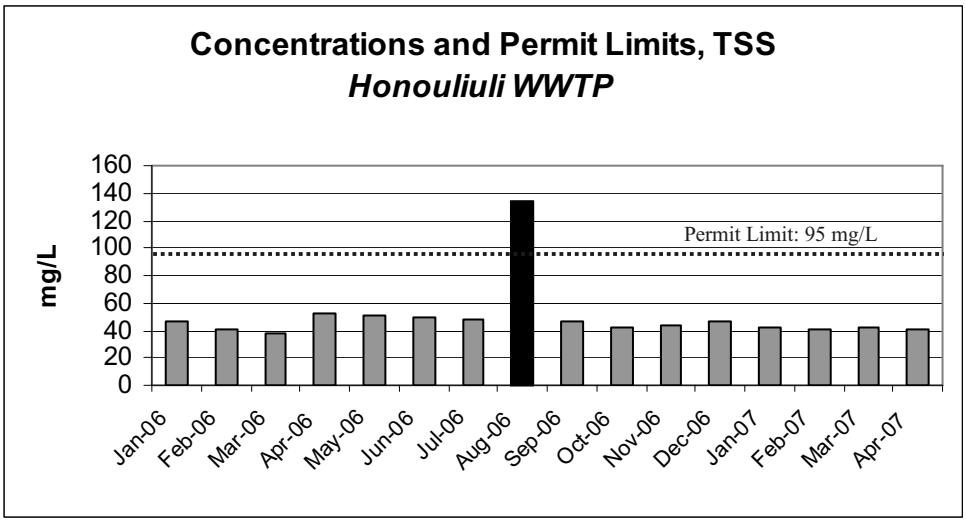
The Honouliuli WWTP has a permitted discharge limit of 160 mg/L for BOD and 95 mg/L for TSS. Figures 3-7 and 3-8 compare the actual discharges between January 2006 and April 2007 to the permit limit for BOD and TSS, respectively.

FIGURE 3-7
Honouliuli WWTP Concentrations and Permit Limits, BOD



The average BOD discharge for the Honouliuli WWTP was 145 mg/L over this time period, ranging between 117 and 192 mg/L. This represents discharges of between 73 and 120 percent of the BOD permit limit.

FIGURE 3-8
Honouliuli WWTP Concentrations and Permit Limits, TSS

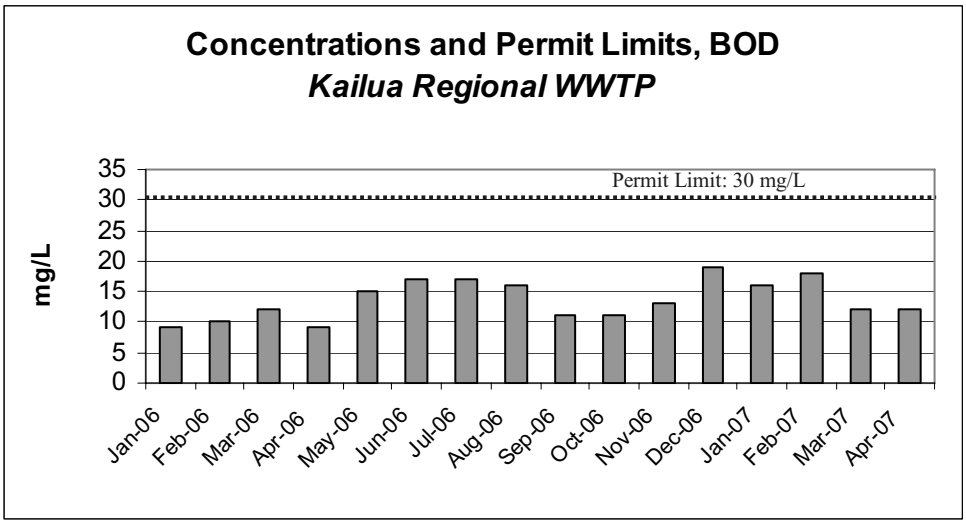


The average TSS discharge for the Honouliuli WWTP was 50 mg/L over this time period, ranging between 38 and 134 mg/L. This represents discharges of between 40 and 141 percent of the TSS permit limit.

3.4.1.3 Kailua Regional WWTP

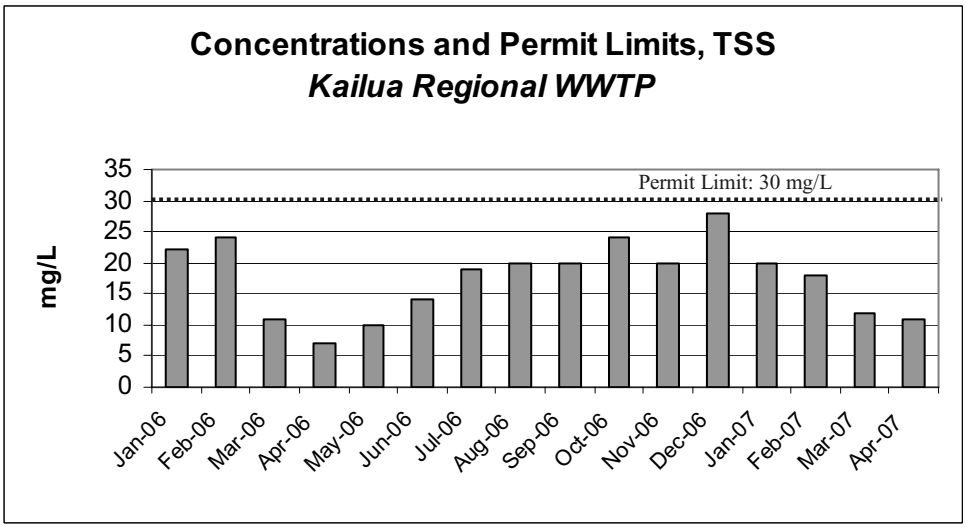
The Kailua Regional treatment facility has a permitted discharge limit of 30 mg/L for BOD and 30 mg/L for TSS. Figures 3-9 and 3-10 compare the actual discharges between January 2006 and April 2007 to the permit limit for BOD and TSS, respectively.

FIGURE 3-9
Kailua Regional WWTP Concentrations and Permit Limits, BOD



The average BOD discharge for the Kailua Regional WWTP was 14 mg/L over this time period, ranging between 9 and 19 mg/L. This represents discharges of between 30 and 63 percent of the BOD permit limit.

FIGURE 3-10
Kailua Regional WWTP Concentrations and Permit Limits, TSS



The average TSS discharge for the Kailua Regional WWTP was 18 mg/L over this time period, ranging between 7 and 28 mg/L. This represents discharges of between 23 and 93 percent of the TSS permit limit.

In summary, the Department has met monthly average BOD and TSS permit concentration limits for its three major WWTPs over the period January 2006 through April 2007 with the exception of five incidences: three exceedances of monthly average BOD at Sand Island, one exceedance of monthly average BOD at Honouliuli, and one exceedance of monthly average TSS at Honouliuli.

3.4.2 Collection System Operation and Maintenance

The Department proactively operates and maintains an extensive wastewater collection system serving the eight drainage basins. In FY 2006, the Department cleaned and flushed 725 miles of sewer. Television inspections were conducted on 16.5 miles of sewer line.

3.4.3 Legal and Regulatory Actions

The WWTPs and other facilities operated by the Department are governed by either National Pollutant Discharge Elimination System (NPDES) permits or State of Hawaii Department of Health (DOH) Underground Injection Control permits. Since 1991 the EPA, the State of Hawaii and several environmental groups have filed various legal and regulatory actions against the City and County alleging violations of the federal Clean Water Act and the several NPDES and State of Hawaii permits held by the Department. The City has entered into settlements with respect to several of such actions. The primary objectives of each consent decree are summarized in Table 3-4.

The consent decrees entered into by the City in connection with such settlements require the Department, among other things, to rehabilitate and expand certain existing facilities, to implement pre-treatment programs, to institute efficient effluent reuse and biosolids reuse, and to construct new facilities. The Department has undertaken the rehabilitation and expansion of existing facilities, the implementation of pre-treatment programs, effluent reuse, and biosolids reuse, and the construction of new facilities in the last several years for the purpose of complying with the existing consent decrees. The Department has developed the FY 2008 to FY 2012 CIP and the FY 1998 to FY 2017 CIP, in part, to comply with the existing consent decrees referenced above, as well as any federal and state administrative orders and NPDES permit requirements.

The Department is responding to regulatory requirements to control pesticides entering the System from historical pest control practices within the Sand Island WWTP service area. The Department is also complying with regulatory procedures designed to address Whole Effluent Toxicity tests excursions at the Sand Island and Honouliuli WWTPs.

In 2004, the Sierra Club, Hawaii's Thousand Friends, and Our Children's Earth Foundation ("Plaintiffs") filed a lawsuit against the City. The lawsuit alleges, among other things, violations of the Sand Island and Honouliuli WWTP NPDES permits, including allegations of operation and

maintenance violations, collection system spills, and violations of administrative orders related to the Sand Island WWTP. The Court dismissed the collection system claims pursuant to its September 2005 order. Plaintiffs filed a motion for reconsideration of that order. The Court subsequently granted Plaintiffs' motion for reconsideration, but only on claims three and four, alleged violations of effluent limitations in the Sand Island NPDES permit and alleged violations of the Sand Island NPDES permit deadline to construct and operate a disinfection facility, respectively.

In January 2006, the Plaintiffs filed a motion to intervene in an existing lawsuit that was filed in 1994 by EPA and DOH against the City, Civil No. 94-00765 DAE-FIY, United States of America, et al. v. City and County of Honolulu. This lawsuit sought penalties and injunctive relief relating to the City's collection system. Plaintiffs were not a party to this lawsuit. A consent decree ("1995 Consent Decree") was entered into between the parties which requires the City, among other things, to comply with the Clean Water Act, to establish a schedule under which the City shall implement preventive maintenance and sewer replacement and rehabilitation necessary to reduce and prevent spills, to require the City to implement and enforce its pretreatment program to regulate industrial discharges, and to develop and implement an effluent and sludge reuse program. Plaintiffs' motion to intervene in this lawsuit was an attempt to interject themselves into the EPA's ongoing enforcement of collection system claims. In May 2007, the Magistrate issued findings and recommendation to grant Plaintiffs' motion to intervene subject to certain limited conditions. The Court subsequently adopted the Magistrate's findings and recommendation.

As a result of the March 2006 Beachwalk spill and after one year of negotiations, the EPA, DOJ, DOH and the City signed a Stipulated Order that requires the City to take certain actions to evaluate, repair, rehabilitate or replace certain force mains and one pump station in its wastewater collection system, and develop site-specific spill contingency plans. The Stipulated Order is subject to a public comment period of thirty days, which has been extended by Court order. The Plaintiffs have objected to the entry of the Stipulated Order, however, the EPA, DOJ, DOH and the City intend to pursue entry of the Stipulated Order. This Stipulated Order, if accepted by the Court, will resolve the entire civil enforcement action that was simultaneously filed with the Stipulated Order against the City, Civil No. CV07-00235DAE -KSC, United States of America, et al. v. City and County of Honolulu. The estimated cost of the work in the Stipulated Order is approximately $300 million dollars.

In March 2007, EPA issued its tentative decision to deny an application for a renewed variance from secondary treatment requirements of the Clean Water Act for the Honouliuli WWTP. Public comments will be accepted through August 27, 2007. The City is vigorously challenging this tentative decision. If the City's application is denied, the cost of secondary treatment at Honouliuli is estimated to be $400 million dollars in project costs. The City is also expecting a tentative decision to deny an application for a renewed variance from secondary treatment requirements of the Clean Water Act for the Sand Island WWTP in October 2007. The City will also vigorously challenge this tentative decision. If the City's application is denied, the cost of secondary treatment at Sand Island is estimated to be $800 million dollars in project costs.

TABLE 3-4
Summary of Consent Decree Objectives

1995 Consent Decree (May 1995)[6]	Status
Implement and enforce a pretreatment compliance program to regulate industrial discharges.	Ongoing
Develop and implement a long term Spill Reduction Action Plan for the collection system.	Ongoing
Develop and implement a 20-year Sewer Rehabilitation and I/I Minimization Plan.	Ongoing
Develop and implement a beneficial reuse program for both wastewater and biosolids.	Ongoing
Kailua/Kaneohe Consent Decree (August 1995)	**Status**
Allow participation of stakeholders in joint development Facilities Plan for Kailua Regional WWTP and Kaneohe WWPTF.	Completed
Construct and operate pilot ultraviolet disinfection facility at Kailua Regional WWTP.	Completed
Establish and fund the Kailua Bay Advisory Committee.	Completed
Monitor water quality of the Kailua/Kaneohe watersheds in cooperation with the Kailua Bay Advisory Council.	Ongoing
Wahiawa Consent Decree (March 1998)	**Status**
Provide a long-term solution for effluent disposal from Wahiawa WWTP.	Completed
Improve reservoir water quality.	Ongoing
Provide resource conservation through wastewater reclamation.	Ongoing
Stipulated Order (May 2007)	**Status**
Beachwalk Force Main - Construct a temporary force main and a new permanent force main. Assess and repair (as necessary) existing force main for use as backup.	Ongoing
Beachwalk Wastewater Pump Station – Assess and repair (as necessary) the existing pump station.	Ongoing
Ala Moana Force Main - Construct a new force main. Assess and repair (as necessary) force main #2 for use as backup.	Ongoing
Hart Street Force Main - Assess and repair (as necessary) existing force main for use as backup.	Ongoing
Kaneohe/Kailua - Construct a new force main. Assess and repair (as necessary) existing force main for use as backup.	Ongoing
Waimalu Force Main - Assess force main to determine whether repair, rehabilitation or replacement is needed.	Ongoing
Kahala Force Main - Assess force main to determine whether repair, rehabilitation or replacement is needed.	Ongoing
Spill Contingency Plans - Develop site-specific spill contingency plans to minimize the volume of spills from the above force mains.	Ongoing

[6] Filed on May 15, 1995 in United States of America, et al. v. City and County of Honolulu, Civil No. 94-00765DAE-KSC (1995 Consent Decree)

4.0 Capital Improvement Program

Like many major urban utilities, the Department faces significant challenges associated with regulatory mandates, budgetary constraints, and aging infrastructure. Over the last decade, the Department has undertaken important planning studies and other efforts in order to forecast System requirements and improvements needed to address these challenges proactively. The following subsections summarize the Department's planning efforts and criteria, CIP, and key capital projects.

Capital program costs captured within this report are presented as both appropriations and cash flow expenditures. An appropriation represents a commitment by the City and County to undertake a given project and reflects the total costs of that project. Appropriated costs are assumed to be expended over a four year cycle beginning in the year of the appropriation. These annual expenditures are then funded through bond proceeds and other capital funding sources.

The projects described do not include actions related to EPA's pending reviews of the 301(h) waivers for the Honouliuli and Sand Island WWTPs, described in section 3.4.3.

4.1 System Planning and Management

4.1.1 System Planning

The Department has developed a comprehensive long-term planning program for the System which includes the completion of facility plans and preliminary designs for most of the major wastewater facilities. The current 20-year CIP covers the years from FY 1998 to FY 2017.

As part of the annual budget process, the upcoming FY project requirements (as defined by the 20-year CIP) are reviewed and refined as necessary to reflect updated cost estimates or other information related to the projects. In addition, project costs for the next five years are estimated from the 20-year plan, and the 6-year projections are forwarded to the Mayor for inclusion in the annual CIP and budget; only the first year of the budget is adopted by the City Council.

4.1.1.1 Prioritization Criteria

The Department has developed a procedure for prioritizing capital projects to determine order and timing of projects. The prioritization criteria are shown in Table 4-1, with the highest priority criteria listed first.

The rankings are intended as guidelines for CIP project planning. A project considered in a low priority class may be upgraded to a higher priority position in the CIP due to any number of factors. For example, if a service area is close to reaching and surpassing the capacity of its wastewater facilities, the expansion of the system in that area rises in priority. System expansion can entail projects which affect permit and regulatory compliance, protection of the environment, or safety and public health. Through the use of these guidelines, combined with

analyses of funding and other resource constraints, the Department develops a CIP which addresses regulatory requirements and service needs of customers.

The FY 1998 to FY 2017 CIP was developed using these guidelines and updates to this program constitute the Department's 20-year CIP. The Department retains the responsibility for insuring that appropriate planning for the future continues as the program is executed, modified, and planned beyond the 20-year period.

TABLE 4-1
Prioritization Criteria

Priority	Description
I	Safety and public health - immediate
II	Protection of the environment - immediate
III	Permit and regulatory compliance - immediate
IV	Completion of ongoing projects
V	Preventive
VI	Funding requirements
VII	System expansion
VIII	Other

4.1.2 Infiltration and Inflow (I/I) Management

Similar to most other wastewater collection systems, extraneous stormwater enters the Department's sewers as wet weather infiltration and inflow (I/I). Infiltration occurs when water percolates through the ground and indirectly enters sewer pipes through structural defects such as openings in pipe joints, and cracked or corroded manholes and pipes. Inflow occurs when stormwater flows directly into the wastewater collection system through manhole covers, cleanout lids, or illegally connected area drains or downspouts. The combined wastewater flows and wet weather I/I exceed the hydraulic capacity of certain elements of the wastewater collection system and result in sanitary sewer overflows (SSOs).

The Final Sewer Rehabilitation and Infiltration and Inflow Minimization Plan Program (Final Sewer I/I Plan) was completed by the Department in December 1999 to determine the optimal approach for the Department to minimize SSOs from its wastewater collection and treatment systems, and to fulfill a portion of the requirements of the 1995 Consent Decree. The Final Sewer I/I Plan was approved by EPA, and has served as the basis for identification and prioritization of collection system projects included in the long-term and shorter-term capital plans.

4.1.3 Project Management

The Department uses a combination of professional engineering staff and specialty subcontractors to manage the capital program. As discussed in Section 2, the Department has secured outside program management assistance to help ensure timely and cost-effective delivery of its significantly expanded CIP. Program management assistance will support project scheduling and cost estimation functions, ensure standardization and documentation of project

planning and design, and enhance quality assurance/quality control procedures. It will also facilitate use of alternative project delivery mechanisms to help the Department ensure schedule compliance and manage project delivery risks as desired. The Department's project delivery team has received several awards, as discussed in Section 2.4.

4.2 Capital Improvement Program Accomplishments

Since the 20-year CIP was developed in 1998, the Department has completed a number of projects related to consent decree and regulatory requirements, as well as system expansion and other needs. Expenditures increased significantly between FY 1998 and FY 2003, and then remained relatively stable through FY 2006. Beginning in FY 2007, CIP expenditures are forecast to increase significantly. The proposed rate increases are necessary to fund these projected capital expenditures. Appropriated dollars reflect a commitment by the City and County to fund and construct the identified capital projects. It is assumed that a capital project, once appropriated, will be planned, designed and constructed over a 4 year period beginning in the year of the appropriation.

A summary of recently constructed projects is provided below. Subsequent subsections discuss planned near and longer-term improvements.

4.2.1 Mandated Projects

The major 1995 Consent Decree projects, completed (in whole or in part) as of the writing of this report, include the following (with approximate construction costs):

- Kamehameha Highway Trunk Sewer Reconstruction, Mililani ($1.0 million).
- Kainui Drive Sewer Reconstruction, Kailua ($4.3 million).
- Kalaheo Avenue Sewer Reconstruction, portions completed ($27.3 million).
- Kannehe/Hamakua/Keolu Sewer Rehabilitation ($26.4 million).
- Hart Street WWPS Force Main Replacement ($22.2 million).
- Nimitz Highway Reconstructed Sewer ($23.7 million).
- Waipahu WWPS Modifications ($7.0 million).
- Public Baths WWPS Modifications ($2.1 million).

Other projects completed in accordance with the Department's 1995 and 1998 consent decree requirements include the development and implementation of collection system rehabilitation plans, the development of a facilities plan for the Kailua/Kaneohe/Kahaluu service area, the construction of ultraviolet disinfection facilities at the Kailua WWTP, and construction of the Wahiawa WWTP reclamation system.

4.2.1.1 2007 Stipulated Order

In May 2007, the City and County of Honolulu entered into a Stipulated Order to improve the wastewater collection system in order to reduce sanitary sewer overflows. The Stipulated Order

resulted from the March 2006 failure of the Beachwalk Force Main, releasing an estimated 48.7 million gallons of wastewater into the Ala Wai Canal. The Stipulated Order requires the City and County to take certain actions to evaluate, repair, rehabilitate or replace certain force mains and one pump station, and develop spill contingency plans. The CIP, as included within this report, includes projected costs required to comply with the work required under the Stipulated Order.

4.2.2 Discretionary Projects

Other significant capital projects that have been completed include the Gulick Avenue Relief Sewer construction ($6.7 million), the Kaneohe WWPTF Effluent Pump Station Modifications ($3.2 million), the Sand Island WWTP Flotator/Clarifier Tanks 1, 2, 5, and 6 Refurbishment ($3.0 million), and the Kailua Heights WWPS Modifications ($2.9 million).

4.3 FY 2008 to FY 2012 Capital Improvement Program

The Department has identified several capital improvement projects to meet consent decree requirements. The FY 2008 to FY 2012[7] CIP includes projects which have been identified as the highest priority for meeting these requirements, and addressing system reliability needs. The CIP projects fall into two general categories: collection system improvements and WWTP facility improvements. The FY 2008 to FY 2012 CIP appropriations (adjusted for inflation) are summarized in Table 4-2. Project costs include planning, design, and construction, as well as all engineering, administrative, and legal expenses. A detailed list of projects requiring funding through FY 2009 is provided in Appendix B.

TABLE 4-2
Summary of FY 2008 to 2012 CIP Appropriations[(1)] (in thousands of dollars)

						Total Appropriations	
Project Type	**FY 2008[(2)]**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2008 to FY 2010**	**FY 2008 to FY 2012**
Collection System							
Mandated	$131,544	$156,203	$151,988	$182,044	$239,997	$439,735	$861,776
Discretionary	43,518	22,626	114,826	50,169	78,272	180,971	309,412
Subtotal Collection	$175,062	$178,829	$266,814	$232,212	$318,269	$620,706	$1,171,188
Treatment Plant							
Mandated	$5,609	$5,671	$ -	$ -	$4,120	$11,280	$15,401
Discretionary	146,151	33,335	12,482	9,680	11,474	191,967	213,121
Subtotal Treatment	$151,760	$39,006	$12,482	$9,680	$15,594	$203,248	$228,522
Project Mgmt, Equip and Other[(3)]	$23,901	$17,387	$21,725	$42,108	$22,384	$63,014	$127,506
Total CIP	$350,724	$235,223	$301,021	$284,000	$356,248	$886,967	$1,527,215

Note: Numbers may not add up exactly, due to rounding.
(1) Inflated dollars are used in this table.
(2) FY 2008 conformed to Bill 31 2007 CD2.
(3) Includes all miscellaneous projects not included in collection system or treatment plant costs as well as appropriations for project management and equipment.

[7] The City's current CIP and Budget includes appropriations adopted for FY 2008 and programmed capital improvements through FY 2012; only the first 5 years (through FY 2012) are presented in this subsection.

4.3.1 Collection System Improvements

The majority of the projects scheduled for the FY 2008 to FY 2012 period are collection system projects, including pipelines and pump stations. The collection system improvement projects are needed to replace or rehabilitate corroded pipe, to reduce I/I, and for minimal extension of service to unsewered areas. Rehabilitation or replacement of corroded pipe is an important part of the Department's I/I management program, as these improvements will reduce I/I during wet weather events, and will result in lower O&M costs for both the collection systems and associated WWTPs.

Total FY 2008 to FY 2012 appropriations for collection system projects are almost $1.17 billion, with about $620.7 million to be appropriated in the first 3 years, and almost $550 million in the remaining 2 years: Some major projects to be constructed during this period include the following:

Aliamanu No. 1 and No. 2 WWPS Upgrade and Sewer Relief: This project addresses hydraulic deficiencies in the existing WWPS and in the downstream sewer line, and is included in the EPA-approved Final Sewer I/I Plan.

Beachwalk WWPS Force Main[8]: This project includes construction of a replacement force main for the Beachwalk WWPS to improve System reliability. The existing force main is approximately 6,600 linear feet (LF) and 42 inches in diameter.

Kalihi Valley Reconstructed Sewer: This project will rehabilitate or replace approximately 14,400 LF of sewer mainline in the Kalihi Valley area to remedy structural defects, increase hydraulic capacity to handle wet weather storm flows, and allow for new development. This project is included in the EPA-approved Final Sewer I/I Plan.

Kalihi/Nuuanu Area Sewer Rehabilitation: This project provides for structural and hydraulic rehabilitation of gravity lines in the Lower Kalihi, Pacific Heights, Punchbowl, and Liliha areas. This project is included in the Department's response to a June 30, 2003 Notice of Violation from EPA, and includes projects from the EPA-approved Final Sewer I/I Plan.

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[8] A rupture of the existing Beachwalk force main on Kaiolu Street was discovered on March 24, 2007 resulting in the release of 48.7 million gallons of untreated wastewater into the Ala Wai Canal in Waikiki. The City repaired the force main, which was put back into service on March 29, 2007.
The Beachwalk force main, constructed in 1965, consists of 6,554 linear feet of 42-inch reinforced concrete pipe and 57 linear feet of 36-inch cast iron pipe. The Beachwalk force main runs from the Beachwalk WWPS, north along Kaiolu Street, west and southwest along Ala Wai Boulevard, west along Ala Moana Boulevard, and connects to the 69-inch trunk sewer at the eastern end of Ala Moana Park. The wastewater flow pumped through this force main is approximately 540,000 gallons per hour.
The City is currently installing a construction bypass force main which will be constructed in two phases. The first phase involves the placement of a 42-inch inside diameter high density polyethylene pipe on the bottom of the Ala Wai Canal, from an existing 69-inch trunk sewer within Ala Moana Beach Park to the vicinity of Leavers and Nahua Streets. The second phase will involve the microtunneling of a new permanent segment of a replacement force main from the Beachwalk WWPS and under and across the Ala Wai Canal and to its mauka bank.
Once this is completed, the Beachwalk WWPS will be operated utilizing the existing force main. The new force main segment and construction bypass force main will be used only as a backup force main. A leak detection and monitoring plan was developed with the State Department of Health, and will be implemented by the City whenever the construction bypass force main is utilized. Ultimately, this bypass will be removed after the City constructs a permanent redundant system.

Alii Shores Sewer Rehabilitation: This project will rehabilitate approximately 1,510 LF of corroded 36-inch pipe. This project is included in the EPA-approved Final Sewer I/I Plan.

4.3.2 Wastewater Treatment Plant Improvements

Treatment plant improvements during the FY 2008 to FY 2012 period are needed to upgrade existing facilities, to satisfy regulatory requirements, and to improve the reliability of the facilities in handling peak wet weather flows. Total FY 2008 to FY 2012 appropriations for treatment plant projects are almost $229 million, with an expected $203 million to be appropriated in the first 3 years, and $26 million in the remaining 2 years. Major projects to be constructed during this period include the following:

Sand Island WWTP Expansion, Primary Treatment, 90 mgd: This project will upgrade and refurbish treatment units at the Sand Island WWTP which are not already included in the Sand Island WWTP, Unit 1, Phase 2A (Headworks) project. This project is required by the Sand Island WWTP's NPDES permit. Plant expansion was accomplished with the construction of two clarifier tanks that were included in the Headworks project. Expansion of the solids handling process was accomplished through the construction of an In-Vessel Bioconversion Facility.

Honouliuli WWTP Upgrade: This project will improve the grit removal/preaeration tank inlet channel to match the influent pump station capacity of 112 mgd and will complete other City-prioritized repairs/rehabilitation. The grit removal/preaeration tank inlet portion of the project is included in the EPA-approved Final Sewer I/I Plan.

Honouliuli WWTP Solids Handling System: This project will replace the existing heat treatment system with anaerobic digesters, thereby increasing the solids handling capacity of the plant. This project is needed to accommodate planned development in the Ewa area through 2020.

Kaneohe Wastewater Pre-Treatment Facility Improvements and Equalization Facility: This project will address hydraulic deficiencies at the Kaneohe WWPTF. The planning phase will develop and evaluate alternatives to address the deficiency, including the proposed 6 million gallon wet weather storage basin, along with diversion pumping facilities, odor control and other appurtenances. Required by the EPA-approved Final Sewer I/I Plan, this project will enable conveying the 2020 peak wet weather design flow to the Kailua Regional WWTP.

Carollo has reviewed the Department's FY 2008 to FY 2012 CIP, and finds the programmed projects to be technically sound and in conformance with industry-standard engineering practices. The project cost estimates appear reasonable, and the associated construction schedules achievable with the implementation of effective construction management and program management. The existing construction climate, and worldwide demand for construction materials, is creating significant volatility in project costs thereby requiring regular update of construction cost estimates.

4.3.3 Funding Sources

Table 4-3 summarizes the anticipated funding sources for the FY 2008 to FY 2012 CIP expenditures (adjusted for inflation). Revenue Bond proceeds for the 5 year period $1.28 billion,

will fund a portion of the project costs (see Appendix B for project details). The City has secured commitment for $151 million in SRF loan funding for projects through FY 2013.

TABLE 4-3
FY 2008 to FY 2012 CIP Expenditures and Funding Sources (in thousands of dollars)

	Total
Funding Sources	
Use of Fund Balance[1]	$56,369
Net Revenues	$157,457
Federal Grants	$ -
Net Revenue Bond Proceeds	$1,280,000
Net SRF Proceeds	$151,144
Total Sources	**$1,644,970**
Uses[2]	
CIP Expenditures	$1,588,352
Other Expenditures[3]	$56,618
Total Uses	**$1,644,970**

Note: Numbers may not add up exactly, due to rounding.
[1] Fund use as of FY 2012.
[2] Adjusted for inflation (7 percent).
[3] Includes project management and equipment.

4.4 FY 1998 to FY 2017 Capital Improvement Program

4.4.1 Overview

The Department has identified facility needs through FY 2017 for the eight major WWTPs and associated collection system facilities. A summary of the estimated project costs for each of the drainage basins for the 20-year period is presented in Table 4-4. The 20-year CIP appropriations include the FY 2008 to FY 2012 CIP, as well as all other projects identified for the 20-year planning period.

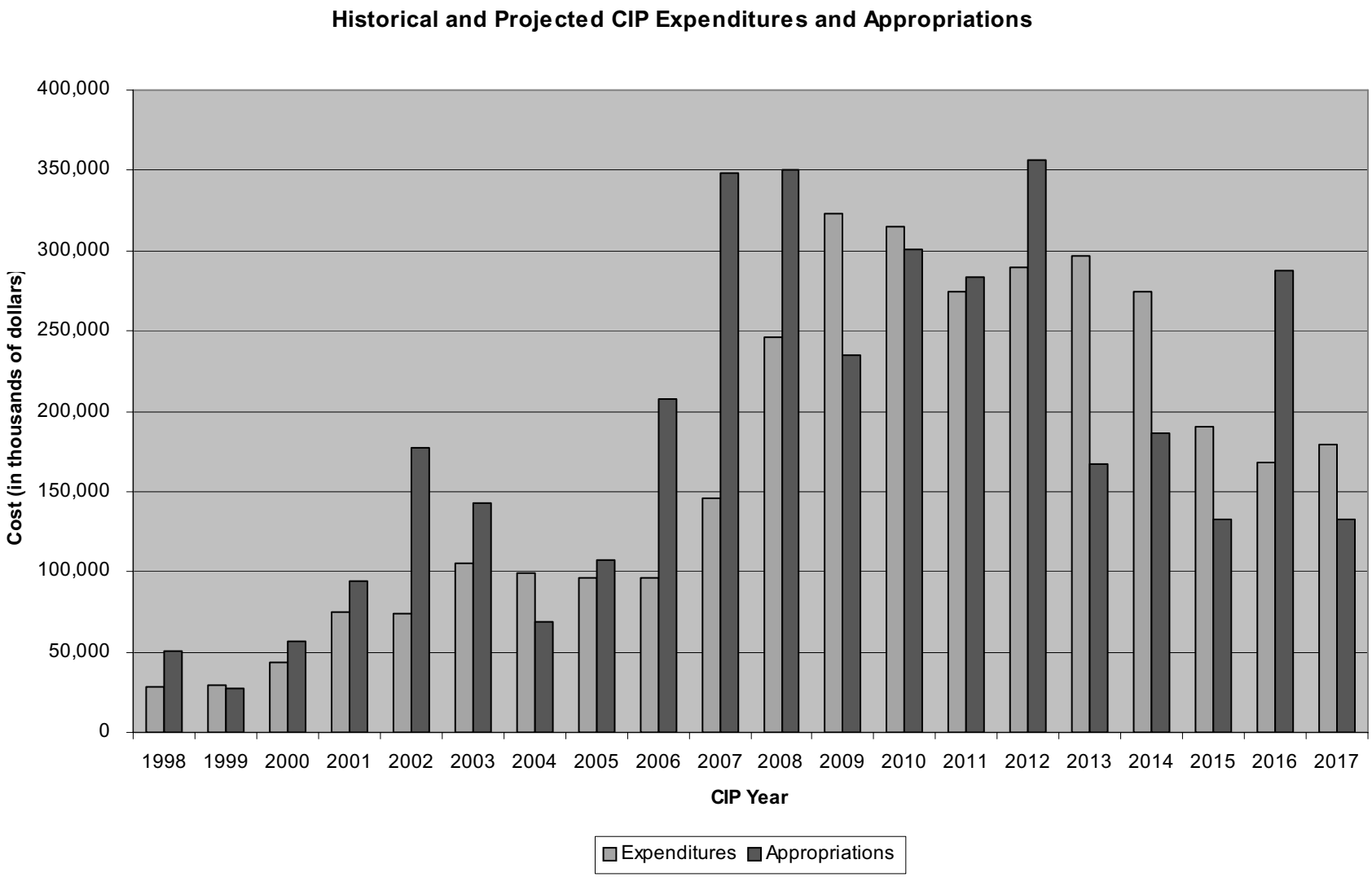
Figure 4-1 provides historical (FY 1998 to FY 2007) and forecast (FY 2008 to FY 2017) CIP expenditures and appropriations.

TABLE 4-4
FY 1998 to 2017 CIP Appropriations by Basin (in thousands of dollars)

	Collection	Treatment	Other	Total[1]
East Mamala	$1,181,081	$531,503	$-	$1,712,583
West Mamala	352,108	102,059	-	454,167
Windward[2]	645,821	141,357	16,027	803,204
Central Oahu	3,230	49,602	425	53,258
Waianae	18,756	11,731	787	31,274
Waimanalo	14,195	-	-	14,195
North Oahu	22,727	17,895	225	40,847
Miscellaneous	123,598	144,561	133,776	401,935
Project Management & Equipment	-	-	202,451	202,451
Total CIP	$2,361,516	$998,708	$353,690	$3,713,914

[1] With inflation factor applied, to FY 2008 to FY 2017. FY 2008 conformed to Bill 31 2007 CD2.
[2] Windward Other - Includes cost associated with Laie.
Source: Department of Environmental Services

FIGURE 4-1
Historical and Projected CIP Expenditures and Appropriations (Adjusted for Inflation, 7 percent)



4.4.2 Collection System Improvements

As shown in Table 4-4, $2.4 billion (approximately 64 percent) of the 20-year CIP costs are associated with collection system improvements. Some pipelines in the existing collection system are approaching the end of their useful lives: This is due to the fact that the major pipeline facilities were installed 40 to 100 years ago. Environmental considerations in certain portions of the System include the saline content of the high groundwater table as well as relatively flat slopes and tropical temperatures, which accelerate sulfide generation and corrosion rates.

As is the case with most municipal wastewater systems, the condition of the collection system has resulted in a high incidence of I/I that contributes to SSOs, as discussed previously. The 1995 Consent Decree action items address these issues through a comprehensive rehabilitation program. The FY 2008 to FY 2012 CIP includes most of the remaining high priority projects.

4.4.3 Wastewater Treatment Plant Improvements

The three major WWTPs are the Sand Island WWTP, the Honouliuli WWTP, and the Kailua Regional WWTP. Separate facility plans have been completed for each of these major facility basins. Some facility plans are currently being updated.

As shown in Table 4-4, $999 million (approximately 27 percent) of the 20-year CIP costs are associated with treatment facility improvements. Improvements are currently being constructed at the Sand Island and Honouliuli WWTPs, as discussed in previous subsections. These improvements will upgrade the plant facilities to address known regulatory and capacity requirements. Capital projects to be scheduled beyond FY 2012 are anticipated to address future regulatory requirements and potential capacity expansion. In addition, as mentioned previously, the State is in the process of upgrading the Waimanalo WWTP.

Carollo has reviewed the Department's FY 2008 to FY 2017 CIP, and finds the programmed projects to be technically sound to meet known regulatory requirements and to be in conformance with industry-standard engineering practices. Project cost estimation procedures, which rely on consulting engineers' individual project costs estimates, appear reasonable, and the associated construction schedules achievable with the implementation of effective construction management and program management. The existing construction climate, and worldwide demand for construction materials is creating significantly volatility in project costs thereby requiring regular update of construction cost estimates.

4.4.4 Impact of Future Regulations

The Department is currently engaged in discussions with regulatory agencies (EPA and State of Hawaii DOH) to address, among other things, the work required under the 2007 Stipulated Order and the tentative denial of the 301(h) waiver for the Honouliuli WWTP (and the anticipated tentative denial of the 301(h) waiver for the Sand Island WWTP). These discussions may result in additions to and/or modifications of projects required by the 1995 Consent Decree as well as projects resulting from EPA and/ or State DOH administrative orders and NPDES

permits. These additions and/or modifications may result in revisions to the FY 2008 to FY 2017 CIP. The outcomes of these discussions remain uncertain at this time, and therefore the costs of any specific capital facilities that may be required by future agreement are not included in the CIP. The Department is committed to full compliance with all federal, state, and local water quality regulations.

In the event that additions and/or modifications to the CIP result from ongoing discussions, the Department will implement adjustments to the Department's capital project delivery and financing plans, including rate adjustments, to ensure continued compliance.

5.0 Financial Performance

This section presents an analysis of System financing and revenues. Also included are discussions of financial planning and management, sewer rates and charges, historical and projected operating results, capital financing, and user rate and facility charge comparisons.

5.1 Financial Planning and Management

An overview of the Department's financial planning process and financial policies follows.

5.1.1 Financial Planning Process

The Department's financial planning process consists of the development of a long-term financial plan and preparation of an annual budget request.

5.1.1.1 Development of Financial Plan

The financial plan is the mechanism by which the Department reviews and evaluates service delivery and financial performance issues of the Sewer Fund. Initial operating and capital expenditure requirements of the Sewer Fund are developed through separate processes that are then brought together to develop overall revenue requirements and a corresponding funding program.

Proposed CIP and operational revenue requirements are consolidated and reviewed against available funding over the forecast interval. As necessary, CIP and operating expenditures are re-examined for potential reductions and for opportunities to reschedule projects in an effort to free up resources for highest priority funding needs in particular years or for confirming the need to propose rate increases. The CIP and operational plans, as well as assumptions regarding inflation, customer growth, changes in O&M costs, interest earnings, and other important financial parameters become part of the financial plan.

5.1.1.2 Preparation of Annual Budget Request

The annual budget request for the upcoming FY is based upon the corresponding FY of the financial plan. The Department submits the budget request for review and eventual inclusion within the Mayor's city-wide budget proposal submitted to City Council in March preceding the start of the FY (July 1).

5.1.2 Financial Policies

The Department's financial planning process is guided by a set of Debt and Financial Policies adopted by the City Council on November 10, 1998. The financial policy framework was designed to meet a number of objectives related to management of the System enterprise, including:

- Maintaining financial integrity and self-sufficiency.
- Equitable cost allocation.

- Risk management.
- Economic efficiency.
- Rate affordability.

Related to these objectives, the City has committed, through the adoption of Ordinance No. 05-006 (March 31, 2005), not to transfer Sewer Fund monies to the City's General Fund.

Key Debt and Financial Policies are summarized below:

Rate Setting: Annual review of rates, with adjustments made as needed to cover system costs, comply with bond covenants, and maintain self-sufficiency. Establishment of WSFCs at levels sufficient to partially finance the costs of expanding the System.

Capital Financing: Long-term debt financing is the preferred funding method for most major system assets because it provides for cost recovery more consistent with asset life and minimizes rate fluctuations and impacts on current rate payers. Alternative debt timing and structures will be analyzed to ensure the most cost-efficient financing given prevailing market conditions. The amount and timing of debt will be planned to comply with applicable additional bonds tests and rate covenants.

Debt Service Coverage: Provide net income (exclusive of WSFC revenues) equal to 1.60 times the annual debt service requirement on senior lien debt, and 1.25 times the annual debt service requirement on all (senior and junior lien) debt. This exceeds the 1.20 standard for senior lien debt required by existing and proposed bond covenants, and serves three purposes:

- The absolute dollar difference between the planning standard and the Department's actual debt service coverage requirement provides a margin of safety for meeting coverage requirements;
- The 1.60/1.25 standard demonstrates the Department's commitment to sound fiscal management of the System, thereby supporting efforts to maintain strong bond ratings and minimize borrowing costs; and
- The 1.60/1.25 standard ensures ongoing equity contributions to the capital program, which further strengthens the Department's financial performance.

Operating Reserves: Maintain operating reserves equal to at least 3 months of O&M costs.[9] Since establishment of these policies, the wastewater enterprise has consistently met or exceeded all policy requirements.

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[9] Per the Bond Resolution, all costs includable in the operation and maintenance expense accounts of the Department relating to the System according to generally accepted accounting principles, exclusive of depreciation and amortization of property values or losses.

5.2 Rates and Charges

5.2.1 Sewer Service Charges

On June 22, 2005, the City Council adopted an ordinance which provides for six consecutive annual rate increases, with the first increase effective July 1, 2005. Prior to 2005, rates had not been increased since July 1, 1993[10]. The rate package adopted in 2005 was intended to provide the necessary revenues to meet projected System costs and conform to previously described financial policies. A rate increase of 10 percent was effective July 1, 2006. A new rate package with increasing rates as presented in Table 5-1 below was adopted by the City Council on June 6, 2007[11].

Table 5-1 compares FY 2007 through FY 2012 typical monthly bills for residential and non-residential customers based on the adopted rate ordinance. The nominal wastewater bill for a typical single family residential customer increased from $44.25 in FY 2007 to $55.31 in FY 2008; the projected FY 2012 bill is $101.82, a cumulative increase of $46.51 between FY 2008 and FY 2012. For a non-residential customer with domestic strength wastewater of 25,000 gallons, the nominal wastewater bill will increase from $85.50 in FY 2007 to $155.50 in FY 2008; the bill is expected to increase to $286.25 in FY 2012, a cumulative increase of $130.75 between FY 2008 and FY 2012.

TABLE 5-1
Impact of Proposed Rate Increases on Typical Wastewater Bills

	Current FY 2007	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012[(1)]**	**FY 2007 - FY 2012 Increase**
Adopted Rate Increase[(2)]	10.00%	25.00%	18.00%	18.00%	15.00%	15.00%	
Nominal (or Future) Dollars							
Residential Bill[(3)]	$44.25	$55.31	$65.24	$77.04	$88.55	$101.82	$57.57
Non-Residential Bill[(4)]	$85.50	$155.50	$183.50	$216.50	$249.00	$286.25	$200.75

[(1)] Rates for FY 2012 have not yet been adopted.
[(2)] Bills may exhibit slight differences in annual percent increases attributed to rounding of individual rate components.
[(3)] Single family residential customer, based on billable flows of 7,000 gallons per month.
[(4)] Based on domestic strength wastewater flows of 25,000 gallons per month.

Appendix C sets forth detailed rate schedules for various residential and non-residential customer classes for the current and subsequent FYs based on the adopted rate ordinance. The Department has a small number of customers that are subject to special rate schedules.

[10] The Department did modify the wastewater user charge structure in 1998 following completion of a consultant study and considerable public involvement; however, the revised rates were revenue neutral (i.e., did not generate additional revenue on a system-wide basis compared to previous rates.
[11] Rate schedule adopted on June 6, 2007 considers rate increases until FY 2011.

Specifically, rates for military customers who have prepaid capital contributions are slightly lower and a surcharge is added for customers in the Kalaeloa Community Development District.

5.2.1 Rate Structure

The existing residential rate structure consists of the following main components for metered water customers:

- Base charge
- Usage allowance
- Usage charge

The base charge is assessed monthly, regardless of water consumed. Annual revenue from the base charge represents about 78 percent of total annual revenue recovery[12]. The base charges have been designed to recover the majority of the system costs, in order to provide a stable funding source throughout the year regardless of customer usage.

The rate structure includes a 2,000 gallon usage allowance for all residential customers. The usage charge is applied to monthly usage in excess of the usage allowance, adjusted for a water irrigation factor. It is common practice in the wastewater industry to adjust metered water volumes for residential customers to account for outdoor irrigation, which does not impact the System. For those customers who do not receive City water service, the Department charges customers based on a fixed monthly rate.

Rates for non-residential customers with water use/wastewater discharge of 9,000 gallons/ 7,000 gallons or less per month include a base monthly charge and a usage charge that is applied to all volumes (i.e., there is no usage allowance). For larger volume customers, the rate is limited to a usage charge; however, the charge per unit of volume is set significantly higher in order that costs may be recovered from all users proportionately based on volumes.

The Department currently charges 624 non-residential customers for extra strength wastewater discharges based upon samples taken and laboratory analysis of their sewage discharges. Extra-strength wastewater is defined as TSS loadings greater than 200 mg/L.

5.2.2 Wastewater System Facility Charges

The Department assesses WSFCs to new developments connecting to the system, per Ordinance No. 05-019. The WSFCs are designed to recover a portion of the costs of existing infrastructure and planned future facilities that will serve growth. *The revenue from WSFCs is not included as pledged System revenues for purposes of calculating debt service coverage (per the Bond Resolution)*. These charges are currently $4,923 per equivalent single family dwelling unit (ESDU) for FY 2007. These charges are projected to increase to $ 5,071 in FY 2008. ESDUs for residential structures are based on the number and type of dwelling units[13],

[12] Based on FY 2005 data from the Department.

[13] Units in multiple family dwellings with five units or more, condominiums, townhouses, retirement homes, mobile homes, and housing projects are equal to 0.7 ESDUs; all other residential dwellings equal 1 ESDU.

and ESDUs for non-residential structures are based on the size of water meter serving the development[14].

Table 5-2 shows adopted WSFCs for current and future fiscal years.

The WSFCs for non-residential developments with extra-strength wastewater are based on the following formula:

$$A + ((SSi/200) \times B);$$

where SSi = the imputed suspended solids loading, in mg/L and applicable values for terms "A" and "B" are set forth in Table 5-2.

A developer of low-income housing may apply for a reduction of WSFCs. The rate for qualified low-income housing is $1,146 per ESDU.

Ordinance No. 05-019 also provides that "each fiscal year, the council shall review the WSFC to determine if it remains appropriate or should be revised:'

TABLE 5-2
Adopted Wastewater System Facility Charges

Fiscal Year	Residential and Non-residential Domestic Strength (per ESDU)	Extra-Strength Surcharge Formula Components	
		A	B
FY 2007	$4,923	$4,231	$692
FY 2008	$5,071	$4,358	$713
FY 2009	$5,223	$4,489	$734
FY 2010	$5,380	$4,624	$756
FY 2011	$5,541	$4,763	$778
FY 2012[(1)]	$5,707	$4,905	$802
Low-Income Housing	$1,146	NA	NA

[(1)] Rates for FY 2012 have not yet been adopted.
ESDU = Equivalent Single Family Dwelling Unit
NA = Not Applicable

5.3 Historical Performance

The Department has a demonstrated track record of maintaining rates and charges at levels sufficient to provide for all operating expenditures, debt service, and bond coverage requirements, and to maintain a sufficient ending fund balance that serves as a contingency fund. In addition to meeting these requirements, the Department has generated sufficient revenue, along with use of long-term debt proceeds, to finance its CIP. Table 5-3 presents a brief overview of the financial performance of the Department from FY 2003 through FY 2007.

[14] It is accepted industry practice to assess WSFCs based on water meter size, as the capacity of the water meter is also a reasonable predictor of wastewater system impact.

TABLE 5-3
Historical Operating Results (in thousands of dollars)

	FY 2003	FY 2004	FY 2005	FY 2006	Budgeted FY 2007
Revenues					
Sewer Service Charges	$111,878	$111,886	$112,746	$142,167	$157,390
System Facility Charges	$3,812	$3,077	$5,339	$8,822	$7,880
Interest Earnings	$2,032	$1,540	$1,590	$4,166	$3,300
Other revenues	$57	$69	$808	$211	$150
Gross Revenues	$117,779	$116,572	$120,483	$155,366	$168,720
Less: Operating expenses[1]	$64,193	$63,336	$68,326	$70,195	$101,112
Less: System Facility Charges	3,812	3,077	5,339	8,822	7,880
Net Revenues[2]	$49,775	$50,159	$46,817	$76,349	$59,729
Annual Revenue Bond Debt Service:					
Senior Lien[3]	$10,639	$10,641	$10,642	$12,946	$21,857
Subordinate Lien[4]	11,461	11,461	12,007	11,461	19,608
Total Revenue Bonds	$22,100	$22,102	$22,649	$24,406	$41,465
Total Obligations[5]	$33,241	$33,572	$44,139	$35,929	$53,796
Debt Service Coverage[6]					
Senior Lien	4.68	4.71	4.40	5.90	2.73
All Revenue Bonds	2.25	2.27	2.07	3.13	1.44
Total Obligations[7]	1.61	1.59	1.18	2.37	1.26
Ending Cash Balance					
Unrestricted Reserve[8]	$34,154	$23,749	$25,188	$29,158	$25,706
Operating Reserve[9]	$16,048	$15,834	$17,082	$17,549	$25,278
Bond Payment Account[10]	$16,786	$22,069	$17,967	$26,898	$36,433
Common Reserves[11]	$ -	$ -	$ -	$ -	$12,707

Note: Numbers may not add up exactly, due to rounding.

[1] Operating expenses do not include debt service, depreciation, or cash expenditures on capital improvements.

[2] Per the Bond Resolution, WSFC revenues are excluded from net revenues.

[3] Includes actual debt service for Senior Series 1998, 2001, 2005, and 2006.

[4] Assumes a 4% interest rate for Junior Series 2003A-2 and B-2 Bonds (auction rate certificates).

[5] Includes reimbursable General Obligation Bonds and State Revolving Fund Loans.

[6] Minimum debt service coverage requirements are: Sr. Lien Bonds - 1.2x; Sr. and Jr. Lien Bonds - 1.1x; Total Obligations - 1.0x.

[7] Debt service coverage ratio based on revenues including system facility charges.

[8] Equal to ending cash balance less operating and bond reserves.

[9] Equal to 3 months of operating expenses.

[10] Equal to 50 percent of following year's debt service obligation (due July 1).

[11] In FY 2003, the common reserve was converted to surety bonds. Reserve contributions are assumed to be fully funded at the time of borrowing for future bond issues.

5.3.1 Revenues

As shown in Table 5-3, total revenue from service charges remained relatively flat between FY 2003 and FY 2006, reflecting slow customer growth and no rate changes during that period. Table 5-4 shows the historical number of ESDUs by customer class served by the system during the historical period. Total ESDUs increased from 281,401 in FY 2002 to 288,938 in FY 2006, an average increase of about 0.7 percent per year, generally consistent with population growth projections presented in Section 3.

Sewer service charge revenue for FY 2007 is projected to total $157.4 million, which is approximately 11 percent higher than revenue for the previous year and 40 percent higher than FY 2005. The FY 2007 revenue increase reflects the new rates that went into effect July 1, 2005.

TABLE 5-4
Historical Number of ESDUs and System Facilities Charge Revenues

	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
As of July 1					
Residential	203,615	204,897	206,613	209,113	210,906
Non-Residential	77,786	77,832	77,967	77,986	78,032
Total	281,401	282,729	284,580	287,099	288,938
New ESDUs Added					
Residential	1,353	1,716	2,500	1,793	NA
Non-Residential	36	135	19	46	NA
Total	1,389	1,851	2,519	1,839	NA
WSFC Revenues (in thousands of dollars) (1)	$1,608	$3,812	$3,077	$5,339	$8,822

Note: Numbers may not add up exactly, due to rounding.

ESDU = Equivalent Single Family Dwelling Unit

(1) Excluded from Net Revenues and revenue bond debt service coverage calculations per Bond Resolution.

In addition to sewer service charges, WSFCs are a significant funding source for the Department. Unlike service charges, WSFCs may only be used to fund capital improvements and are not used to fund O&M expenses. Table 5-4 shows historical revenues from WSFCs. Annual revenues fluctuate in response to construction activity. System facilities charges were increased significantly in FY 2004 (from $1,146 per ESDU to $4,641), and beginning in FY 2007, charges are subject to a 3 percent annual escalator. Revenue from WSFCs was about $8.8 million in FY 2006 and projected to total $7.9 million in FY 2007. Per the Bond Resolution, WSFCs revenues are excluded from net revenues shown in Table 5-3.

As shown in Table 5-3, additional revenue sources include interest earnings and other revenues (e.g., revenue from sewer lateral installations and connections). Interest earnings have averaged about $1.7 million; earnings for FY 2007 are projected at $3.3 million. Other revenues have been less than $1.0 million historically.

5.3.2 Expenses

Table 5-3 shows historical total operating expenses for the System for the period FY 2003 through FY 2008. Actual operating expenses ranged from $70.2 million in FY 2003 to $68.3 in FY 2006 (an average annual increase of 2.3 percent); FY 2007 operating expenses are projected to total $101.1 million. FY 2008 budgeted expenditure totals $123.2 million. The significant increase in budgeted costs is primarily due to FY 2006 expenditures being below budgeted amounts and FY 2007 operating expenses being projected at higher levels to reflect additional operating and maintenance costs associated with sewer line rehabilitation and with treatment and disposal. Power costs for the Sand Island UV system began in the latter part of FY 2007, operating for the first full year in FY 2008. Operating expenses shown in Table 5-3 are net of depreciation, per the Bond Resolution.

5.3.3 Historical Operating Results and Debt Service Coverage

Table 5-3 also presents historical operating results and debt service coverage for the period FY 2003 through FY 2007. During this period, the Department met its target debt service coverage ratios; actual coverage on senior lien revenue bonds ranged from 2.73 to 5.90, in each year; coverage on all revenue bonds was 1.44 to 3.13. Coverage in FY 2007 is 2.73 and 1.44 for senior lien bonds and all revenue bonds, respectively. The Department also met its operating reserve requirements during the historical period analyzed.

5.4 Forecast Performance

The accompanying financial forecast, based upon available information and reasonable and conservative assumptions, presents the expected revenues, expenditures, debt service, debt service coverage, and changes in fund balance of the System.

5.4.1 Sewer Fund Resources and Requirements

Table 5-5 summarizes the forecast resources and requirements for the Sewer Fund through FY 2017. Projections of new customers, and adopted or planned rate increases are used to forecast sewer service charge revenues over the forecast period. Customer growth is projected to average about 0.3 percent per year; conservative compared to recent trends of about 0.7 percent. Adopted and additional projected system-wide average rate increases are shown in Table 5-6. It is possible that individual rates and customer bills may change by different percentages than those shown in Table 5-6; however, future rates will conform to the system-wide revenue needs described in the current or future adopted financial plans.

Annual revenue from service charges is projected to increase from an estimated $197.3 million in FY 2008, to $577.2 million in FY 2017, an average annual increase of 19.3 percent. Other resources include revenues from WSFCs ($8.1 million in FY 2008), interest revenue ($8.6 million in FY 2008), and other fees and charges ($106,000 in FY 2008). System facilities charge revenues increase moderately over the forecast period based on customer growth and increases in charges.

TABLE 5-5
Sewer Fund Forecast Sources and Uses of Funds (in thousands of dollars) [1]

	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Sources										
Beginning Cash Balance:	$100,124	$124,776	$177,470	$221,834	$257,494	$299,050	$343,945	$361,991	$383,228	$402,013
Service Charges	197,280	233,430	276,210	318,510	367,290	412,490	463,250	510,960	543,090	577,230
System Facility Charges	8,110	8,360	8,610	8,870	9,130	9,400	9,690	9,980	10,280	10,590
Other Revenues	106	106	106	106	106	106	106	106	106	106
Interest Revenue	8,600	8,700	8,600	10,200	12,000	12,900	14,400	14,700	15,600	17,400
Bond Proceeds for Common Reserve	13,593	26,418	28,882	23,573	19,797	21,685	14,829	6,422	5,137	-
Total Sources	$327,813	$401,790	$499,878	$583,093	$665,817	$755,632	$846,220	$904,158	$957,441	$1,007,339
Uses										
Operating Expenses	$123,222	$134,570	$136,710	$141,480	$146,200	$151,550	$158,180	$163,580	$169,260	$174,970
Net Revenue Funding of Capital Projects	6,949	7,157	33,433	48,915	61,002	82,762	127,656	145,702	166,940	185,724
Debt Service										
Existing Obligations	72,865	68,521	70,409	75,640	84,092	85,240	83,727	81,322	80,853	81,101
Series 2007 Bonds	-	13,593	9,595	9,595	9,595	12,610	12,609	12,609	12,608	12,612
2007 SRF Loans	-	480	964	969	975	982	988	995	1,002	1,009
Future Obligations	-	-	26,933	49,000	64,903	78,544	101,068	116,722	124,766	133,165
Total Debt Service	72,865	$82,593	$107,901	$135,204	$159,564	$177,375	$198,393	$211,648	$219,229	$227,886
Ending Cash Balance	$124,776	$177,470	$221,834	$257,494	$299,050	$343,945	$361,991	$383,228	$402,013	$418,759
Unrestricted Reserve[2]	26,374	37,159	38,455	37,169	48,843	60,206	55,138	64,813	72,712	85,542
Operating Reserve[3]	30,806	33,643	34,178	35,370	36,550	37,888	39,545	40,895	42,315	43,743
Debt Service Payment Account[4]	41,296	53,950	67,602	79,782	88,688	99,196	105,824	109,614	113,943	116,432
Debt Service Common Reserve[5]	26,300	52,718	81,600	105,173	124,970	146,655	161,484	167,905	173,043	173,043
Total Uses	$327,813	$401,790	$499,878	$583,093	$665,817	$755,632	$846,220	$904,158	$957,441	$1,007,339

Note: Numbers may not add up exactly, due to rounding.
[1] Net of bond-funded projects
[2] Equal to ending cash balance less operating and bond reserves
[3] Equal to 3 months of operating expenses
[4] Equal to 50 percent of following year's debt service obligation (which is due July 1)
[5] Series 2007 and future bonds assumed to include debt service reserve funded by bond proceeds

TABLE 5-6
Adopted and Planned Future System-wide Rate Increases

Adopted Rate Increase Effective Date[1]	Amount	Planned Rate Increase Effective Date	Amount
1-Jul-2007	25%	1-Jul-2012	12%
1-Jul-2008	18%	1-Jul-2013	12%
1-Jul-2009	18%	1-Jul-2014	10%
1-Jul-2010	15%	1-Jul-2015	6%
1-Jul-2011	15%	1-Jul-2016	6%

[1] Adopted June 06, 2007 until FY 2011 (Bill 37)

As shown in Table 5-5, the estimated beginning fund balance in FY 2008 is projected to be $100.1 million. As mentioned previously, the Department's long-term financial management policy is to maintain an operating reserve equal to 3 months of operating expenses. In addition, the Department's practice is to provide for a bond payment equal to half (50 percent) of the next year's debt obligations primarily due to the timing of its principal payments on July 1. In addition, a debt service common reserve is funded for revenue bonds. Ending cash balance in excess of the operating and common reserve and debt payment is shown in Table 5-5 as "unrestricted reserves." The forecast ending fund balances meet the Department's minimum targets in every year through FY 2017.

5.4.1.1 Requirements

Table 5-5 also presents the forecast financial requirements of the Sewer Fund. These include operating requirements, debt service, and net revenue funded CIP expenditures. Operating expenses include salaries, non-salary personnel costs (e.g., retirement and health benefits), current expenses (e.g., materials, supplies, and contractual services), administrative support, equipment, office space rental, and payments to other City agencies. The operating expense forecast reflects the Department's existing operating budget, assumed cost escalation factors, as well as adjustments for one-time expenses and operational efficiencies. The majority of expense categories are assumed to increase at a rate of 3 percent annually (consistent with actual performance between FY 2002 and FY 2005).

In FY 2008 debt service on all existing obligations is $72.9 million. Total debt service requirements are projected to increase to $227.8 million in FY 2017. The CIP was presented in detail in Section 4. The CIP will be funded predominantly through debt proceeds (reflected in the increased debt service shown in Table 5-5) and net operating revenues (ranging from $7 to $186 million).

5.4.2 Capital Financing

Table 5-7 shows the forecast resources and requirements for the CIP through FY 2017. Approximately 80 percent of the projected CIP expenditures over the forecast period are planned to be funded through debt proceeds. In addition to the Series 2007 Bonds, the Department anticipates that it will issue revenue bonds totaling about $1.86 billion over the 10-year period. The remaining 20 percent of funding for the 10-year forecast capital

expenditures will come from net operating revenues (which include service charge and system facilities charge revenues).

Table 5-8 presents the forecast debt service requirements for existing and planned future senior and junior lien obligations, and the Department's other debt obligations. Senior lien obligations total $34.4 million in FY 2008, and total (senior and junior) revenue bond obligations total almost $59.1 million. Future bond issues are planned for each year of the forecast period. Total revenue bond debt service is forecast to be almost $214.0 million in FY 2017.

5.4.3 Forecast Operating Results and Debt Service Coverage

Table 5-9 presents forecast operating results and debt service coverage for the forecast period. Gross revenues, including service and system facility charge revenues, interest income, and other charges are estimated to total $214.1 million in FY 2008, and are projected to increase to $605.3 million in FY 2017. When gross revenues are reduced by operating expenses and system facility charge revenues, net revenues are estimated to be $82.8 million in FY 2008, increasing to $419.8 million in FY 2017.

The legal senior lien debt service coverage requirement is 1.20 times the annual required debt service. As mentioned previously, the Department has established target coverage on senior lien bonds of 1.60. Based on the forecast net revenues and projected annual senior lien debt service requirements (including debt service on planned additional bonds), the projected senior lien coverage exceeds the established target coverage of 1.60 in each year of the forecast.

Target coverage on total senior and junior lien debt is 1.25. Based on the forecast net revenues and projected debt service requirements, the projected total coverage exceeds the established target coverage of 1.25 in each year of the forecast.

TABLE 5-7
CIP Cash Flow (in thousands of dollars)

	FY 2008[1]	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Total
Sources											
Beginning Cash Balance:	$185,991	$164,720	$110,242	$117,295	$141,310	$129,622	$135,744	$127,620	$137,013	$178,132	$1,427,689
Net Revenue Funded CIP	6,949	7,157	33,433	48,915	61,002	82,762	127,656	145,702	166,940	185,724	866,241
Federal Grants	-	-	-	-	-	-	-	-	-	-	-
Net Revenue Bond	150,000	300,000	330,000	270,000	230,000	250,000	170,000	75,000	60,000	20,000	1,855,000
Proceeds											
Net SRF Proceeds	66,160	33,484	12,500	15,000	24,000	10,000	10,000	10,000	10,000	10,000	201,144
Total Sources	$409,100	$505,362	$486,175	$451,210	$456,312	$472,384	$443,400	$358,323	$373,952	$393,857	$4,350,075
Uses											
CIP Expenditures[2]	$237,431	$387,685	$355,743	$295,845	$311,648	$320,543	$298,558	$202,884	$176,109	$186,052	$2,772,496
Other Expenditures	6,949	7,435	13,137	14,055	15,042	16,097	17,222	18,426	19,711	21,088	149,164
Ending Cash Balance	164,720	110,242	117,295	141,310	129,622	135,744	127,620	137,013	178,132	186,717	1,428,415
Total Uses	$409,100	$505,362	$486,175	$451,210	$456,312	$472,384	$443,400	$358,323	$373,952	$393,857	$4,350,075

Note: Numbers may not add up exactly, due to rounding.
[1] FY 2008 conformed to Bill 31 2007 CD2.
[2] Adjusted for inflation (7%).

TABLE 5-8
Projected Debt Service (in thousands of dollars)

	FY 2008[1]	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Senior Lien Revenue Bonds[2]										
Existing	$34,422	$31,296	$31,291	$34,418	$38,161	$38,160	$38,156	$38,161	$38,161	$38,155
Projected										
Series 2007 Revenue Bonds	-	13,593	9,595	9,595	9,595	12,610	12,609	12,609	12,608	12,612
Future	-	-	26,418	47,530	62,608	75,472	97,189	112,048	119,333	126,975
Total Senior Lien	$34,422	$44,889	$67,304	$91,543	$110,364	$126,241	$147,955	$162,818	$170,103	$177,742
Junior Lien Revenue Bonds										
Existing[3]	$24,705	$25,190	$27,360	$29,705	$34,513	$35,716	$35,729	$36,062	$35,708	$36,003
Projected										
Series 2007 Revenue Bonds	-	-	-	-	-	-	-	-	-	-
Future	-	-	-	-	-	-	-	-	-	-
Total Junior Lien	$24,705	$25,190	$27,360	$29,705	$34,513	$35,716	$35,729	$36,062	$35,708	$36,003
SRF Loans										
Existing	$12,938	$11,534	$11,498	$11,443	$11,393	$11,353	$9,832	$7,090	$6,975	$6,933
2007 SRF Loan	-	480	964	969	975	982	988	995	1,002	1,009
Projected	-	-	515	1,470	2,294	3,073	3,879	4,674	5,432	6,190
Total SRF	$12,938	$12,014	$12,977	$13,883	$14,663	$15,407	$14,700	$12,759	$13,409	$14,132
GO Bond Debt										
Existing	$800	$500	$260	$74	$24	$10	$10	$9	$9	$9
Projected	-	-	-	-	-	-	-	-	-	-
Total GO Bond	$800	$500	$260	$74	$24	$10	$10	$9	$9	$9
Total All Obligations	$72,865	$82,593	$107,901	$135,204	$159,564	$177,375	$198,393	$211,648	$219,229	$227,886
Total Revenue Bonds	$59,127	$70,079	$94,664	$121,248	$144,877	$161,958	$183,684	$198,880	$205,811	$213,745

Note: Numbers may not add up exactly, due to rounding.
[1] FY 2008 conformed to Bill 31 2007 CD2.
[2] Includes actual debt service for Senior Series 1998, 2001, 2005, and 2006 and assumes 5.5% interest rate for all future issues.
[3] Assumes a 4% interest rate for Junior Series 2003A-2 and B-2 Bonds (auction rate certificates).
GO = General Obligation SRF = State Revolving Fund

Source: Department of Environmental Services

TABLE 5-9
Projected Operating Results (in thousands of dollars)

	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Charges										
Average Monthly Sewer Service Charge[1]	$55.31	$65.24	$77.04	$88.55	$101.82	$114.06	$127.78	$140.59	$148.99	$157.92
Increase over Prior Year	25.00%	18.00%	18.00%	15.00%	15.00%	12.00%	12.00%	10.00%	6.00%	6.00%
Revenues										
Sewer Service Charges[2]	$197,280	$233,430	$276,210	$318,510	$367,290	$412,490	$463,250	$510,960	$543,090	$577,230
System Facility Charges	8,110	8,360	8,610	8,870	9,130	9,400	9,690	9,980	10,280	10,590
Interest Earnings	8,600	8,700	8,600	10,200	12,000	12,900	14,400	14,700	15,600	17,400
Other revenues	106	106	106	106	106	106	106	106	106	106
Gross Revenues	$214,096	$250,596	$293,526	$337,686	$388,526	$434,896	$487,446	$535,746	$569,076	$605,326
Less: Operating expenses[3]	123,222	134,570	136,710	141,480	146,200	151,550	158,180	163,580	169,260	174,970
Less: System Facility Charges	8,110	8,360	8,610	8,870	9,130	9,400	9,690	9,980	10,280	10,590
Net Revenues[4]	$82,764	$107,666	$148,206	$187,336	$233,196	$273,946	$319,576	$362,186	$389,536	$419,766
Annual Revenue Bond Debt Service:										
Senior Lien[5]	$34,422	$44,889	$67,304	$91,543	$110,364	$126,241	$147,955	$162,818	$170,103	$177,742
Subordinate Lien[6]	24,705	25,190	27,360	29,705	34,513	35,716	35,729	36,062	35,708	36,003
Total Revenue Bonds	$59,127	$70,079	$94,664	$121,248	$144,877	$161,958	$183,684	$198,880	$205,811	$213,745
Total Obligations[7]	$72,865	$82,593	$107,901	$135,204	$159,564	$177,375	$198,393	$211,648	$219,229	$227,886
Debt Service Coverage[8]										
Senior Lien	2.40	2.40	2.20	2.05	2.11	2.17	2.16	2.22	2.29	2.36
All Revenue Bonds	1.40	1.54	1.57	1.55	1.61	1.69	1.74	1.82	1.89	1.96
Total Obligations[9]	1.25	1.40	1.45	1.45	1.52	1.60	1.66	1.76	1.82	1.89

Note: Numbers may not add up exactly, due to rounding.
(1) Based on monthly usage of 7,000 gallons for residential customers.
(2) Sewer service charges are adopted to be increased by 25% in 2008, 18% in 2009, and 18% in 2010.
(3) Operating expense projections reflect both anticipated operational changes and beyond 2007, are inflated at 3% per year for expenses and 3% per year for personnel costs. In year 2008, additional electrical costs are included for required one year test of full operation of newly installed ultraviolet disinfection facility at the Sand Island W WTP. Operating expenses do not include debt service, depreciation, or cash expenditures on capital improvements.
(4) Per the Bond Resolution, WSFC revenues are excluded from net revenues.
(5) Includes actual debt service for Senior Series 1998, 2001, 2005, and 2006 and assumes 5.5% interest rate for all future issues.
(6) Assumes a 4% interest rate for Junior Series 2003A-2 and B-2 Bonds (auction rate certificates).
(7) Includes reimbursable General Obligation Bonds and State Revolving Fund Loans.
(8) Minimum debt service coverage requirements are: Sr. Lien Bonds -1.2x; Sr. and Jr. Lien Bonds-1.1x; Total Obligations-1.0x.
(9) Debt service coverage ratio based on revenues including system facility charges.

5.5 Rate Comparison

A comparison of typical monthly wastewater bills for residential and non-residential customers of various systems throughout the Hawaiian Islands and communities on the west coast of the United States is presented in Table 5-11.

This table indicates that, despite recent rate increases, the Department's current wastewater rates remain within the range of other service providers throughout western US communities.

A comparison of WSFCs is shown in Table 5-12. The Department's charges are among the highest of the other communities, reflecting in part the Department's policy to establish charges at a level sufficient to partially finance the costs of expanding the system, and the adopted annual fee adjustments designed to keep pace with inflation. As mentioned previously, growth is projected to be moderate during the forecast period, and revenue from WSFCs is excluded from net revenues for purposes of calculating debt service coverage.

TABLE 5-11
Wastewater Bill Comparisons

Service Provider[1]	Monthly Bill, Residential[2]	Monthly Bill, Non-Residential[3]
Comparison within the Islands		
Honolulu	$55.31	$155.50
Maui	46.65	112.75
Kauai	45.00	148.81
Hawaii	27.00	90.85
Comparison with Other West Coast Communities		
Anchorage, AK[4]	$29.70	$86.10
Eugene, OR[5]	34.43	109.40
City of Los Angeles, CA	30.50	101.93
Phoenix, AZ	17.23	56.44
Portland, OR	64.22	206.13
City of San Francisco, CA	69.90	300.80
Salem, OR	43.94	147.06
City of San Diego, CA	41.21	113.43
San Jose, CA	23.56	NA[6]
Seattle, WA	74.50	248.98

[1] Monthly wastewater bill figures are current for calendar year 2007 or FYE 2008.
[2] Comparison of residential wastewater bills is based on minimum meter size and average billable flows of 7,000 gallons per month. Bills are based on 10 hundred cubic feet (CCF), or 7,480 gallons, for the following cities: Los Angeles, Phoenix, Portland, San Francisco, Salem, San Diego, San Jose, and Seattle.
[3] Comparison of non-residential wastewater bills is based on a 2-inch meter and average billable flows of 25,000 gallons per month. Bills are based on 33.42 CCF for the following cities: Los Angeles, Phoenix, Portland, San Francisco, Salem, San Diego, San Jose, and Seattle.
[4] Commercial rates based on medium strength wastewater flows (276 - 450 mg/L of TSS).
[5] City of Eugene rate includes charges for regional service provided by the Metropolitan Wastewater Management Commission (MWMC). Commercial rates shown are for the medium-strength category of 800 mg/L combined BOD and TSS.
[6] Commercial rates for San Jose, CA are based on land use type rather than billable flows.

TABLE 5-12
Wastewater System Facility Charge Comparison

Service Provider[1]	System Facility Charge
Comparison within the Islands	
Honolulu	$4,923
Maui	1,600
Kauai	50
Hawaii	No fees
Comparison with Other West Coast Communities	
Anchorage, AK	$102
Eugene, OR[2]	1,586
City of Los Angeles, CA[2]	747
Phoenix, AZ	3,379
Portland, OR	3,258
City of San Francisco, CA	2,907
Salem, OR	2,682
City of San Diego, CA	4,124
San Jose, CA	1,227
Seattle, WA[3]	8,325

[1] Wastewater System Facility Charges are current for calendar year 2007 or FYE 2008. Amounts shown do not reflect any revenue from ad velorum taxes.
[2] Assumes a single family residential dwelling unit of 2,500 square feet of living space or 3 bedrooms.
[3] System Facility Charge for Metropolitan King County Wastewater Services.

5.6 Principal Assumptions

The financial forecast presented in this report represents a preliminary assessment by the Department of projected operating results for the period FY 2008 to FY 2017. Carollo Engineers has reviewed the forecast, its underlying analysis and assumptions, and finds it to be sound and feasible. The Department's revision of its financial forecast in future years could result in changes to its projected operating results.

In developing the financial forecast, the Department relied on certain assumptions related to future System conditions. There will usually be differences between assumed and actual conditions because events and circumstances frequently do not occur as expected, and those differences may be significant.

The principal assumptions used in the forecast are:

- Growth in ESDUs is assumed to occur at 1,600 per year through FY 2017, resulting in an average annual rate of growth of 0.3 percent.
- Metered water usage and wastewater discharges per account will remain at current levels.
- Capital expenditures are assumed to be required and incurred as reflected in Table 5-7 in order to meet consent decree and regulatory requirements, and accommodate modest population growth. The capital expenditures reflect an average inflation factor of 7.0 percent, and a 4-year spend-down schedule provided by the Department. Per the

City's adopted financial policies, the City Council will revise rates as needed in the future to accommodate any additional inflation.

- The estimates for secondary treatment project costs at the Honouliuli and Sand Island WWTPs (in the event that the City's applications for a renewed variance from secondary treatment are ultimately denied) are not included in the FY 1998 to FY 2017 CIP.
- Planned rate increases through FY 2017 (identified in Table 5-6) will be implemented on schedule and revised as necessary in the future to accommodate any additional capital improvement requirements associated with pending negotiations with regulatory agencies.
- Interest earnings on fund balances are assumed at 3.0 percent.
- Debt service reserve requirements will be funded from revenue bond proceeds.
- Debt service on all future revenue bond issues is based on an interest rate of 5.5 percent, 30-year term, and interest only payments for 5 years. All future revenue bonds issued to fund the CIP are assumed to be issued on parity with the Series 2007 Bonds.
- Bond issuance costs for the 2007 Bonds are estimated at 0.88% of the total par amount (issuance costs include Underwriter's discount, bond insurance and other costs of issuance.)
- Series 2007 Bonds assumes a cash funded bond reserve. It is assumed that the bond reserve requirements would be borrowed as part of the bond issuance for all future issues.
- Any future rate structure changes will conform to established system-wide revenue requirements.
- Operating expenditures are projected to total $123.2 million and $134.6 million in FY 2008 and FY 2009, respectively. Operation and maintenance costs will increase on average 3.0 percent per year, beginning in FY 2010. This forecast captures projected increase in treatment and disposal costs and non-salary personnel costs.
- Discharge characteristics from existing customers will not vary significantly from the values identified in the various wastewater facilities plans.
- No catastrophic events resulting from natural or human causes will occur that will have a substantial adverse impact on the integrity of the Department's facilities or the activities of customers served.

6.0 Conclusions

Carollo Engineers has completed a review of the Department's organization and management, and capital improvement and financial planning processes and programs. Discussions with staff and managers, as well as review of existing studies and reports cited in Appendix A of this report, were used to conduct this review.

Based on the studies and investigations as summarized in this report, the financial statements provided by the City's independent public accountant, and the considerations and assumptions set forth herein, Carollo offers the following conclusions:

- Department management has qualifications and experience commensurate with its responsibilities, and demonstrated commitment to the Department's vision and mission.
- The FY 2008 to FY 2012 CIP Projects implement WWTP modifications required to improve plant operations, accommodate planned growth, and assure compliance with current federal and state regulatory requirements.
- The CIP includes improvements to the System collection and pumping facilities to assure compliance with current federal and state regulatory requirements. These collection and pumping facilities constitute much of the need for capital facility improvements.
- Projects included in the Department's FY 2008 to FY 2017 CIP appropriations, which are estimated to cost $2.43 billion (adjusted for inflation), have been estimated based on known regulatory requirements and to conform to industry standard engineering practices. Project cost estimation procedures, which rely on consulting engineers' individual cost estimates, appear to be reasonable, and the construction schedules are achievable given implementation of effective construction management and program management. The existing construction climate, and worldwide demand for construction materials, is creating significant volatility in project costs thereby introducing uncertainty in construction cost estimates.
- The projects to be financed by proceeds of the Series 2007 Bonds are the highest priority projects required to meet consent decree requirements and protect public health. They are included in recently completed facility plans and updates thereto, which identify the need for projects through the year 2017.
- The Department's financial planning and rate practices are both comprehensive and conform to established industry standard approaches.
- The Department and City Council have demonstrated through historical financial planning, adopted rate increases, and System performance, a commitment to conforming to established financial policies, as well as effectiveness in balancing rate increases with the financial requirements of the System (including debt service coverage requirements).
- The principal assumptions used in the financial forecast are reasonable given recent experience and current economic conditions. Variations in actual inflationary or interest rates may cause subsequent adjustments to future financial plans.

- Projected operating results are consistent with the Department's established financial policies and debt service requirements, and will provide funding necessary to implement the CIP as currently envisioned. Specifically, the projected sewer service charges will provide revenue sufficient to:
  - Meet currently projected costs of operation, maintenance, and routine replacement of sewer system facilities.
  - Meet the existing debt service obligations and the projected requirements for the Series 2007 Bonds and future bond issues.
  - Provide sufficient revenue to pay the costs of the City Department's CIP through the end of the forecast period using WSFCs and other capital-related funding sources.
  - Meet reserve requirements of the Bond Resolution.
- The ability of the Department to meet its debt obligations is not dependent on projected growth in customer accounts nor are its obligations under the City's consent decrees.
- Monthly residential bills for wastewater service for a customer with metered water consumption of 10,000 gallons, and billed for 7,000 gallons of wastewater volume, are forecasted to increase from $55.31 to $101.82 between FY 2008 and FY 2012.
- The Department's debt and financial policies target debt service coverage in excess of 1.60x on senior revenue bonds and 1.25x on all revenue bonds. Based on the forecast rate increases, net revenues of the Department are projected to be sufficient to meet these targets and therefore all future debt service obligations, including a 1.20x parity coverage requirement on senior lien debt in accordance with the First Bond Resolution. The Department is also projected to meet the debt service coverage requirements of the Additional Bonds Test in connection with the Series 2007 Bonds. Accordingly, the Department has the capacity and the ability to issue parity lien revenue bonds under the First Bond Resolution to provide future CIP funding.

This report has been prepared at the request of UBS on behalf of the Department for appending to the Official Statements relating to the issuance of the Series 2007 Bonds. The conclusions, observations, and recommendations contained herein constitute only the opinions of Carollo Engineers. The various background documents, statements, and other information supplied by the Department have been relied upon as being accurate in the performance of these analyses. However, no assurances are given nor warranties implied by Carollo to the accuracy of such information. Carollo Engineers makes no certification and gives no assurances except as explicitly set forth in this report.

APPENDIX A

References

- Interviews with Department staff
- Draft Preliminary Official Statements for Series 2007 Bonds, July 2007
- Final Sewer I/I Plan, December 1999 (Fukunaga and Associates, Inc.)
- City and County of Honolulu Debt and Financial Policies of the Wastewater System Enterprise
- Wastewater System Facility Charges, Article 10 Sections 14-10.1-6, City and County of Honolulu
- Sewer Service Charge Schedules, Ordinance 05-018, City and County of Honolulu City and County of Honolulu, FY 2005 Department & Agency Reports - http/alwww/honolulu.govlcsdibudget/env.pdf
- City and County of Honolulu, FY 2008 Capital Program and Budget - http://www.honolulu.gov/budget/execbgt/fy2008_cip_vol2.pdf
- City and County of Honolulu, Department of Environmental Services FY 2007 Operating Budget - http://www.honolulu.gov/budget/execbgt/fy2008_oper_vol1.pdf
- FY 1998 to FY 2017 Capital Improvement Plan City and County of Honolulu, Department of Environmental Services
- Projected Series 2007 Bonds Annual Debt Service Schedules, provided by UBS Investment Bank (UBS)
- Notice of Proposed Action, U.S. EPA regarding requirements of the Clean Water Act pursuant to CWA section 301(h)
- Tentative Decision of the Regional Administrator Pursuant to 40 CFR, Part 125, Subpart G, U.S. EPA

APPENDIX B

Capital Improvement Projects Requiring Funding Through FY 2009

	ENCUMBERED VALUES	ORDINANCE APPROPRVED	AS SUBMITTED TO COUNCIL	PROPOSED	
PROJECT	**FY 1999 - FY 2006[1]**	**FY2007[2]**	**FY2008[3]**	**FY2009[4]**	**TOTALS**
Ahuimanu WWPTF Force Main			$401,000		$401,000
Aiea Heights Sewers, Section 4, ID				$500,000	$500,000
Aiea Relief Sewer				$18,405	$18,405
Airport Sewer Rehabilitation / Reconstruction	$251,000	$200,000		$2,690,000	$3,141,000
Ala Moana & Kapiolani Trunk Sewer Replac/Rehab	$16,700,000	$5,002,000	$662,000	$10,801,000	$33,165,000
Ala Moana Blvd Sewer Reconstruction	$497,000		$2,251,000		$2,748,000
Ala Moana Blvd/Auahi St. Sewer Rehabilitation	$251,000	$600,000		$9,000,000	$9,851,000
Ala Moana Park WWPS (NEW)			$502,000	$1,200,000	$1,702,000
Ala Moana WWPS Force Main	$1,300,000				$1,300,000
Ala Moana WWPS Force Main No. 1 Rehab/Improvements	$101,000	$401,000	$351,000		$853,000
Ala Moana WWPS Force Main No. 3	$1,001,000		$1,600,000		$2,601,000
Ala Moana WWPS Modification	$22,602,000		$2,775,000		$25,377,000
Ala Moana WWPS Upgrade, to 2020 Peak Flow			$501,000		$501,000
Ala Wai Trunk Sewer Relief	$850,000			$4,002,000	$4,852,000
Aliamanu No. 1 and 2 WWPS Force Mains			$301,000	$601,000	$902,000
Aliamanu No. 1 and 2 WWPS's Upgrade and Sewer Relief	$696,000		$2,131,000		$2,827,000
Alii Bluffs WWPS Upgrade				$200,000	$200,000
Alii Shores Sewer Rehabilitation	$255,000	$2,700,000	$500,000		$3,455,000
Beachwalk WWPS Force Main	$32,501,000	$19,000,000	$22,500,000		$74,001,000
Beachwalk WWPS (New)		$3,000,000		$36,201,000	$39,201,000
Central Oahu Facilities Plan	$425,000				$425,000
Central Oahu Facilities and Effluent Reuse		$1,100,000	$16,400,000	$5,600,000	$23,100,000
Chinatown Sewer Rehabilitation			$1,001,000		$1,001,000
Dowsett Highlands Relief Sewer				$131,000	$131,000

	ENCUMBERED VALUES	ORDINANCE APPROPRVED	AS SUBMITTED TO COUNCIL	PROPOSED	
PROJECT	**FY 1999 - FY 2006[1]**	**FY2007[2]**	**FY2008[3]**	**FY2009[4]**	**TOTALS**
Enchanted Lake WWPS Upgrade	$350,000		$2,700,000		$3,050,000
Environmental Services Admin and Lab Building				$801,000	$801,000
Ewa Beach Sewers, Section 4, ID			$750,000	$751,000	$1,501,000
Force Main Upgrade Program	$400,000				$400,000
Foster Village Sewer Rehabilitation/Reconstruction	$321,000	$500,000		$6,074,809	$6,895,809
Ft DeRussy WWPS Mod & Force Main Extension	$5,201,000	$2,201,000			$7,402,000
Ft. Weaver Road Manhole and Pipe Rehabilitation	$3,361,000				$3,361,000
Halona Street Relief Sewer, Kalihi	$2,289,000	$2,070,000			$4,359,000
Hart St. Wastewater Pump Station Alternative	$25,513,323	$5,340,000			$30,853,323
Holuku/Maeha Sewers, ID				$250,000	$250,000
Honouliuli WWTP Solids Handling System	$36,777,464	$22,003,000	$15,003,000		$73,783,464
Honouliuli WWTP Upgrade	$1,180,000	$10,100,000	$5,550,000	$5,300,000	$22,130,000
Houghtailing Street Area Sewer Rehab	$1,275,000	$7,561,000			$8,836,000
Ilimalia Loop/Mokapu Blvd. Reconstructed Sewer	$2,244,952	$600,000			$2,844,952
Iwilei/Kalihi Kai Sewer Rehabilitation/Reconstruction		$251,000	$500,000		$751,000
Kahala Avenue Sewer Rehabilitation	$75,000	$151,000		$1,500,000	$1,726,000
Kahala WWPS Modifications		$201,000			$201,000
Kahaluu Sewers, Section 3, ID				$10,490,000	$10,490,000
Kahanahou WWPS Force Main Reconstruction	$489,000				$489,000
Kahanu St, School St, and Umi St Relief Sewers	$791,000		$16,401,000		$17,192,000
Kailua Road Sewer Improvement District	$906,000	$985,000			$1,891,000
Kailua/Kaneohe Sewer Rehabilitation	$1,201,000	$7,701,000	$8,302,000		$17,204,000
Kailua-Kaneohe Sewer Manhole and Pipe Struct. Rehabilitation	$181,000	$200,000	$5,401,000		$5,782,000
Kailua WWTP Improvements			$25,003,000	$1,002,000	$26,005,000

	ENCUMBERED VALUES	ORDINANCE APPROPRVED	AS SUBMITTED TO COUNCIL	PROPOSED	
PROJECT	**FY 1999 - FY 2006[1]**	**FY2007[2]**	**FY2008[3]**	**FY2009[4]**	**TOTALS**
Kailua WWTP Solids Dewatering System		$151,000		$350,000	$501,000
Kailuana Place Sewer Rehabilitation	$1,018,579				$1,018,579
Kalaeloa Sewer System Upgrade	$201,000			$300,000	$501,000
Kalaheo Ave/Mokapu Rd/Aikahi Loop Sewer Rehab.	$250,000	$10,801,000			$11,051,000
Kalanianaole Hwy Sewer System Improvements	$2,010,000		$18,551,000		$20,561,000
Kalihi Valley Reconstructed Sewer	$1,400,000	$23,001,000			$24,401,000
Kalihi/Nuuanu Area Sewer Rehabilitation	$3,001,000	$21,202,000	$31,002,000	$41,001,000	$96,206,000
Kamehameha Hwy. Sewers, ID, Kaneohe	$61,000	$161,000		$750,000	$972,000
Kaneohe Bay Drive Trunk Sewer Reconstruction	$1,220,000	$4,101,000	$1,701,000		$7,022,000
Kaneohe Bay South WWPS #1 Improvements	$1,110,000	$1,000,000			$2,110,000
Kaneohe/Kailua Force Main #2	$501,000		$1,500,000		$2,001,000
Kaneohe Sewer Relief/Rehabilitation, C2 Projects			$601,000		$601,000
Kaneohe WWPTF Improvements and Equalization Facility		$701,000		$1,501,000	$2,202,000
Kapiolani Area Revised Sewer System	$1,499,000	$6,001,000	$3,001,000		$10,501,000
Kuliouou Sewer Rehab and WWPS Modification	$7,303,000	$2,700,000	$1,400,000		$11,403,000
Laie Sewers			$7,200,000		$7,200,000
Leeward Area Sewer and Manhole Rehabilitation	$101,000	$100,000		$1,110,000	$1,311,000
Lualualei WWPS Force Main			$703,000	$10,802,000	$11,505,000
Makaha Interceptor Sewer Rehabilitation/ Replacement	$201,000		$401,000		$602,000
Makau St. WWPS and Force Main				$101,000	$101,000
Manoa Sewer Relief/Rehabilitation			$401,000		$401,000
Moanalua Sewer Relief/ Rehabilitation			$101,000		$101,000
Mililani WWPTF Headworks Upgrade	$420,000	$100,000	$2,800,000		$3,320,000
Miscellaneous Noise/Odor Abatement Systems	$3,033,105				$3,033,105

	ENCUMBERED VALUES	ORDINANCE APPROPRVED	AS SUBMITTED TO COUNCIL	PROPOSED	
PROJECT	**FY 1999 - FY 2006[1]**	**FY2007[2]**	**FY2008[3]**	**FY2009[4]**	**TOTALS**
Moiliili-Kapahulu Sewer Rehabilitation/Reconstruction	$301,000	$250,000	$500,000	$5,450,000	$6,501,000
Nenue St Relief Sewer				$21,000	$21,000
Nimitz Hwy. Sewer Reconstruction at OCCC	$3,403,000				$3,403,000
Niu Valley WWPS Force Main Reconstruction	$10,000,000		$4,002,000		$14,002,000
North Shore Regional Wastewater Alternatives	$225,000				$225,000
Old Sewer Tunnel Rehabilitation			$101,000	$101,000	$202,000
Palolo Valley Sewer Rehabilitation			$1,001,000		$1,001,000
Renton Road Sewer and Manhole Rehabilitation	$1,567,000	$10,200,000			$11,767,000
Saint Louis Heights Sewer Rehabilitation	$10,279,174				$10,279,174
Sand Island Basin Misc. Sewer Rehabilitation - Ph 1	$3,980,000	$330,000			$4,310,000
Sand Island Basin Misc. Sewer Rehabilitation - Ph 2	$101,000				$101,000
Sand Island WWTP Construction Soil Management	$5,101,000	$1,150,000			$6,251,000
Sand Island WWTP Disinfection Fac. & Effluent Pump Sta.	$97,206,909	$15,200,000			$112,406,909
Sand Island WWTP Expansion, Primary Treat., 90 MGD	$159,050,000	$64,000,000	$66,000,000	$11,000,000	$300,050,000
Sand Island WWTP Outfall Study				$201,000	$201,000
Sand Island WWTP Unit 1, Ph. 2A, Headworks	$105,114,370				$105,114,370
Sewer Condition Assessment Program		$3,700,000	$3,000,000		$6,700,000
Sewer Facilities Rehabilitation	$1,500,000				$1,500,000
Sewer I/I Assessment & Rehabilitation Program			$3,500,000		$3,500,000
Sewer Manhole and Pipe Rehabilitation at Various Locations	$680,000	$7,511,000			$8,191,000
Sewer Relief Projects at Kahanahou Circle and Amelia Street	$849,000				$849,000
Sewer Mainline and Lateral Projects	$13,070,067	$5,001,000	$5,801,000	$7,301,000	$31,173,067
Uwalu WWPS Upgrade			$121,000		$121,000

	ENCUMBERED VALUES	ORDINANCE APPROPRVED	AS SUBMITTED TO COUNCIL	PROPOSED	
PROJECT	**FY 1999 - FY 2006[1]**	**FY2007[2]**	**FY2008[3]**	**FY2009[4]**	**TOTALS**
Wahiawa WWTP IPS Upgrade and Equalization Facility	$737,000	$3,501,000	$3,001,000		$7,239,000
Waialae Iki Sewer Rehabilitation		$3,000,000			$3,000,000
Waiau Area Sewer Rehabilitation/ Reconstruction		$401,000		$361,000	$762,000
Waikalua WWPS Upgrade			$161,000		$161,000
Waikapoki WWPS Upgrade	$121,000		$600,000		$721,000
Waikiki Sewer Rehabilitation/Reconstruction	$420,000		$151,000	$3,500,000	$4,071,000
Waimalu Sewer Rehabilitation/ Reconstruction - 7D01C	$2,929,000	$9,501,000	$21,100,000	$10,000,000	$43,530,000
Waimanalo Sewer Rehabilitation	$700,000	$3,000,000			$3,700,000
Waimanalo WWTP & Collection System Upgrade	$774,829				$774,829
Waipahu, Pearl City, Waimalu, Halawa Area Wastewater System Improvements		$751,000	$751,000	$2,000,000	$3,502,000
Waipahu Sewer Replacement/Relief	$222,975	$256,000	$35,000	$8,770,000	$9,283,975
Waipahu Street/Plantation Village Sewer Reconstruction	$1,941,000				$1,941,000
Waipio Wastewater Pump Station Upgrade		$201,000		$351,000	$552,000
Wanaao Road/Keolu Drive Reconstructed Sewer	$18,946,000	$15,200,000	$4,201,000		$38,347,000
Wastewater Facilities Replacement Reserve	$6,868,826	$3,000,000	$3,000,000	$5,000,000	$17,868,826
Wastewater Planning and Programming, ENV OAS (P)	$199,560				$199,560
Wastewater Program Management		$2,500,000	$4,500,000	$3,500,000	$10,500,000
Wastewater Treatment Plant, Pump Station, and Force Main Projects	$8,600,943	$13,001,000	$16,401,000	$13,001,000	$51,003,943
Wilhelmina Rise Sewer Rehabilitation	$21,961,000				$21,961,000
TOTALS =	$660,165,076	$323,540,000	$338,775,000	$223,585,214	$1,546,065,290

[1] Amounts shown for FY 1999 through FY 2006 are the funds encumbered to the projects in those years, and not the current contract balances, the difference being expenditures already made.
[2] FY 2007 amounts are current year appropriations.
[3] Amounts shown in FY 2008 are budgeted appropriations.
[4] Amounts shown in FY 2009 are budgeted appropriations.
D = Improvement District
IPS = Influent Pump Station
WWPS = Wastewater Pump Station
WWTP = Wastewater Treatment Plant
WWPTF = Wastewater Pretreatment Facility

APPENDIX C

Adopted Rate Schedule

TABLE C-1
Current and Adopted Future Residential Sewer Service Charges

Rate Class/Component	Effective July 1 of:	Rate ($)
Single-family and duplex dwelling served by city water system per dwelling unit per month		
1. Monthly base charge	2007	42.71
	2008	50.40
	2009	59.47
	2010	68.39
2. Monthly usage charge -First 2,000 gallons of metered water consumed.		No charge
3. Charge per 1,000 gallons of metered water consumed over 2,000 gallons, the water consumed reduced by the water irrigation factor of 18 percent; provided that residential users who install and maintain a water meter for submetering non-sewer water shall not have the water consumed reduced the water irrigation factor.	2007	1.80
	2008	2.12
	2009	2.51
	2010	2.88
Single-family and duplex dwellings not served by city water system per dwelling unit per month		
	2007	52.58
	2008	62.04
	2009	73.21
	2010	84.19
	2010	84.19
Multiple-unit dwellings served by City water system per dwelling unit per month		
1. Monthly base charge	2007	29.91
	2008	35.30
	2009	41.65
	2010	47.90
2. Monthly usage charge - First 2,000 gallons of metered water consumed.		No charge
3. Charge per 1,000 gallons of metered water consumed over 2,000 gallons, the water consumed reduced by the water irrigation factor of 18 percent; provided that residential users who install and maintain a water meter for submetering non-sewer water shall not have the water consumed reduced the water irrigation factor.	2007	1.80
	2008	2.12
	2009	2.51
	2010	2.88
Multiple-unit dwellings not served by City water system per dwelling unit per month		
	2007	40.48
	2008	47.76
	2009	56.36
	2010	64.81

TABLE C-2
Current and Adopted Future Non-Residential Sewer Service Charges

Rate Class/Component	Effective July 1 of:	Rate ($)
Domestic Strength Wastewater		
1. Metered Water Usage:		
a. If 9,000 gallons or less per month:		
(1) Monthly base charge:	2007	38.41
	2008	45.33
	2009	53.49
	2010	61.51
(2) Charge per 1,000 gallons:	2007	1.95
	2008	2.31
	2009	2.72
	2010	3.13
b. If more than 9,000 gallons per month, charge per 1,000 gallons	2007	6.22
	2008	7.34
	2009	8.66
	2010	9.96
2. Metered Wastewater Discharge:		
a. If 7,000 gallons or less per month:		
(1) Monthly base charge:	2007	38.41
	2008	45.33
	2009	53.49
	2010	61.51
(2) Charge per 1,000 gallons:	2007	2.50
	2008	2.95
	2009	3.48
	2010	4.00
b. If more than 7,000 gallons per month, charge per 1,000 gallons	2007	7.90
	2008	9.32
	2009	11.00
	2010	12.65
Extra Strength Wastewater		
1. Charge per 1,000 gallons of water usage: use the following formula:	2007	6.22
	2008	7.34
	2009	8.66
0.857 + 0.143(SSm/200) multiplied by applicable rate	2010	9.96
2 Charge per 1,000 gallons of wastewater discharge, use the following formula:	2007	7.90
	2008	9.32
	2009	11.00
0.857 + 0.143(SSm/200) multiplied by applicable rate	2010	12.65

Appendix B

Summary of Certain Provisions of the Bond Resolution

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Appendix B

Summary of Certain Provisions of the Bond Resolution

The Bond Resolution contains terms and conditions relating to the issuance of Bonds, including various covenants and security provisions, certain of which are summarized below. This summary does not purport to be comprehensive or definitive and is subject to all of the provisions of the Bond Resolution, to which reference is hereby made. Copies of the Bond Resolution are available from the City and County.

Certain Definitions

Certain definitions contained in the Bond Resolution are summarized below. This summary does not purport to be comprehensive or definitive, and is subject to all provisions of the Bond Resolution, to which reference is hereby made. Copies of the Bond Resolution are available from the Department of Budget and Fiscal Services or the Department of Environmental Services of the City and County.

"Accrued Debt Service" means as of any date of computation and with respect to the Bonds of any Series, an amount equal to the sum of: (i) interest on such Bonds accrued and unpaid and to accrue to the end of the then current calendar month, and (ii) principal, Sinking Fund Installment and redemption premium which are due and unpaid for such Bonds and that portion of the principal, unsatisfied balance of any Sinking Fund Installment (as determined in accordance with the Bond Resolution) and redemption premium for such Bonds next due which would have accrued to the end of such calendar month if deemed to accrue monthly from a date one year prior to its due date.

"Act" means Chapter 49, Hawaii Revised Statutes, and all laws amendatory or supplemental thereto.

"Aggregate Debt Service" means, for any period and as of any date of computation, the sum of the amounts of Debt Service for such period with respect to all Series of Bonds.

"Assumed Long-Term Fixed Rate" means, with respect to Variable Rate Bonds, (i) a numerical rate of interest that such Bonds would have borne if issued as Fixed Rate Bonds with the same maturity and taking into account Sinking Fund Installments; or (ii) if the City and County has in connection with such Variable Rate Bonds entered into an Interest Rate Exchange Agreement which provides that the City and County is to pay to another person an amount determined based upon a fixed rate of interest on a notional amount and which requires the Counterparty to pay to the City and County an amount equal to the amount by which interest on the notional amount stated therein at the rate borne by such Variable Rate Bonds exceeds the interest payable on such notional amount at a rate stated therein, the fixed rate or other rate of interest set forth in or determined in accordance with such agreement. With respect to the Bonds described in clause (i) of the preceding sentence, an Authorized Officer is to certify or cause the Remarketing Agent for such Series of Variable Rate Bonds or other qualified person to certify such Assumed Long-Term Fixed Rate on the issue date of such Bonds, taking into account such market factors as such Authorized Officer or such Remarketing Agent or such qualified person deems necessary or appropriate.

"Authorized Officer" means the Director of Budget and Fiscal Services, any Deputy Director of Budget and Fiscal Services, the Director of Environmental Services or any other officer of the City and County designated by resolution of the City Council.

"Bond Anticipation Notes" means bond anticipation notes which the City and County may issue for purposes of the Wastewater System if the requirements set forth in the Bond Resolution for such issuance are satisfied.

"Bond Counsel" means an attorney or a firm of attorneys of nationally recognized standing in the field of law relating to municipal bonds selected by the City and County.

"Bondholder" or *"holder of a Bond"* or *"Holder"* means the registered owner of any Bond which at the time is registered other than to bearer, or such holders' duly authorized attorney in fact, representative or assigns.

"Capital Appreciation Bond" means any Bond as to which interest is compounded on each Valuation Date therefor and is payable only at the maturity or prior redemption thereof.

"City Charter" means the 1973 Revised Charter of the City and County of Honolulu (1994 Edition), as the same may be amended from time to time.

"City Code" means the Revised Ordinances of Honolulu 1990, as the same may be amended from time to time.

"City Council" mean the City Council of the City and County.

"Code" means the Internal Revenue Code of 1986, as amended, and any successor statutes thereto, and any applicable regulations thereunder.

"Common Reserve Account Requirement" means as of any date of computation, an amount equal to the greatest amount of Aggregate Debt Service for the then current or any future Fiscal Year on all Outstanding Bonds entitled to the benefit of the Common Reserve Account; provided however, that if upon issuance of a Series of Bonds entitled to the benefit of the Common Reserve Account, such amount would require moneys to be credited to the Common Reserve Account from such Bond proceeds in an amount in excess of the maximum amount permitted under the Code, the Common Reserve Account Requirement will mean an amount equal to the sum of the Common Reserve Account Requirement immediately preceding issuance of such Bonds and the maximum amount permitted under the Code to be deposited therein from the proceeds of such Bonds, as certified by an Authorized Officer; provided further, however, that for purposes of this definition, Aggregate Debt Service is to be computed with respect to each Variable Rate Bond entitled to the benefit of the Common Reserve Account by using the Assumed Long-Term Fixed Rate applicable thereto.

"Consulting Engineer" means the engineer or engineering firm or corporation retained from time to time pursuant to the Bond Resolution to perform the acts and carry out the duties provided for such Consulting Engineer in the Bond Resolution.

*"Costs "*means all costs of any Improvement and include, but are not be limited to, all costs and estimated costs of the issuance of the Bonds, all architectural, engineering, inspection, financial and legal expenses, the cost of causing the payment of the principal or interest or both of the Bonds to be insured or guaranteed, the initial cost of any Support Facility or Interest Rate Exchange Agreement obtained or permitted by the Act, and interest which it is estimated will accrue during the construction of any Improvements and for six (6) months thereafter.

"Debt Service" means, as of any particular date of computation, with respect to any Bonds and with respect to any period, the aggregate of the amounts to be paid or set aside in such period for the payment (or retirement) of the principal and Redemption Price (if any) of, and interest on, such Bonds; provided, however, that the term "Debt Service" does not include interest on Bonds to the extent it is to be paid from amounts on credit to a Series Improvement Interest Subaccount, amounts on credit to the Debt Service Account or any other provisions made for the payment of interest.

"Department" means the Department of Environmental Services of the City and County as established by the City Charter, or the successor thereto.

"Depositary" means any bank, national banking association or trust company selected and appointed by an Authorized Officer in accordance with the Bond Resolution as a depositary of moneys and Investment Securities held under the provisions of the Bond Resolution.

"Depository" means The Depository Trust Company, New York, New York, or its nominee, or any other person, firm, association or corporation designated in the Series Resolution authorizing a Series of Bonds or a Series Certificate relating to such Series of Bonds to serve as securities depository for the Bonds of such Series.

"Director of Budget and Fiscal Services" means the Director of Budget and Fiscal Services of the City and County appointed pursuant to and having the powers as set forth in the Act and the City Charter, or any successor.

"Director of Environmental Services" means the Director of the Department of Environmental Services of the City and County appointed pursuant to and having the powers as set forth in the Act and the City Charter, or any successor.

"Exempt Obligation" means an obligation of any state or territory of the United States of America, any political subdivision of any state or territory of the United States of America, or any agency, authority, public benefit corporation or instrumentality of such state, territory or political subdivision, the interest on which is excludable from gross income under Section 103 of the Code, and which; at the time an investment therein is made or such obligation is deposited in any fund or account under the Bond Resolution, is rated, without regard to qualification of such rating by symbols such as "+" or "-" or numerical notation, "Aa" or better by Moody's and "AA" or better by S&P, or, if such obligation is not rated by Moody's or S&P, or, if such obligation is rated by neither Moody's nor S&P, has been assigned a comparable rating by another nationally recognized rating service, but in no event rated lower than the lowest rating on Outstanding Bonds assigned by Moody's or S&P.

"Fiscal Year" means the twelve month period established by the City and County or provided by law from time to time as its fiscal year, and which, as of the date of adoption of the Bond Resolution, is the 12-month period commencing on July 1 of any year and ending on June 30 of the following year.

"Government Obligation" means a direct obligation of the United States of America, an obligation the principal of, and interest on, which are guaranteed by the United States of America, provided, that the full faith and credit of the United States of America is pledged to any such direct obligation or guarantee.

"Improvements" means the acquisition, purchase, construction, reconstruction, improvement, betterment or extension of the Wastewater System.

"Interest Rate Exchange Agreement" means an agreement entered into by the City and County relating to Bonds of one or more Series which provides that during the term of such agreement the City and County is to pay to the Counterparty an amount based on the interest accruing at a fixed or variable rate per annum on a notional amount and that the Counterparty is to pay to the City and County either (i) an amount based on the interest accruing on such notional amount at a fixed, capped or variable rate per annum, in each case computed according to a formula set forth in such agreement, or that one will pay to the other any net amount due under such agreement, or (ii) an amount based on the amount by which the rate per annum at which such Bonds bear interest exceeds a rate per annum stated in such agreement.

"Investment Agreement" means an agreement for the investment of moneys with a Qualified Financial Institution.

"Investment Securities" means any of the following, if and to the extent that the same are legal for the investment of funds of the Department:

(i) Government Obligations;

(ii) Investment Agreements;

(iii) Direct obligations and fully guaranteed certificates of beneficial interest of the Export-Import Bank of the United States; consolidated debt obligations and letter of credit-backed issues of the Federal Home Loan Banks; participation certificates and senior debt obligations of the Federal Home Loan Mortgage Corporation ("FHLMCs"); debentures of the Federal Housing Administration; mortgage-backed securities (except stripped mortgage securities which are valued greater than par on the portion of unpaid principal) and senior debt obligations of Fannie Mae ("FNMAs"); participation certificates of the General Services Administration; guaranteed mortgage-backed securities and guaranteed participation certificates of the Government National

Mortgage Association ("GNMA's"); guaranteed participation certificates and guaranteed pool certificates of the Small Business Administration; debt obligations and letter of credit-backed issues of the Student Loan Marketing Association; local authority bonds of the U.S. Department of Housing & Urban Development; guaranteed Title XI financings of the U.S. Maritime Administration; guaranteed transit bonds of the Washington Metropolitan Area Transit Authority; Resolution Funding Corporation securities.

(iv) direct obligations of any state or territory of the United States of America or any subdivision or agency thereof whose unsecured, uninsured and unguaranteed general obligation debt is rated, at the time of purchase, "Aa" or better by Moody's and "AA" or better by S&P, or any obligation fully and unconditionally guaranteed by any state, subdivision or agency whose unsecured, uninsured and unguaranteed general obligation debt is rated, at the time of purchase, "Aa" or better by Moody's and "AA" or better by S&P;

(v) commercial paper (having original maturities of not more than 270 days) rated, at the time of purchase, "P-1" by Moody's and "A-1" or better by S&P;

(vi) Federal funds, unsecured certificates of deposit, time deposits or bankers acceptances (in each case having maturities of not more than 365 days) of any domestic bank including a branch office of a foreign bank which branch office is located in the United States, provided legal opinions are received to the effect that full and timely payment of such deposit or similar obligation is enforceable against the principal office or any branch of such bank, which, at the time of purchase, has a short-term "Bank Deposit" rating of "P-1" by Moody's and a "Short-Term CD" rating of "A-1" or better by S&P.

(vii) deposits of any bank or savings and loan association which has combined capital, surplus and undivided profits of not less than $3 million, provided such deposits are continuously and fully insured by the Bank Insurance Fund or the Savings Association Insurance Fund of the Federal Deposit Insurance Corporation ("FDIC");

(viii) investments in money-market funds rated "Aaa" by Moody's, and "AAAm" or "AAAm-G" by S&P;

(ix) repurchase agreements collateralized by Government Obligations, GNMAs, FNMAs or FHLMCs with any registered broker/dealer subject to the Securities Investors' Protection Corporation jurisdiction or any commercial bank insured by the FDIC, if such broker/dealer or bank has an uninsured, unsecured and unguaranteed obligation rated in the top two rating tiers by Moody's, and "AA-1" or "AA-" or better by S&P, provided:

(a) a master repurchase agreement or specific written repurchase agreement governs the transaction; and

(b) the securities are held free and clear of any lien by the Depositary or an independent third party acting solely as agent ("Agent") for the Depositary, and such third party is (i) a Federal Reserve Bank, or (ii) a bank which is a member of the Federal Deposit Insurance Corporation and which has combined capital, surplus and undivided profits of not less than $50 million, and the Depositary has received written confirmation from such third party that it holds such securities, free and clear of any lien, as agent for the Depositary; and

(c) a perfected first security interest under the Uniform Commercial Code, or book entry procedures prescribed at 31 C.F.R. 306.1 et seq. or 31 C.F.R. 350.0 et seq. in such securities is created for the benefit of the Depositary; and

(d) the repurchase agreement has a term of 3 years or less, and the Depositary or the Agent will value the collateral securities no less frequently than weekly and will liquidate the collateral securities if any deficiency in the required collateral percentage is not restored within two business days of such valuation; and

(e) the fair market value of the securities in relation to the amount of the repurchase obligation, including principal and interest, is equal to at least 100%;

(x) investments in any mutual fund whose portfolio is limited to Government Obligations and the investments described in clause (ii) of Investment Securities; and

(xi) student loan resource securities including student loan auction rate securities, student loan asset-backed notes, student loan program revenue notes and bonds, and securities issued pursuant to Rule 144A of the Securities Act of 1933, including any private placement issues, issued with either bond insurance or overcollateralization guaranteed by the United States Department of Education, provided all insurers maintain an "Aaa" by Moody's, "AAA" by S&P or equivalent rating by other rating agencies.

"LIBOR" means the offered rate for deposits in U.S. dollars for a one-month period which appears on the Telerate Page 3750 at approximately 11:00 a.m., London time, on such date, or if such date is not a date on which dealings in U.S. dollars are transacted in the London interbank market, then on the next preceding day on which such dealings were transacted in such market.

"Moody's" means Moody's Investors Service, Inc., its successors and their assigns, and, if such corporation for any reason no longer performs the functions of a securities rating agency, "Moody's" is deemed to refer to any other nationally recognized rating agency, if any, designated by the Director of Budget and Fiscal Services.

"Net Revenue Requirement" means with respect to any Fiscal Year or any period, an amount equal to the greater of (i) the sum of (a) the Aggregate Debt Service in such Fiscal Year or such period, and (b) the Required Deposits for such Fiscal Year or such period; or (ii) 1.20 times the Aggregate Debt Service in such Fiscal Year or such period, plus 1.00 times the aggregate Support Facility Reimbursement Obligations outstanding as of the end of such Fiscal Year or such period.

"Net Revenues" means, with respect to any period; the Revenues during such period less amounts required to pay Operation and Maintenance Expenses.

"Operation and Maintenance Expenses" means the costs and expenses of operating and maintaining the Wastewater System, including, without limiting the generality of the foregoing, (i) all expenses includable in the operation and maintenance expense accounts of the Department relating to the Wastewater System according to generally accepted accounting principles, exclusive of depreciation and amortization of property values or losses, (ii) to the extent not included in the preceding clause (i) or paid from Bond proceeds or otherwise, the Department's share of the costs and expenses of operating and maintaining any plants and properties jointly owned with others, and (iii) the amounts, if any, payable to the United States Treasury Department pursuant to Section 148 of the Code.

"Opinion of Counsel" means with respect to the City and County a written opinion of counsel selected by the Director of Budget and Fiscal Services who is not an employee of the City and County, and which, with respect to Federal income tax law and securities law relating to obligations issued by state and local governmental units, is Bond Counsel. Any Opinion of Counsel may be based (insofar as it relates to factual matters or information which is in the possession of the City and County) upon a written certificate of the City and County unless such counsel knows, or in the exercise of reasonable care should have known, that such written certificate is erroneous.

"Outstanding" or *"outstanding"* when used with reference to Bonds means, as of any date, Bonds theretofore or thereupon issued pursuant to the Bond Resolution, except: (a) any Bonds canceled by a Paying Agent or paid at or prior to such date; (b) Bonds in lieu of or in substitution for which other Bonds have been delivered

pursuant to the Bond Resolution; (c) Bonds deemed to be no longer outstanding under the Bond Resolution as provided in the Bond Resolution and (d) Option Bonds tendered or deemed tendered in accordance with the provisions of the Series Resolution or the Series Certificate relating to such Bonds.

"Parity Support Facility Reimbursement Obligation" means the obligation of the City and County described in the Bond Resolution to directly reimburse the Support Facility Provider of any Support Facility for amounts paid by such Support Facility Provider under such Support Facility or a Counterparty under an Interest Rate Exchange Agreement for amounts paid thereunder, on a parity with the obligation of the City and County to pay the Bonds, whether or not such obligation to reimburse is evidenced by a promissory note or other similar instrument.

"Paying Agent" means, as to Bonds of any particular Series, the Director of Budget and Fiscal Services or the bank or trust company designated for the payment of the principal and Redemption Price, if any of, and interest on, the Bonds of such Series in the Series Resolution authorizing the issuance of such Series or the Series Certificate relating to such Series.

"Record Date" means, with respect to any Series of Bonds, (i) with respect to the payment of interest, the fifteenth (15th) day (whether or not a Business Day) of the month preceding an interest payment date; (ii) with respect to notice of redemption, the 45th day (whether or not a Business Day) preceding the date of redemption; or (iii) such other day as may be provided in the Series Resolution authorizing the issuance of such Series or the Series Certificate relating to such Series.

"Refunded Municipal Obligations" means Exempt Obligations which are rated in the highest rating category by Moody's and S&P and provision for the payment of the principal of and interest on which has been made by an irrevocable deposit with a trustee or escrow agent of Governmental Obligations, which are held by a bank or trust company organized and existing under the laws of the United States of America or any state, the District of Columbia or possession thereof in the capacity as custodian, the maturing principal of and interest on which Government Obligations will be sufficient to pay, when due, the principal of and interest on such Exempt Obligations.

"Reimbursable Obligations" means reimbursable general obligation bonds issued and delivered or to be hereafter issued and delivered by the City and County to finance certain costs related to the Wastewater System, the debt service on which the Department is required by State law to reimburse the City and County's General Fund.

"Reimbursable Obligation Requirement" means, with respect to any period of time, the amount required to be credited to the Reimbursable Obligation Account pursuant to the ordinances and resolutions of the City Council authorizing the issuance and delivery of Reimbursable Obligations.

"Required Deposits" means, for any period, amounts required: (i) to be paid into the Common Reserve Account, each Separate Reserve Account, the Subordinate Obligation Account and Reimbursable Obligation Account; and (ii) to pay Support Facility Reimbursement Obligations.

"Revenue Bond Index" means the 30 year Revenue Bond Index of The Bond Buyer, a publication in New York, New York, or any successor publication maintaining such Index or in the event The Bond Buyer or any successor publication does not maintain such Index, an equivalent index with the same or similar components as the Revenue Bond Index.

"Revenues" means the moneys, including any moneys collected from the City and County or any department thereof other than the Department, derived by the Department from the rates, rentals, fees and charges prescribed for the use and services of, and the facilities and commodities furnished by, the Wastewater System, including, without limiting the generality of the foregoing, (i) all income, receipts, profits, and other moneys derived from the furnishing or supplying of the services, facilities and commodities through the Wastewater System; (ii) all income from investments of moneys held under the Bond Resolution including investment income on the Improvement Account but not including any earnings on the Rebate Account, the Subordinate Obligation Account or the Reimbursable Obligation Account; (iii) all payments made by Counterparties pursuant to Interest Rate Exchange Agreements; and (iv) moneys and Investment Securities transferred from the Rate Stabilization Account

to the Sewer Fund within 90 days following the end of a Fiscal Year. "Revenues" will not include, (i) deposits subject to refund until such deposits have become the property of the City and County; (ii) contributions in-aid-of construction and assessment, impact and other similar fees imposed and collected by the City and County which are targeted to pay the Costs of specific Improvements; (iii) income, fees, charges, receipts, profits or other moneys derived by the Department from the ownership or operation of any separate utility system; (iv) any gifts, grants, donations or other moneys received by the City and County for purposes of the Wastewater System from any State or Federal agency or other person if such gifts, grants, donations or other moneys are the subject of any limitation or reservation: (a) imposed by the donor or grantor; or (b) imposed by law or administrative regulation to which the donor or grantor is subject, limiting the application of such funds; (v) amounts retained in the Sewer Fund for working capital and operating reserves pursuant to the Bond Resolution; (vi) moneys and Investment Securities transferred from the Sewer Fund to the Rate Stabilization Account within 90 days following the end of a Fiscal Year; or (vii) Wastewater System Facility Charges:

"S&P" means Standard & Poor's Rating Services, a division of The McGraw-Hill Companies, its successors and their assigns, and, if such corporation for any reason no longer performs the functions of a securities rating agency, S&P is deemed to refer to any other nationally recognized rating agency designated by the Director of Budget and Fiscal Services.

"Serial Bonds" means Bonds which mature serially and which are not Term Bonds.

"Series," "Series of Bonds" or *"Bonds of a Series"* means all Bonds designated as being of the same series issued and delivered on original issuance in a simultaneous transaction, and any Bonds thereafter delivered in lieu thereof or in substitution therefor pursuant to the Bond Resolution.

"Sinking Fund Installment" means an amount so designated which is established pursuant to the Bond Resolution. The portion of any such Sinking Fund Installment remaining after the deduction of any such amounts credited pursuant to the Bond Resolution toward the same (or the original amount of any such Sinking Fund Installment if no such amounts have been credited toward the same) will constitute the unsatisfied balance of such Sinking Fund Installment for the purpose of calculation of Sinking Fund Installments due on a future date.

"Subordinate Obligations" means any bonds, notes or other evidences of indebtedness of the City and County payable from the Net Revenues, other than the Bonds and the Reimbursable Obligations, issued in compliance with the provisions of the Bond Resolution.

"Subordinate Obligation Requirement" means with respect to any period of time, the amount required to be deposited in the Subordinate Obligation Account pursuant to the Bond Resolution, indenture or other instruments of the City and County adopted by or entered into by the City and County in accordance with the Bond Resolution and providing for all payments with respect to Subordinate Obligations.

"Supplemental Resolution" means any resolution adopted by the City Council and becoming effective pursuant to and in compliance with the provisions of the Bond Resolution which amends or supplements the provisions of the Bond Resolution, any Series Resolution or any other Supplemental Resolution.

"Support Facility" means an irrevocable letter of credit, surety bond, loan agreement, standby purchase agreement or other agreement, facility or insurance or guaranty arrangement issued or extended by one or more Support Facility Providers, pursuant to which the City and County is entitled to obtain moneys to pay the principal or Redemption Price of Bonds due in accordance with their terms or tendered for purchase or redemption, plus accrued interest thereon to the date of payment, purchase or redemption thereof in accordance with the Bond Resolution and with the Series Resolution authorizing such Bonds or a Series Certificate relating to such Bonds, whether or not the City and County is in default.

"Support Facility Provider" means a bank, a trust company, a national banking association, an organization subject to registration with the Board of Governors of the Federal Reserve System under the Bank Holding Company Act of 1956 or any successor provisions of law, a federal branch pursuant to the International Banking Act of 1978 or any successor provisions of law, a savings bank, a savings and loan association, an

insurance company or association chartered or organized under the laws of any state of the United States of America, the Government National Mortgage Association or any successor thereto, the Federal National Mortgage Association or any successor thereto, or any other federal agency or instrumentality approved by the City and County or a Counterparty.

"Support Facility Reimbursement Obligation" means the obligation of the City and County described in the Bond Resolution to directly reimburse the Support Facility Provider of a Support Facility for amounts paid thereunder or a Counterparty under an Interest Rate Exchange Agreement for amounts paid thereunder, whether or not such obligation to reimburse is evidenced by a promissory note or other similar instrument.

"Tax-exempt Bonds" means Bonds the interest on which is intended by the City and County to be excluded from gross income of the holders of such Bonds for federal income taxation purposes pursuant to the Code.

"Term Bonds" means Bonds, the retirement or the redemption of which is to be provided for from moneys credited to the Debt Service Account pursuant to the Bond Resolution.

"Variable Rate Bonds" means any Bonds issued bearing interest at a rate per annum subject to adjustment from time to time based on the terms thereof, based upon an index, or otherwise calculated in a manner which precludes the actual rate for the entire term of such Bonds from being ascertainable in advance as provided for in the Bond Resolution.

"Wastewater System" means all plants and properties, both real and personal and tangible and intangible, now or hereafter existing, under the management, control or jurisdiction of the Department, used for, useful in, or pertaining to the collection, pretreatment, advanced primary treatment, primary treatment, secondary treatment, tertiary treatment, purification, conveyance, storage, drainage, discharge and disposal of sewage, water, wastewater, stormwater, influent, effluent, or other liquids or suspended solids, or incidental or necessary to the preservation of the City and County's or the Department's wastewater conveyance facilities, wastewater treatment plants, wastewater disposal facilities, storm drains and sewers, sewage pump stations, sewage treatment plants, sewers, interceptors, outfall and other related facilities and plants, and the integrity thereof. The terms used in the preceding sentence have the meanings as ascribed to them in the City Code. Without limiting the generality of the foregoing, the Wastewater System includes: (1) the existing plants and properties comprising the Wastewater System under the management, control or jurisdiction of the Department, as of the date of adoption of the Bond Resolution; and (2) all Improvements thereafter constructed or otherwise acquired, purchased or annexed.

"Wastewater System Facility Charge" has the meaning specified in the City Code.

Pledge Made in the Bond Resolution

The Bonds are payable solely from and secured by the funds pledged therefor under the Bond Resolution. The City and County has pledged as security for the payment of the principal of, Redemption Price, if any, and interest on the Bonds in accordance with their terms and the provisions of the Bond Resolution, subject only to the provisions of the Bond Resolution permitting the application thereof for the purposes and on the terms and conditions set forth in the Bond Resolution: (i) the proceeds of sale of the Bonds pending application thereof in accordance with the provisions of the Bond Resolution or of a Series Resolution or a Series Certificate; (ii) the Net Revenues; and (iii) all Funds and Accounts held under the Bond Resolution other than the Rebate Account, the Subordinate Obligation Account, the Reimbursable Obligation Account, with respect to any Series of Bonds not entitled to the benefit of a Separate Series Reserve Account, such Separate Series Reserve Account, and with respect to any Series of Bonds not entitled to the benefit of the Common Reserve Account, the Common Reserve Account, including the investments, if any, in such Funds and Accounts; and the Bondholders have a lien on, and a security interest in, such proceeds, Net Revenues and Funds and Accounts for such purpose and subject to such provisions of the Bond Resolution. Such lien and security interest for the payment of Bonds are prior and superior to the lien and security interest for the payment of Subordinate Obligations and Reimbursable Obligations.

The Bond Resolution provides that each of the obligations, duties, limitations and restraints imposed upon the City and County by the Bond Resolution is deemed to be a covenant between the City and County and every

Holder of the Bonds, and the Bond Resolution and every provision and covenant set forth in the Bond Resolution is deemed to be and constitute a continuing contract and agreement between the City and County and the Holders from time to time of the Bonds issued under the Bond Resolution, to secure the full and final payment of the principal and redemption price of and interest on all Bonds which may from time to time be issued, executed, and delivered under the Bond Resolution. The covenants and agreements set forth in the Bond Resolution to be performed by the City and County are for the equal and proportionate benefit, security and protection of all Holders of the Bonds without preference, priority or distinction as to payment or security or otherwise of any of the Bonds over any of the others for any reason or cause whatsoever except as expressly provided in the Bond Resolution, in a Series Resolution, a Series Certificate or a Supplemental Resolution, or in the Bonds.

Additional Bonds

Basic Test. One or more Series of Bonds (exclusive of refunding Bonds) may be issued at any time and from time to time for any lawful use or purpose relating to the Wastewater System, including, without limitation, payment of all or a portion of the Costs of Improvements, but only upon compliance as to each such Series with the provisions set forth in the Bond Resolution, including, among other things, delivery to the Director of Budget and Fiscal Services of the following documents or moneys or securities:

1. A written certificate of the City and County stating the amount required to be in the Common Reserve Account after issuance of the Bonds then to be issued, and that after deposit in the Common Reserve Account of the amount, if any, to be deposited therein in connection with the issuance of such Bonds, the amounts on deposit in the Common Reserve Account will not be less than the Common Reserve Account Requirement.

2. A written certificate of the City and County stating the amount required to be in the Series Reserve Account created, if any, to provide additional security for the Bonds of such Series after issuance of Bonds then to be issued, and that after deposit in such Separate Series Reserve Account of the amount to be deposited therein in connection with the issuance of such Bonds, the amounts on deposit in such Separate Series Reserve Account will not be less than the Separate Series Reserve Account Requirement for such Separate Series Reserve Account.

3. Either (I) a written certificate of the City and County based: (i) on audited figures or (ii) to the extent audited figures are not available, on figures taken by an independent certified public accountant from the Department's books and records, showing that the Net Revenues for: (a) the most recent Fiscal Year, or (b) any consecutive 12-months' period out of 24 months immediately preceding the month in which such Bonds are issued were not less than 1.20 times the maximum Aggregate Debt Service on all Bonds then Outstanding and on the proposed Series of Bonds in any Fiscal Year, plus 1.00 times the aggregate Support Facility Reimbursement Obligations outstanding as of the date of the written certificate of the City and County, or (II) a written certificate of the City and County or Certificate of the Consulting Engineer that the Net Revenues to be derived in each of the five (5) Fiscal Years following the earlier of: (i) the end of the period during which interest is capitalized or, if no interest is to be capitalized, the Fiscal Year in which the proposed Series of Bonds are issued, and (ii) the date on which substantially all Improvements to be financed with the proceeds of the proposed Series of Bonds are expected to commence operations, or, if the proceeds of such Series of Bonds will not be used to fund the Costs of Improvements, the Fiscal Year in which the proposed Series of Bonds are issued, are estimated to be not less than 1.20 times the maximum Aggregate Debt Service on all Bonds then Outstanding and on the proposed Series of Bonds in any such Fiscal Year, plus 1.00 times the aggregate Support Facility Reimbursement Obligations outstanding as of the date of such written certificate of the City and County or certificate of the Consulting Engineer, as the case may be.

Certain Adjustments. The Bond Resolution permits and requires certain adjustments to be made in determining whether the Basic Test described above for the issuance of Bonds other than Refunding Bonds is met.

1. In determining Debt Service on Variable Rate Bonds then Outstanding and Variable Rate Bonds then proposed to be issued for purposes of the Basic Test described above, the interest rate is to be calculated as: (i) if any Variable Rate Bonds are then Outstanding and have been Outstanding for at least

24 months, the average interest rate borne by such Variable Rate Bonds over the preceding 12-month period or if no such Variable Rate Bonds are then Outstanding, (a) for the proposed Variable Rate Bonds that are Tax-exempt Bonds, the average interest rate of the Revenue Bond Index over the preceding 12-month period at the time of calculation, and (b) for the proposed Variable Rate Bonds that are not Tax-exempt Bonds, the average interest rate of LIBOR over the preceding 12-month period at the time of calculation..

2. Bond Anticipation Notes then Outstanding are to be treated as Bonds. In determining Debt Service on such Bond Anticipation Notes, such Bond Anticipation Notes are assumed to mature in 30 years and bear interest equal to the Revenue Bond Index at the time of calculation.

3. Subordinate Obligations and Reimbursable Obligations originally issued with a maturity of five (5) years or less are assumed to mature in 30 years and bear interest equal to the Revenue Bond Index at the time of calculation.

4. In preparing the certificate required by the Basic Test described above, the Authorized Officer or the Consulting Engineer, as applicable, may make adjustments to the Net Revenues as follows:

a. If any changes have been made in the schedule of rates and charges imposed by the City and County for commodities and services furnished by the Wastewater System which are in effect at the time of adoption of the Series Resolution authorizing the issuance of the Bonds then being issued and were placed into effect subsequent to the start of the Fiscal Year or the 12-month period selected pursuant to item 3 of the *Basic Test* described above, the Authorized Officer, may, if such changes result in increases in such rates and charges, and must, if such changes result in reductions in such rates and charges, adjust the Net Revenues for such period to reflect any change in such Net Revenues which would have occurred if the schedule of rates and charges in effect at the time of the adoption of the Series Resolution providing for the issuance of such Bonds had been in effect during the portion of such period in which such schedule was not in effect.

b. If customers are being served by the Department at the time of adoption of the Series Resolution authorizing the issuance of the Bonds then being issued and who were added to the Wastewater System subsequent to the start of the Fiscal Year or the 12-month period selected pursuant to item 3 of the *Basic Test* described above, the Authorized Officer may adjust the Net Revenues for such period to reflect any change in such Net Revenues which would have occurred if the additional customers had been served during the portion of the period in which such customers were not served.

c. If residential, commercial, industrial or institutional customers which are in existence are not then served by the Wastewater System at the time of adoption of the Series Resolution authorizing the issuance of the Bonds then being issued, but are then expected to be served during the five (5) Fiscal Years covered by such certificate, the Authorized Officer or the Consulting Engineer, as applicable, must estimate the effect which such new customers would have had on the Net Revenues for the period selected pursuant to item 3 of the *Basic Test* described above, if such new customers had been served during the entire period and may adjust the Net Revenues for such period to give effect to such new customers. Any such estimate will be based upon the operating experience and records of the Department with respect to the Wastewater System and upon any available financial and quarterly statistics deemed pertinent by the Authorized Officer or the Consulting Engineer, as applicable.

d. If any long-term, guaranteed contracts with customers of the Wastewater System are in effect at the time of adoption of the Series Resolution authorizing the issuance of the Bonds then being issued and which were entered into subsequent to the start of the Fiscal Year or 12-month period selected pursuant to item 3 of the *Basic Test* described above, the Authorized Officer may adjust the Net Revenues for such period to reflect any change in such Net Revenues which would have occurred if such contracts had been in effect for the entire period.

e. In rendering the certificate required pursuant to item 3 of the Basic Test, the Authorized Officer or the Consulting Engineer, as applicable, must deem the Operation and Maintenance Expenses for the Wastewater System for the first Fiscal Year of the five (5) year period to be equal to such Operation and Maintenance Expenses for the Fiscal Year immediately preceding the Fiscal Year in which the proposed Series of Bonds is to be delivered, and thereafter the Authorized Officer or the Consulting Engineer, as applicable, must adjust, if deemed necessary, for any increased Operation and Maintenance Expenses which are estimated to occur during any subsequent Fiscal Year during the five (5) year period and are, in the judgment of the Authorized Officer or the Consulting Engineer, as applicable, essential to maintaining and operating the Wastewater System.

f. In rendering any certificate pursuant to the Bond Resolution, the Authorized Officer or the Consulting Engineer, as applicable, may rely upon estimates from other sources which the Authorized Officer or the Consulting Engineer, considers reliable, making such adjustments and provisions for contingencies based on similar projects and other considerations as deemed appropriate by such Authorized Officer or the Consulting Engineer.

Refunding Bonds

The City and County may issue a Series of refunding Bonds at any time for the purpose of refunding (including by purchase) all or any portion of Bonds Outstanding, including amounts to pay principal, redemption premium and interest to the date of maturity or redemption (or purchase) and the expense of issuing the refunding Bonds and of effecting such refunding if the conditions set forth in the Bond Resolution are complied with, including all of the conditions of the *Basic Test* described above, except that condition 3 need not be complied with if the maximum annual Debt Service in any Fiscal Year on the refunding Bonds proposed to be issued does not exceed maximum annual Debt Service in any Fiscal Year on the refunded Bonds by more than 10%.

The City and County may also issue a Series of refunding Bonds at any time for the purpose of refunding (including by purchase) all or any portion of outstanding Subordinate Obligations or Reimbursable Obligations, including amounts to pay principal, redemption premium and interest to the date of maturity or redemption (or purchase) and the expense of issuing the refunding Bonds and of effecting such refunding if the conditions set forth in the Bond Resolution are complied with, including all of the conditions of the *Basic Test* described above.

Bond Anticipation Notes

Bond Anticipations Notes may be issued by the City and County at such time as the City and County shall have by a Series Resolution duly adopted authorized the issuance of Bonds under the Bond Resolution. No Bond Anticipation Notes may be issued unless there has been filed with the Director of Budget and Fiscal Services on or prior to the date of issuance of such Bond Anticipation Notes, a written certificate of the City and County to the effect that, based on market conditions expected to be prevailing at the time of issuance of the Series of Bonds in anticipation of which such Bond Anticipation Notes are issued and on other reasonable assumptions set forth in such written certificate, the provisions of the Bond Resolution for the issuance of additional Bonds other than refunding Bonds are expected to be complied with at the time of issuance of such Series of Bonds. The maximum maturity of any Bond Anticipation Notes, including the renewals thereof, must not exceed five years from the date of the original Bond Anticipation Note. The principal of Bond Anticipation Notes may be paid from the proceeds of such Bond Anticipation Notes (or any renewal thereof) or from the proceeds of the Bonds in anticipation of which such Bond Anticipation Notes were issued. The interest on such Bond Anticipation Notes may be secured by a lien on and pledge of, and be paid from, the Net Revenues on a parity with the lien on and pledge of the Net Revenues created in the Bond Resolution for the payment and security of the Bonds. The principal of Bond Anticipation Notes will be secured by a lien on and pledge of the proceeds of the Bonds in anticipation of which such Bond Anticipation Notes were issued and any such pledge will have priority over any other pledge of such proceeds created by the Bond Resolution. Bond Anticipation Notes issued under the Bond Resolution are to be treated as Bonds for all purposes of the Bond Resolution, and are to be payable from the Debt Service Account, except to the extent that the principal of any such Bond Anticipation Note is paid from the proceeds of other Bond Anticipation Note or from the proceeds of Bonds.

Subordinate Obligations

The City and County may issue Subordinate Obligations which are payable out of, and which may be secured by a pledge of, such amounts in the Subordinate Obligation Account as may from time to time be available for the purpose of payment. The City and County may, by resolution, provide for various priorities in the liens and pledges securing Subordinate Obligations, and nothing in the Bond Resolution shall be construed so as to require that the payment of, or pledges securing, Subordinate Obligations be on a parity *inter se*.

The City and County may also issue Subordinate Obligations: (i) to refund any Subordinate Obligations issued as provided in the Bond Resolution; (ii) to refund Outstanding Bonds; or (iii) to refund any Reimbursable Obligations. Such Subordinate Obligations issued for refunding purposes may be payable out of, and may be secured by a pledge of, such amounts in the Subordinate Obligations Fund or Wastewater General Account as may from time to time be available therefor.

The Bond Resolution requires that any resolution, indenture or other instrument securing or evidencing each issue of Subordinate Obligations must contain provisions (which shall be binding on all holders of such Subordinate Obligations) not more favorable to the holders of such Subordinate Obligations than as described below:

(1) In the event of any insolvency or bankruptcy proceedings, and any receivership, liquidation, reorganization or other similar proceedings in connection therewith, relative to the City and County or the Department, or to the property of the City and County or property operated by the Department, and in the event of any proceedings for voluntary liquidation, dissolution or other winding up of the City and County or the Department, the Holders of all Bonds then Outstanding will be entitled to receive payment in full of all principal and interest on all such Bonds before the holders of the Subordinate Obligations are entitled to receive any payment from the trust estate under the Bond Resolution consisting of the Net Revenues and funds held under the Bond Resolution (the "Trust Estate" for these purposes) on account of principal (and premium, if any) or interest on the Subordinate Obligations.

(2) In the event that any issue of Subordinate Obligations is declared due and payable before its expressed maturity because of the occurrence of an event of default (under circumstances when the provisions of (1) above are not applicable), the Holders of all Bonds Outstanding at the time such Subordinate Obligations so become due and payable because of such occurrence of such an event of default will be entitled to receive payment in full of all principal and interest on all such Bonds before the holders of the Subordinate Obligations are entitled to receive any accelerated payment from the Trust Estate of principal (and premium, if any) or interest on the Subordinate Obligations.

(3) If any Event of Default with respect to the Bonds has occurred and be continuing (under circumstances when the provisions of (1) above are not applicable), the Holders of all Bonds then Outstanding will be entitled to receive payment in full of all principal and interest on all such Bonds before the holders of the Subordinate Obligations are entitled to receive any accelerated payment from the Trust Estate of principal (and premium, if any) or interest on the Subordinate Obligations.

(4) No Bondholder shall be prejudiced in his right to enforce subordination of the Subordinate Obligations by any act or failure to act on the part of the City and County.

(5) The Subordinate Obligations may provide that the provisions of (1), (2), (3) and (4) above are solely for the purpose of defining the relative rights of the Bondholders on the one hand, and the holders of Subordinate Obligations on the other hand, and nothing therein shall impair, as between the City and County and the owners of the Subordinate Obligations, the obligation of the City and County to pay to the owners thereof the principal thereof and premium, if any, and interest thereon in accordance with its terms, nor shall anything therein prevent the holders of the Subordinate Obligations from exercising all remedies otherwise permitted by applicable law or thereunder upon default thereunder, subject to the rights under (1), (2), (3) and (4) above of the Holders of Bonds to receive cash, property or securities otherwise payable or deliverable to the holders of the Subordinate Obligations; and the Subordinate Obligations may provide that, insofar as a trustee or paying agent for such Subordinate Obligations is concerned, the

foregoing provisions shall not prevent the application by such trustee or paying agent of any moneys deposited with such trustee or paying agent for the purpose of the payment of or on account of the principal (and premium, if any) and interest on such Subordinate Obligations if such trustee or paying agent did not have knowledge at the time of such application that such payment was prohibited by the foregoing provisions.

Any issue of Subordinate Obligations may have such rank or priority with respect to any other issue of Subordinate Obligations as may be provided in the resolution, indenture or other instrument securing such issue of Subordinate Obligations and may contain such other provisions as are not in conflict with the provisions of the Bond Resolution.

Reimbursable Obligations

The obligation for the payment of Reimbursable Obligations shall be: (i) after and inferior to the lien and security interest for the payment of Bonds and those Subordinate Obligations which are payable from the Subordinate Obligation Account; and (ii) prior and superior to the lien and security interest for the payment of those Subordinate Obligations which are payable from the Wastewater General Account. Reimbursable Obligations are payable from the Reimbursable Obligation Account.

Support Facilities and Interest Rate Exchange Agreements

In connection with the issuance of any Series of Bonds and to the extent permitted by law, the City and County may obtain or cause to be obtained from one or more Support Facility Providers one or more Support Facilities providing for payment of all or a portion of the purchase price or principal, premium, if any, or interest due or to become due on specified Bonds of such Series, or providing for the purchase of such Bonds or a portion of such Bonds by such Support Facility Providers, or providing, in whole or in part, for the funding of the Common Reserve Account or a Separate Series Reserve Account pursuant to the Bond Resolution.

In connection with the issuance of any Series of Bonds or to better manage its assets and liabilities and, to the extent permitted by law, the City and County may enter into with one or more Counterparties one or more Interest Rate Exchange Agreements; *provided* that no such Interest Rate Exchange Agreement shall adversely affect the exclusion from gross income for purposes of federal income taxation of interest on the Tax-exempt Bonds of any Series.

The City and County may enter into agreements with one or more Support Facility Providers or Counterparties to provide for, among other things: (i) the payment of fees and expenses to such Support Facility Providers or Counterparties; (ii) the terms and conditions of such Support Facility or Interest Rate Exchange Agreement and the Series of Bonds affected thereby; and (iii) the security, if any, to be provided to such Support Facility Providers or Counterparties. The City and County may secure the Support Facility or Interest Rate Exchange Agreement by an agreement providing for the purchase of the Bonds secured thereby with such adjustments to the rate of interest, method of determining interest, maturity, or redemption provisions as specified in the Series Resolution or the Series Certificate. Debt Service with respect to any Bonds so secured is to be calculated for purposes of the definition of Common Reserve Account Requirement by using the Assumed Long-Term Fixed Rate.

The City and County may also agree in any agreement with the Support Facility Provider of such Support Facility or the Counterparty under an Interest Rate Exchange Agreement to reimburse directly such Support Facility Provider or Counterparty for any amounts paid under the terms of such Support Facility or Interest Rate Exchange Agreement, together with interest thereon (the "Support Facility Reimbursement Obligation"); *provided, however,* that no Support Facility Reimbursement Obligation is to be created, for purposes of the Bond Resolution, until amounts are paid under such Support Facility or Interest Rate Exchange Agreement, as the case may be. Any such Support Facility Reimbursement Obligation may be secured by a lien on and pledge of the Net Revenues on a parity with the lien on and pledge of the Net Revenues created by the Bond Resolution with respect to the Bonds (a "Parity Support Facility Reimbursement Obligation"). Any such Parity Support Facility Reimbursement Obligation will be deemed to be a part of the Series of Bonds to which the Support Facility which gave rise to such Parity Support

Facility Reimbursement Obligation relates. Payment of Support Facility Reimbursement Obligation may be made out of the Sewer Fund as provided in the Bond Resolution.

Any Support Facility deposited in the Common Reserve Account or the long-term debt of the Support Facility Provider of such Support Facility must, in each case, be in the highest rating category each Rating Agency, and if rated by A.M. Best & Company, also be rated in the highest rating category by A.M. Best & Company or its successors. In the event any Support Facility deposited in the Common Reserve Account or the long-term debt of the issuer of any Support Facility deposited in the Common Reserve Account falls below the highest rating category of each Rating Agency, and A.M. Best & Company, if rated by A.M. Best & Company, the City and County must, within 120 days, obtain a new Support Facility which is rated in the highest category of each Rating Agency or for which the long-term debt of the issuer of such new Support Facility is rated in the highest rating category of each Rating Agency and A.M. Best & Company, if rated by A.M. Best & Company; provided, however, that if the new Support Facility is not obtained within 120 days, the City and County must deposit in the Common Reserve Account Net Revenues in the amount provided in the Bond Resolution. If a disbursement is made pursuant to a Support Facility deposited in the Common Reserve Account, the City and County must: first, reinstate the full amount of such Support Facility; and second, if necessary deposit Net Revenues in the Common Reserve Account in the amount of the disbursement made under such Support Facility, in either case such that the amount in the Common Reserve Account is equal to the Common Reserve Account Requirement within a period of time not longer than would be required to restore the Common Reserve Account by application of moneys in the Sewer Fund. The City and County may at any time deposit cash or Investment Securities as replacement for one or more Support Facilities.

The City and County must obtain and maintain in effect one or more Support Facilities for Option Bonds. The City and County must obtain a replacement Support Facility to replace any Support Facility for Option Bonds that is expiring, not renewed or terminated. Procedures for such replacement, maintenance and notices to Bondholders, rating agencies or other persons are to be provided in the Series Resolution authorizing the Series of Bonds or the Series Certificate relating to such Bonds.

Funds and Accounts

The City and County has established by ordinances the Sewer Fund and the Sewer Revenue Bond Improvement Fund (the "Improvement Fund"). The Bond Resolution establishes the following accounts in the Sewer Fund:

Wastewater System Facility Charge Account,
Debt Service Account,
Common Reserve Account,
Rebate Account,
Rate Stabilization Account,
Subordinate Obligation Account,
Reimbursable Obligation Account,
Renewal and Replacement Account, and
Wastewater General Account.

The Bond Resolution permits the creation and establishment of one or more Separate Series Reserve Accounts in the Sewer Fund. The Bond Resolution also permits the establishment of one or more Series Improvement Subaccounts in the Improvement Account and requires the establishment of one or more Series Improvement Interest Subaccounts in the Improvement Account if interest on the Bonds of a Series is to be paid from the proceeds of such Bonds during the period of construction of any Improvements and for six months thereafter.

Sewer Fund

Revenues and Wastewater System Facility Charges will be collected by the Department and deposited into the Sewer Fund. From the amounts deposited in the Sewer Fund, the Department will transfer all moneys collected as Wastewater System Facility Charges to the Wastewater System Facility Charge Account, pay the current Operation and Maintenance Expenses, transfer to the Rebate Account such amount as is necessary to pay the rebate amount due the United States Treasury Department under Section 148 of the Code or to set aside as a reserve for

such payment and make the transfers to other funds and accounts as provided in the Bond Resolution. In addition, all other amounts required by the City Charter and the Bond Resolution to be deposited in the Sewer Fund will be so deposited.

In each month, the City and County, after making the transfer, if any, to the Wastewater System Facility Charge Account of all moneys received as Wastewater System Facility Charges, after paying or setting aside a sufficient amount to pay the Operating and Maintenance Expenses and making the transfer to the Rebate Account as described above, will retain, apply or transfer on the 5th day preceding the end of each month a sufficient amount of moneys in the Sewer Fund, in the following order of priority:

First, to the Debt Service Account, if and to the extent required so that the balance in the Debt Service Account will be equal to the Accrued Debt Service for all Bonds Outstanding and the interest accrued on all Bond Anticipation Notes outstanding on said date;

Second, (a) to the Common Reserve Account, if and to the extent required, either (i) an amount such that the balance in the Common Reserve Account will be equal to the Common Reserve Account Requirement on such date, or (ii) an amount such that if the same amount were deposited in each month the amount of any deficiency in the Common Reserve Account will be eliminated at the end of the sixth (6th) month following the first credit; and (b) to each Separate Series Reserve Account, if and to the extent required, either (i) an amount such that the balance in each Separate Series Reserve Account will be equaled to the Separate Series Reserve Account Requirement for each Separate Series Reserve Account on such date, or (ii) an amount such that if the same amount were deposited in each month the amount of any deficiency in each Separate Series Common Reserve Account will be eliminated at the end of the sixth (6th) month following the first credit; provided, however, that such transfers shall be pro rata, based on the proportion of the Common Reserve Account Requirement and each Separate Series Reserve Account Requirement to the sum of the Common Reserve Account Requirement and all Separate Series Reserve Account Requirements;

Third, in the Sewer Fund, a reasonable and necessary amount for working capital and operating reserves;

Fourth, to the Subordinate Obligation Account, the amount, if any, equal to all Subordinate Obligation Requirements theretofore accrued and unpaid and not met from any other source and to accrue and become payable during the succeeding calendar month and not met from any other source;

Fifth, to the Reimbursable Obligation Account, the amount, if any, equal to all Reimbursable Obligation Requirements payable on such day and not met from any other source;

Sixth, to the Renewal and Replacement Account, an amount equal to 1/12th of the amount provided in the Annual Budget of the City and County to be credited to such Account during such Fiscal Year; provided, however, that if any such monthly allocation to the Renewal and Replacement Account is less than the required amount, the amount of the next succeeding monthly payment must be increased by the amount of such deficiency;

Seventh, to the Wastewater System Facility Charge Account, such amount as is set forth in a written certificate to reimburse such Account for the amount of any transfer to the Debt Service Account made pursuant to the Bond Resolution;

Eighth, to the Rate Stabilization Account, such amount as is provided in the Annual Budget to be transferred to the Rate Stabilization Account in such month or so much thereof as is available; provided, however, that if any such monthly allocation to the Rate Stabilization Account is less than the required amount, the amount of the next succeeding monthly payment must be increased by the amount of such deficiency; and

Ninth, to the Wastewater General Account, such amount as is forth in a written certificate of the City and County.

The City and County may, if provided in a Series Resolution or a Series Certificate relating to such Bonds, directly pay out of the Sewer Fund reimbursements to providers of Support Facilities which have been drawn upon in the same priority and order as payments from the Sewer Fund to the Debt Service Account, the Common Reserve Account, each Separate Series Reserve Account or other Funds and Accounts as if such payments were part of such Funds and Accounts.

Purposes of the Various Funds and Account

Sewer Fund - Debt Service Account. The principal of and interest on, any Sinking Fund Installment, the Redemption Price of and interest on the Bonds and interest on Bond Anticipation Notes are to be paid out of the Debt Service Account in the Sewer Fund to each Paying Agent on or before the respective due dates.

Amounts accumulated in the Debt Service Account by reason of the payment of any Sinking Fund Installment may be applied by the City and County, on or prior to the 60th day preceding the due date of such Sinking Fund Installment, to: (i) the purchase of Bonds of the maturity for which such Sinking Fund Installment was established, or (ii) the redemption of such Bonds at the applicable Redemption Price, if then redeemable by their terms. All such purchases of Bonds are to: (i) be made at prices not exceeding the applicable Redemption Price of such Bonds plus accrued interest; (ii) be made as arranged by the City and County in such manner and from such sellers or brokers at such prices as the City and County may determine; and (iii) be made to insure that delivery of the Bonds so purchased will not occur later than the 60th day next preceding the redemption date to which the Sinking Fund Installment is to be applied. The applicable Redemption Price of any Bonds (or principal amount of maturing Bonds) so purchased or redeemed is deemed to constitute part of the Debt Service Account until such Sinking Fund Installment date, for the purpose of calculating the amount of such Account. As soon as practicable after the 60th day preceding the due date of any such Sinking Fund Installment, the City and County must proceed to call for redemption on such due date Bonds of the maturity for which such Sinking Fund Installment was established (except in the case of Bonds maturing on a Sinking Fund Installment date) in such amount as is necessary to complete the retirement of the unsatisfied balance of such Sinking Fund Installment after making allowance for any Bonds purchased or redeemed pursuant to the Bond Resolution which the City and County has applied as a credit against such Sinking Fund Installment as provided in the Bond Resolution.

Upon any purchase or redemption pursuant to the Bond Resolution of Bonds of any Series and maturity for which Sinking Fund Installments shall have been established: (i) if the principal amount of the Bonds so purchased is less than or equal to the next succeeding Sinking Fund Installment for such Series there is to be credited to the next such Sinking Fund Installment an amount equal to the principal amount of the Bonds of such Series so purchased; and (ii) if the principal amount of the Bonds so purchased is greater than the next succeeding Sinking Fund Installment, there is to be credited toward each such Sinking Fund Installment thereafter to become due an amount bearing the same ratio to such Sinking Fund Installment as the total principal amount of such Bonds so purchased or redeemed bears to the total principal amount of all such Sinking Fund Installments to be so credited or, at the option of the City and County, an amount equal to the next succeeding Sinking Fund Installment. The portion of any such Sinking Fund Installment remaining after the deduction of any such amounts credited toward the same (or the original amount of any such Sinking Fund Installment if no such amounts have been credited toward the same) will constitute the unsatisfied balance of such Sinking Fund Installment for the purpose of calculation of Sinking Fund Installments due on a future date.

The amount, if any, credited to the Debt Service Account from a Series Improvement Interest Subaccount is to be applied to the payment of interest on the Bonds as the same becomes due and payable as provided in the Bond Resolution.

Sewer Fund - Common Reserve Account. If on the day preceding any principal or interest payment date, the amount in the Debt Service Account is less than the Accrued Debt Service for all Bonds then Outstanding which are entitled to the benefit of the Common Reserve Account, the City and County will pay out of the Common Reserve Account to each Paying Agent for such Bonds the amount necessary to satisfy the deficiency for payment to the holders of such Bonds. Amounts so applied are to be derived first, from cash or Investments Securities on credit to the Common Reserve Account and second, from draws or demands on Support Facilities held as a part of the Common Reserve Account, such draws or demands to be made *pro rata* among all such Support Facilities based on

the respective available amounts under such Support Facilities and upon the terms and conditions set forth in such Support Facilities.

Whenever the amounts on deposit in the Common Reserve Account exceed the Common Reserve Account Requirement, the City and County will withdraw the amount of such excess and deposit such excess to the credit of the Debt Service Account or the Sewer Fund, as the City and County may determine.

Whenever the amount (exclusive of Support Facilities) in the Common Reserve Account, together with the amount in the Debt Service Account attributable to Bonds entitled to the benefit of the Common Reserve Account, is sufficient to pay in full the principal or Redemption Price, if any, of and interest on all such Outstanding Bonds in accordance with their terms, the funds on credit to the Common Reserve Account are to be transferred to the Debt Service Account and applied to make such payment. Prior to such transfer, all Investment Securities held in the Common Reserve Account will to be liquidated by the City and County to the extent necessary to provide for timely payment of the principal or Redemption Price, if any, of and interest on such Bonds.

When a Series of Bonds entitled to the benefit of the Common Reserve Account are refunded in whole or in part or is otherwise deemed paid within the meaning of the Bond Resolution, moneys may be withdrawn from the Common Reserve Account to pay or provide for the payment of such Bonds or refunded Bonds, as the case may be; provided that immediately after such withdrawal or transfer there must be on credit to the Common Reserve Account for those Bonds of the Series of Bonds not refunded an amount equal to the Common Reserve Account Requirement for the Bonds entitled to the benefit of the Common Reserve Account then Outstanding after taking into account such refunding or payment.

The City and County may determine in the Series Resolution authorizing a Series of Bonds or a Series Certificate related to a Series of Bonds that such Series of Bonds will not be entitled to the benefit of the Common Reserve Account, in which case no amount will be required from the proceeds of such Series of Bonds for credit to the Common Reserve Account and no amount will be payable from the Common Reserve Account to pay amounts due or payable with respect to such Series of Bonds.

The Common Reserve Account Requirement is to be calculated or recalculated: (i) at the time of issuance of a Series of Bonds (or Bond Anticipation Notes); (ii) at the time a Series of Bonds is retired in its entirety; (iii) at such other time as in the Opinion of Counsel is required to maintain the exclusion of interest on the Tax-exempt Bonds from gross income for federal income taxation purposes.

Sewer Fund - Separate Series Reserve Accounts. If on the day preceding any principal or interest payment date, the amount in the Debt Service Account is less than Accrued Debt Service for the Bonds of a Series then Outstanding which are entitled to the benefit of a Separate Series Reserve Account, the City and County will pay out of such Separate Series Reserve Account to the Paying Agent for such Bonds the amount necessary to satisfy the deficiency for payment to the holders of such Bonds. Amounts so applied shall be derived first, from cash or Investments Securities on credit to such Separate Series Reserve Account and second, from draws or demands on Support Facilities held as a part thereof, such draws or demands to be made *pro rata* among all such Support Facilities based on the respective available amounts under such Support Facilities and upon the terms and conditions set forth in such Support Facilities.

Whenever the amounts on deposit in any Separate Series Reserve Account exceed the applicable Separate Series Reserve Account Requirement, the City and County will withdraw the amount of such excess and deposit such excess to the credit of the Debt Service Account or the Sewer Fund, as the City and County may determine.

Whenever the amount (exclusive of Support Facilities) in any Separate Series Reserve Account, together with the amount in the Debt Service Account attributable to Bonds entitled to the benefit of such Separate Series Reserve Account, is sufficient to pay in full the principal or Redemption Price, if any, of and interest on all such Outstanding Bonds in accordance with their terms, the funds on credit to such Separate Series Reserve Account are to be transferred to the Debt Service Account and applied to make such payment. Prior to such transfer, all Investment Securities held in such Separate Series Reserve Account will be liquidated by the City and County to the extent necessary to provide for timely payment of the principal or Redemption Price of and interest on such Bonds.

When a Series of Bonds entitled to the benefit of the Separate Series Reserve Account are refunded in whole or in part or are otherwise deemed paid within the meaning of the Bond Resolution, moneys may be withdrawn from such Separate Series Reserve Account to pay or provide for the payment of such Bonds or refunded Bonds, as the case may be; *provided* that immediately after such withdrawal or transfer there must be on credit to such Separate Series Reserve Account an amount equal to the Separate Series Reserve Account Requirement for the Bonds then Outstanding which are entitled to the benefit of such Separate Series Reserve Account after taking into account such refunding or payment.

Each Separate Series Reserve Account Requirement is to be calculated or recalculated: (i) at the time of issuance of a Series of Bonds (or Bond Anticipation Notes); (ii) at the time a Series of Bonds is retired in its entirety; (iii) at such other time as in the Opinion of Counsel is required to maintain the exclusion of interest on the Tax-exempt Bonds from gross income for federal income taxation purposes.

Certain provisions of the Bond Resolution relating to Separate Series Reserve Account may be modified in whole or in part with respect to any Series of Bonds entitled to the benefits of a Separate Series Reserve Account.

Sewer Fund - Rebate Account. If and to the extent required by the Code, an Authorized Officer must periodically, at such times as may be required to comply with the Code, determine the amount required to be rebated or otherwise paid to the Department of the Treasury of the United States of America with respect to each Series of Tax-exempt Bonds and thereafter (i) transfer from any of the Funds and Accounts pledged or held under the Bond Resolution, other than the Debt Service Account, the Subordinate Obligation Account and the Reimbursable Obligation Account and credit to the Rebate Account an amount equal to all or a portion of such amount to be rebated with respect to such Series of Bonds and (ii) pay out of the Rebate Account to the Department of the Treasury of the United States of America the amount, if any, required by the Code to be rebated or otherwise paid. Moneys in the Rebate Account and the subaccounts therein are not available for the benefit of the Holders of the Bonds and are not pledged to the payment of the Bonds or the interest thereon.

If and to the extent necessary to comply with any covenant established in a Series Resolution authorizing a Series of Bonds or in a Series Certificate relating to such Series of Bonds regarding maintaining the exclusion of interest on Tax-exempt Bonds from gross income for Federal income taxation purposes, the City and County may establish a subaccount in the Rebate Account with respect to such Series of Bonds or provide for the establishment such subaccount in such Series Resolution or in such Series Certificate.

Sewer Fund - Rate Stabilization Account. The amount of moneys and Investment Securities to be maintained from time to time in the Rate Stabilization Account is to be provided for in the Annual Budget. Moneys and Investment Securities may be transferred to the Rate Stabilization Account as provided in the Annual Budget from (i) the Sewer Fund in the order of priority provided in the Bond Resolution, or (ii) the Wastewater General Account as provided in the Bond Resolution. Moneys and Investment Securities credited to the Rate Stabilization Account are to be transferred to the Sewer Fund at the times and in the amounts as may be provided in the Annual Budget for the purposes of stabilizing the rates and charges of the Wastewater System.

Sewer Fund - Renewal and Replacement Account. Moneys on credit to the Renewal and Replacement Account may be applied to the cost of the construction of improvements to or reconstruction of the Wastewater System, emergency repairs of the Wastewater System, and major or extraordinary repairs, renewals or replacements of the Wastewater System, in each case to be set forth in the Annual Budget; (i) to restore or prevent physical damage to the Wastewater System or any part thereof; (ii) for the safe and efficient operation of the Wastewater System; or (iii) to prevent loss of Revenues.

If on the day preceding any interest payment date the moneys in the Debt Service Account, after making the transfer from the Common Reserve Account from each Separate Series Account as provided for in the Bond Resolution and from the Wastewater General Account as provided for in the Bond Resolution, are insufficient to pay the interest, principal and redemption price becoming due on the Bonds, the City and County must transfer from the Renewal and Replacement Account for credit to the Debt Service Account the amount necessary (or all the moneys in such Fund if less than the amount necessary) to satisfy such deficiency.

If on each January 1 and July 1 (i) the moneys, Investment Securities and the amount of Support Facilities in the Common Reserve Account are less than the Common Reserve Account Requirement, and the transfer referred to in the preceding paragraph has been made, the City and County must transfer from the Renewal and Replacement Account for credit to the Common Reserve Account the amount necessary (or all the moneys in such Account if less than the amount necessary) to satisfy such deficiency; and (ii) the moneys, Investment Securities and amount of Support Facilities in any Separate Series Reserve Account are less than the Separate Series Reserve Account Requirement for such Separate Series Reserve Account, and the transfer referred to in the preceding paragraph has been made, the City and County must transfer from the Renewal and Replacement Account for credit to such Separate Series Reserve Account the amount necessary (or all the moneys in said Account if less than the amount necessary) to eliminate such deficiency; *provided, however,* that such transfers will be *pro rata,* based on the proportion of the Common Reserve Account Requirement and each Separate Series Reserve Account Requirement to the sum of the Common Reserve Account Requirement and all Separate Series Reserve Account Requirements.

If the moneys on credit to the Subordinate Obligation Account are less than the Subordinate Obligation Requirement, and the transfers referred to in the preceding two paragraphs have been made, the City and County will transfer from the Renewal and Replacement Account to the Subordinate Obligation Account the amount necessary (or all the moneys in such Account if less than the amount necessary) to satisfy such deficiency.

If the moneys on deposit in the Reimbursable Obligation Account are less than the Reimbursable Obligation Requirement, and the transfers referred to in the preceding three paragraphs have been made, the City and County must transfer from the Renewal and Replacement Account to the Reimbursable Obligation Account the amount necessary (or all the moneys in such Account if less than the amount necessary) to satisfy such deficiency.

Sewer Fund - Subordinate Obligation Account. The City and County must at all times maintain in the Subordinate Obligation Account an amount equal to the Subordinate Obligation Requirement. Moneys on deposit in the Subordinate Obligation Account will be applied by the City and County solely in accordance with the provisions of, and subject to the priorities and limitations and restrictions provided in the resolution, indenture or other instrument of the City and County securing or evidencing such Subordinate Obligations. Any moneys credited to the Subordinate Obligation Account are immediately free and clear of the lien and pledge created by the Bond Resolution.

Sewer Fund - Reimbursable Obligation Account. The City and County must at all times maintain in the Reimbursable Obligation Account an amount equal to the Reimbursable Obligation Requirement. Moneys on deposit in the Reimbursable Obligation Account will be applied by the City and County solely to reimburse the General Fund of the City and County for payment of debt service due on Reimbursable Obligation issued or to be issued by the City and County with respect to the Wastewater System. Any moneys deposited in the Reimbursable Obligation Account are immediately free and clear of the lien and pledge created by the Bond Resolution.

Sewer Fund - Wastewater General Account. The City and County will transfer from the Wastewater General Account: (i) to the Debt Service Account, the Common Reserve Account and each Separate Series Reserve Account the amount necessary (or all the moneys in the Wastewater General Account if less than the amount necessary) to satisfy any deficiencies in payments to such Accounts required by the Bond Resolution; (ii) in the event of any transfer of moneys from the Common Reserve Account or any Separate Series Reserve Account to the Debt Service Account, to the Common Reserve Account or such Separate Series Reserve Account the amount of any resulting deficiency in such Account; (iii) provided that all transfers referred to in clauses (i) and (ii) above have been made, to the Renewal and Replacement Account the amount, if any, necessary to satisfy the deficiency in such Fund; (iv) such amount as the City and County may, in its discretion, determine to set aside in reserve for meeting the deficiencies referred to in clauses (i) through (iii) above; (v) provided that all transfers and reserves therefor referred to in clauses (i) through (iv) above have been made, to the Subordinate Obligation Account the amount, if any, necessary to satisfy any deficiency in meeting the Subordinate Obligation Requirement; and (vi) provided that all transfers and reserves therefor referred to in clauses (i) through (v) above have been made, to the Reimbursable Obligation Account, the amount, if any, necessary to eliminate any deficiency in meeting the Reimbursable Obligation Requirement.

Amounts in the Wastewater General Account not required to meet a deficiency referred to in the preceding paragraph may be applied to the following purposes in the following order of priority:

(1) the Costs of Improvements, or the provision of one or more reserves therefor;

(2) for transfer to the Rate Stabilization Account in the Sewer Fund such amounts as may be provided in the Annual Budget for the purpose of stabilizing rates and charges;

(3) the purchase at such price or prices as the City and County may deem advisable or redemption of any Bonds and expenses of such purchase or redemption at any time; and

(4) for any other lawful purpose of the City and County.

Sewer Revenue Bond Improvement Fund - Improvement Account. As soon as practicable on the date of delivery of the Bonds of a Series, the amount required pursuant to the Series Resolution or Series Certificate will be deposited in the Improvement Fund for credit to the Improvement Account. In addition, the City and County will deposit in the Improvement Fund for credit to the Improvement Account such moneys other than proceeds of the Bonds as the City and County may determine to be proper or appropriate to pay the Costs of Improvements.

The Series Resolution authorizing the issuance of any Series of Bonds (exclusive of Refunding Bonds) may create and establish one or more separate special series improvement subaccounts (a "Series Improvement Subaccount") in the Improvement Account, with such designation as may be appropriate. In the event any interest on such Bonds is to be capitalized from the proceeds of such Bonds, a special series subaccount must be created in the Improvement Account (a "Series Improvement Interest Subaccount") with such designation as may be appropriate.

Moneys, including proceeds of the Bonds of a Series, which are credited to a Series Improvement Subaccount are to be applied to the payment of the Costs as are specified in the applicable Series Resolution or Series Certificate. Any balance remaining in such Series Improvement Subaccount upon completion of payment of such Costs may be used for any lawful purpose of the City and County; *provided* that the City and County has obtained an Opinion of Counsel that any such application will not impair the exemption from Federal income taxation of interest on any of the Tax-exempt Bonds.

Moneys credited to a Series Improvement Interest Subaccount are to be used for the purpose of paying interest on the Bonds of designated Series. On or before the fifth (5th) day preceding the end of the month next preceding the maturity of an installment of interest on the Bonds for the payment of which moneys have been credited to such Series Improvement Interest Subaccount, the City and County must transfer from a Series Improvement Interest Subaccount to the Debt Service Account an amount which, together with any moneys theretofore held in the Debt Service Account, are sufficient to pay such next maturing installment of interest on such Bonds.

Payments from the Improvement Account are to be made as specified in the Series Resolution authorizing the issuance of a Series of Bonds or a Series Certificate related to a Series of Bonds.

Moneys, including proceeds of the Bonds, in the Improvement Account, pending their application as provided in the Bond Resolution and Series Resolution and Series Certificate, are subject to a prior and paramount lien and charge in favor of the Holders of the Bonds, and the Holders of the Bonds have a valid claim on such moneys for the further security of the Bonds until paid out or transferred as provided in the Bond Resolution. In the event that there is an insufficiency in the Debt Service Account to pay Debt Service after all transfers, other than a transfer from the Wastewater System Facility Charge Account, have been made pursuant to and in accordance with the Bond Resolution, the City and County must transfer from the Improvement Account such amount (or all remaining amounts in such Improvement Account) as is deemed necessary by the Director of Budget and Fiscal Services for deposit in the Debt Service Account, which, together with the amounts then on credit to the Debt Service Account, is sufficient to pay Debt Service.

Sewer Fund – Wastewater System Facility Charge Account. Amounts in the Wastewater System Facility Charge Account and any account therein, pending their application, are subject to a prior and paramount lien and charge in favor of the Holders of the Bonds, and the Holders of the Bonds have a valid claim on such moneys for the

further security of the Bonds until paid out or transferred as provided in the Bond Resolution. In the event that there is an insufficiency in the Debt Service Account to pay Debt Service after all transfers have been made pursuant to and in accordance with the Bond Resolution, the City and County must transfer from the Wastewater System Facility Charge Account such amount (or all remaining amounts in the Wastewater System Facility Charge Account) as is deemed necessary by the Director of Budget and Fiscal Services for deposit in the Debt Service Account, which, together with the amounts then on deposit in the Debt Service Account, is sufficient to pay Debt Service. The amount of any such transfer must at the earliest practicable date be reimbursed to the Wastewater System Facility Charge Account as provided in the Bond Resolution.

Amounts held in the Wastewater System Facility Charge Account are to be expended for the purposes specified in Section 6-47.1 of the City Code.

Investment of Funds

Moneys in the Debt Service Account may, to the fullest extent practicable and reasonable, be invested and reinvested solely in noncallable Investment Securities which are Government Obligations, FNMAs or FHLMCs (as such terms are defined in the definition of Investment Securities) and which mature or are subject to redemption at the option of the holder thereof on or prior to the respective dates when the moneys in Debt Service Account will be required for the purposes intended. Moneys in the Common Reserve Account or any Separate Series Reserve Account not required for immediate disbursement for the purpose for which the Common Reserve Account or such Separate Series Reserve Account is created may, to the fullest extent practicable and reasonable, be invested and reinvested solely in, and obligations credited to the Common Reserve Account or such Separate Series Reserve Account must be, investments specified in items (i) to (vi), inclusive, of the definition of Investment Securities and which mature or are available at par at or prior to five (5) years from the date of investment thereof.

Moneys in the Sewer Fund not required for immediate disbursement for the purpose for which such Fund is created may, to the fullest extent practicable and reasonable, be invested and reinvested, to the extent allowed by law, solely in, and obligations deposited in such Fund will be, Investment Securities which mature or are subject to redemption or payment at par at the option of the holder thereof, not later than such times as will be necessary to provide moneys when needed to provide payments from such Fund.

Moneys in the Improvement Account, other than a Series Improvement Interest Subaccount therein, not required for immediate disbursement for the purposes for which such Account is created may, to the fullest extent practicable and reasonable, be invested and reinvested to the extent allowed by law, solely in, and obligations deposited in such Account will be, Investment Securities which mature or are subject to redemption or payment at par at the option of the holder thereof not later than such times as shall be necessary to provide moneys when needed to provide payments from such Account.

Moneys in a Series Improvement Interest Subaccount in the Improvement Account not required for immediate disbursement for the purposes for which such Account is created may, to the fullest extent practicable and reasonable, be invested and reinvested to the extent allowed by law, solely in, and obligations deposited in such Account shall be, noncallable Investment Securities which are Government Obligations, FNMAs or FHLMCs (as such terms are defined in the definition of Investment Securities) that mature or are subject to redemption at the option of the holder thereof not later than such times as shall be necessary to provide moneys when needed to provide payments from such Account.

To the extent permitted in the Bond Resolution, all income received from the investment or reinvestment of moneys in the Funds and Accounts established under the Bond Resolution will be deposited in the respective Fund or Account from which such investments are made and applied as a credit against the next succeeding deposit or credit required to be made pursuant to the Bond Resolution; provided however, that except as to the Subordinate Obligation Account and the Reimbursable Obligation Account, all or a portion of the income received from the investment or reinvestment of moneys in any such Fund and Account may be deposited in the Sewer Fund or the Improvement Account, including a Series Improvement Interest Subaccount therein; and *provided, further, however,* that all income received from the investment or reinvestment of moneys in any Series Improvement Interest Subaccount must be deposited in the Debt Service Account.

Neither the Director of Budget and Fiscal Services nor any Paying Agent shall be liable for any depreciation in value of any investments made by the City and County.

Valuation of Investment Securities

In computing the amount in any Fund or Account, Investment Securities therein are to be valued at cost or accreted value, whichever is lower, exclusive of accrued interest. The City and County is to determine the value of Investment Securities held in any Fund or Account as frequently as it deems necessary, but not less often than annually.

Depositaries

All moneys held by the City and County or any Depositary under the provisions of the Bond Resolution are to be held in trust and applied only in accordance with the provisions of the Bond Resolution, and each of the Funds and Accounts established by the Bond Resolution shall be a trust fund.

Each Depositary must be a bank or trust company organized under the laws of any state of the United States or a national banking association having capital stock, surplus and undivided earnings of $5,000,000 or more and willing and able to accept such office on reasonable and customary terms and authorized by law to act in accordance with the provisions of the Bond Resolution.

Concerning Depositaries and Paying Agents

Qualifications and Appointment. The Director of Budget and Fiscal Services may appoint one or more Paying Agents and Depositaries as of the date of issuance and delivery of the first Series of Bonds and may at any time or from time to time appoint one or more other Paying Agents or other Depositaries having the qualifications of a depositary, as described in the Bond Resolution; provided however, the Director of Budget and Fiscal Services may be designated Paying Agent and/or Depositary. Each Paying Agent, other than the Director of Budget and Fiscal Services, and each Depositary, other than the Director of Budget and Fiscal Services, shall signify its acceptance of the duties and obligations imposed upon it by the Bond Resolution by executing and delivering to the City and County and the Director of Budget and Fiscal Services a written acceptance thereof.

Paying Agents and Depositaries May Buy, Hold, Sell or Deal in Bonds and Other Indebtedness of the City and County. Each Paying Agent and each Depositary and its respective directors, officers, employees or agents, may in good faith buy, sell, own, hold and deal in any of the Bonds issued under the provisions of the Bond Resolution and may join any action which any Holder of a Bond may be entitled to take, with like effect as if such Paying Agent or Depositary were not a Paying Agent or any Depositary, as the case may be, under the Bond Resolution. Any Paying Agent or any Depositary may in good faith hold any other form of indebtedness of the City and County; own, accept or negotiate any drafts, bills of exchange, acceptances or obligations of the City and County, and make disbursements for the City and County and enter into any commercial or business arrangement therewith.

Reimbursement of Paying Agents and Depositaries for Fees, Expenses and Charges. Each Paying Agent and each Depositary shall be entitled to reasonable fees and to reimbursement by the City and County for all expenses and charges reasonably incurred by it in the performance of its duties. No Paying Agent nor Depositary shall have a lien for such fees and reimbursement on the moneys pledged to secure the Bonds under the Bond Resolution at any time held by it, prior to the lien or claim of the Holders of the Bonds on all such moneys.

Covenants

The City and County has covenanted and agreed in the Bond Resolution with the Holders of all Bonds issued pursuant to the Bond Resolution as follows:

Maintenance of the Properties of the Wastewater System; Keeping the System in Good Repair. The Department will: (i) maintain, preserve and keep, or cause to be maintained, preserved and kept, the properties of the

Wastewater System and all additions and betterments thereto and extensions thereof, and every part and parcel thereof in good repair, working order and condition, (ii) from time to time make, or cause to be made, all necessary and proper repairs, renewals, replacements, additions, extensions and betterments thereto, so that at all times the business carried on in connection therewith shall properly and advantageously be conducted, and (iii) comply, or cause to be complied with the terms and conditions of any permit or license for the Wastewater System or any part thereof issued by any federal or state governmental agency or body and with any federal or state law or regulation applicable to the construction, operation, maintenance and repair of the Wastewater System or requiring a license, permit or approval therefor.

Rates and Charges. The City and County will at all times fix, charge and collect such rates and other charges as shall be required in order that in each Fiscal Year the Net Revenues will be not less than the Net Revenue Requirement for such Fiscal Year (*"Rate Covenant*"). The failure in any Fiscal Year to comply with the foregoing *Rate Covenant* does not constitute an Event of Default if the City and County complies with requirements described in the next paragraph.

Prior to the end of each Fiscal Year the Director of Environmental Services or the Director of Budget and Fiscal Services if requested by the Director of Environmental Services must complete a review of the financial condition of the Department for the purpose of estimating whether the Net Revenues for such Fiscal Year and for the next succeeding Fiscal Year will be sufficient to comply with the *Rate Covenant* and must by a written certificate make a determination with respect to such compliance. Such review may take into consideration the completion of any uncompleted Improvement and the issuance of future Series of Bonds if necessary to finance the completion of such Improvements. Such written certificate must set forth a reasonably detailed statement of the actual and estimated Revenues, Operation and Maintenance Expenses, Aggregate Debt Service, and any other estimates or assumptions upon which such determination was based, and must be filed with the City Clerk on or before July 1 in each year. If it is determined in such written certificate that the Revenues may not be so sufficient, the Director of Environmental Services or the Director of Budget and Fiscal Services if requested by the Director of Environmental Services must forthwith make a study for the purpose of determining a schedule of fees, rates and charges which, in the opinion of the Director of Environmental Services or the Director of Budget and Fiscal Services, will cause sufficient Revenues to be collected in the following Fiscal Year to comply with the *Rate Covenant* and will cause additional Revenues to be collected in such following and later Fiscal Years sufficient to eliminate the amount of any deficiency at the earliest practicable time, or the Director of Environmental Services or the Director of Budget and Fiscal Services may elect to cause the Consulting Engineer to make such a study and render such opinion. The City Council shall as promptly as practicable but no later than the 120 days following such determination by the Director of Environmental Services or the Director of Budget and Fiscal Services, or receipt of the Consulting Engineer's recommendation, adopt and place in effect a schedule of fees, rates and charges as so determined or recommended pursuant to the Bond Resolution.

Sale, Lease or Other Disposition of Properties of the Wastewater System. The properties of the Wastewater System may not be sold, mortgaged, leased or otherwise disposed of except as described below.

The properties of the Wastewater System may be sold, leased, or otherwise disposed of in their entirety if simultaneously with such sale, lease or other disposition thereof provision is made for the payment of all Bonds then Outstanding and such Bonds are no longer deemed Outstanding within the meaning of the Bond Resolution.

Any portion of the properties of the Wastewater System may be sold, leased, or otherwise disposed of on such terms and conditions as may be determined by the City and County if the value of such portion of the properties as of the date of such sale, lease or disposition does not exceed five percent (5%) of the net book assets of the Wastewater System as of the last day of the preceding Fiscal Year as shown in the most recent audited financial statements of the Department. Any part of the properties of the Wastewater System having a value as of the date of the sale, lease or disposition which exceeds five percent (5%) of the net book assets of the Wastewater System as of the last day of the preceding Fiscal Year as shown in the most recent audited financial statements of the Department may be sold, leased, or otherwise disposed of if the Consulting Engineer certifies to the City and County in writing that the terms and conditions of the proposed sale, lease or other disposition of any such properties are fair and reasonable, and that the estimated Revenues to be derived from the remaining properties of the Wastewater System, after taking into consideration the use by the Department of the proceeds of such proposed sale, lease or other disposition of such properties, will be sufficient to enable the City and County to comply with all covenants and

conditions of the Bond Resolution. Proceeds of any sale, lease or other disposition of any portion of the properties of the Wastewater System pursuant to this paragraph are to be paid into the Debt Service Account and applied to the purchase or redemption of Bonds or into the Sewer Fund and applied by the City and County for the purpose of constructing extensions, betterments or improvements to the Wastewater System as the City and County may determine.

Surplus lands, crops, timber, buildings and any other portion of the works, plant and facilities of the Wastewater System and real and personal property comprising a part thereof, which, in the opinion of the Director of Environmental Services, have become unserviceable, inadequate, obsolete, worn out, or unfit to be used in the operation of the Wastewater System, or no longer necessary, material to, or useful in such operation may be sold, leased, or otherwise disposed of. Proceeds of any such sale, lease or other disposition of any portion of the properties of the Wastewater System pursuant to this paragraph are to be paid into the Sewer Fund.

If permitted by the laws of the State, the City and County may transfer without consideration the properties comprising the Wastewater System to a public corporation or political subdivision of the State, provided such corporation or subdivision assumes all of the City and County's or the Department's obligations and duties under the Bond Resolution.

In the event that any part of the properties of the Wastewater System is transferred from the City and County through the operation of law (including condemnation), any moneys received by the City and County as a result of such transfer are to be paid: (i) if such proceeds are not in excess of $250,000, into the Sewer Fund; or (ii) if such proceeds are in excess of $250,000: (a) into the Debt Service Account and applied to the purchase or redemption of Bonds; or (b) into the Renewal and Replacement Account and applied by the City and County for the purpose of constructing replacements, extensions, betterments or improvements to the Wastewater System, as the City and County shall determine.

Insurance. Except as provided for in the next paragraph, the Department must keep, or cause to be kept, the works, plants and facilities comprising the properties of the Wastewater System and the operations thereof insured to the extent available at reasonable at reasonable cost with responsible insurers, with policies payable to the City and County or the Department, against risks of direct physical loss, damage to or destruction of the above-ground structures, and the equipment and contents therein, of the Wastewater System arising from accidents, casualties or negligence, and other causes customarily insured against, at least to the extent that similar insurance is usually carried by utilities operating like properties, including liability insurance and workman's compensation insurance; provided, however, that any time while any contractor engaged in constructing any part of the Wastewater System is fully responsible for such insurance, the Department is not required to keep such part of the Wastewater System insured. All policies of insurance shall be for the benefit of the Holders of the Bonds and the City and County or the Department as their respective interests may appear.

In the event of any loss or damage to the properties of the Wastewater System covered by insurance, the Department will: (i) with respect to each such loss, promptly repair and reconstruct to the extent necessary to the proper conduct of the operations of the Wastewater System the lost or damaged portion thereof and shall apply the proceeds of any insurance policy or policies covering such loss or damage for that purpose to the extent required therefor, unless, in case of loss or damage involving $250,000 or more, the Department determines that such repair and reconstruction will not be undertaken; and (ii) if the Department does not use the entire proceeds of such insurance to repair or reconstruct such lost or damaged property, the proceeds of such insurance policy or policies or any portion thereof not used for such repair or reconstruction, as the case may be, are to be paid into the Sewer Fund. If the Department does not obtain insurance from responsible insurers as provided for in the Bond Resolution, the City and County or the Department must self-insure; provided, however, that if the Department fails to carry insurance against any of the risks normally insured against by operators of facilities similar to the Wastewater System, it must secure the concurrence of an independent insurance consultant. In making its decision whether to concur in such self-insurance, the independent insurance consultant must (i) make an estimate of the added financial risks, if any, assumed by the Department as a result of the self-insurance; (ii) consider the availability of commercial insurance, the terms upon which such insurance is available and the costs of such available insurance, and the effect of such terms and costs upon the Department's costs and charges for its services; and (iii) determine whether the added financial risk, if any, being assumed by the Department is prudent in light of the savings to be realized from such self-insurance or in light of the general availability of insurance.

The Department may include insurance required by the Bond Resolution as part of a blanket insurance policy of the City and County.

Consulting Engineer. The City Council, the Director of Environmental Services or the Director of Budget and Fiscal Services may from time to time retain and appoint, as Consulting Engineer, an independent consulting engineer or engineering firm or corporation having special skill, knowledge and experience in analyzing the operations of wastewater systems, preparing rate analyses, forecasting the loads and revenues of wastewater systems, preparing feasibility reports respecting the financing of wastewater systems and advising on the operation of wastewater facilities, who shall be available to advise the Department, upon request, and to make such investigations and determinations as may be necessary from time to time under the provisions of the Bond Resolution.

Books of Account; Annual Audit. The Department will maintain and keep proper books of account relating to the Wastewater System and in accordance with generally accepted accounting principles. Within 180 days after the end of each Fiscal Year commencing with the Fiscal Year ending June 30, 2000, the Department will cause such books of account to be audited by an independent certified public accountant. The audit required by the Bond Resolution may be part of a comprehensive audit of the City and County, *provided* that the Wastewater System in such audit is treated as an "enterprise fund" and the revenues and expenses of the Wastewater System are stated in a manner which permits identification by category of the sources and uses of the Revenues. A copy of each audit report prepared in conformity with generally accepted accounting principles must be filed promptly with the City and County and sent to any Bondholder filing with the Director of Environmental Services a written request for a copy thereof. and to any Rating Agency which has rated any Bonds.

To Pay Bonds Punctually. The City and County will duly and punctually pay, or cause to be paid, but only from the Revenues, income and other funds specified in the Bond Resolution, the principal and Redemption Price (if any) of, and interest on, each and every Bond on the dates and at the places, and in the manner provided in the Bonds according to the true intent and meaning thereof, and the City and County will faithfully do and perform and at all times fully observe and keep any and all of its covenants, undertakings, stipulations and provisions contained in the Bonds and in the Bond Resolution.

Payment of Taxes and Other Claims. The Department must from time to time duly pay and discharge, or cause to be paid and discharged, all taxes, assessments and other governmental charges, or payments in lieu thereof, lawfully imposed upon the properties of the Wastewater System (or any part thereof) or upon the Net Revenues or income received therefrom when the same become due, as well as all lawful claims for labor, material and supplies, which, if not paid, might become a lien or charge upon said properties or any part thereof, or upon the Revenues derived from the ownership or operation of the Wastewater System, or which might in any way impair the security of the Bonds, except any such assessments, charges or claims which the Department in good faith contests as to validity.

Extension of Payment of Bonds. The City and County will not, directly or indirectly, extend or assent to the extension of the maturity of any of the Bonds or the time of payment of any claims for interest by the purchase of such Bonds, coupons, if any, or claims for interest or by any other arrangement and in case the maturity of any of the Bonds or the time for payment of any such claims for interest is extended, such Bonds or claims for interest will not be entitled, in case of any default under the Bond Resolution, to the benefit of the Bond Resolution or to any payment out of any assets of the City and County or the funds (except funds held in trust for the payment of particular Bonds or claims for interest pursuant to the Bond Resolution) held by the Paying Agents, except subject to the prior payment of the principal of all Bonds issued and Outstanding the maturity of which has not been extended and of such portion of the accrued interest on the Bonds as shall not be represented by such extended claims for interest.

Sound Improvements and Extensions. The Department will not expend any of the income, revenues, receipts, profits and other moneys derived by it from the ownership or operation of the Wastewater System for any renewals, replacements, additions, betterments and improvements to, or extensions of, the Wastewater System which, in the sole opinion of the Director of Environmental Services, will not properly and advantageously contribute to the conduct of the business of the Wastewater System in an efficient and economical manner unless

required to do so to permit the continued operation of the Wastewater System or to preserve or protect the Wastewater System.

Annual Budget. Not later than May 31 before the beginning of any Fiscal Year the City and County or the Department will prepare a preliminary budget of Operation and Maintenance Expenses of the Wastewater System and reserves therefor for the ensuing Fiscal Year. Each such budget and each Annual Budget will include, in addition to provisions for all anticipated Operation and Maintenance Expenses, provision for the payments required to be made to the Renewal and Replacement Account, provided that such payments shall in the aggregate at least equal the amount described below. Such preliminary budget and any Annual Budget may set forth such additional material as the City and County or the Department may determine.

Except as described below, on or before the 15th day of each such Fiscal Year, the City and County must finally adopt the Annual Budget for such year. The City and County may at any time adopt an amended Annual Budget for the remainder of the then current Fiscal Year. Copies of the Annual Budget and of any amended Annual Budget are to be made available for inspection by the Bondholders and are to be sent to each Rating Agency.

If for any reason the City and County does not adopt the Annual Budget before the 15th day of any Fiscal Year, the budget for the preceding Fiscal Year is deemed to be in effect for such Fiscal Year until the Annual Budget for such Fiscal Year is adopted. For any purpose of computation under the provisions of the Bond Resolution, the budget for the preceding year is deemed to have been adopted for any Fiscal Year until the Annual Budget for such year is adopted.

Every preliminary budget, Annual Budget and amended Annual Budget must: (i) set forth in reasonable detail amounts required for repair, replacement or reconstruction of the Wastewater System and major or extraordinary repairs, renewals or replacements of the Wastewater System, if any, for the period to be covered by such budget; (ii) specify the amounts to be deposited in the Renewal and Replacement Account, the Subordinate Obligation Account, the Reimbursable Obligation Account and the Wastewater General Account, and the amounts to be maintained in the Sewer Fund for working capital and operating reserves and in the Rate Stabilization Account for rate stabilization purposes, if any, for such purposes for such period, (iii) specify the amounts to be transferred from the Wastewater General Account to the Rate Stabilization Account and to other Funds and Accounts; and (iv) project the amounts required for such purposes for the next five Fiscal Years in such format as the Director of Environmental Services may determine. A copy of each such report is to be filed and maintained in the records of the City and County.

Events of Default

Each of the following events constitutes an Event of Default under the Bond Resolution:

(a) if payment of the principal and Redemption Price, if any, of any Bond, is not punctually made when due and payable, whether at the stated maturity thereof or upon proceedings for the redemption thereof (whether by voluntary redemption or a mandatory sinking fund redemption or otherwise);

(b) if payment of the interest on any Bond is not punctually made when due;

(c) if the provisions of any Series Resolution with respect to mandatory Sinking Fund Installment payments or the redemption of Term Bonds therefrom, as the case may be, are not punctually complied with at the time and in the manner specified in such Series Resolution;

(d) if the City and County or the Department fails to duly and punctually perform or observe any other of the covenants, agreements or conditions contained in the Bond Resolution or in the Bonds, on the part of the City and County or the Department to be performed, and such failure continues for 90 days after written notice thereof from the Holders of not less than 20% of the Bonds then Outstanding; provided that, if such failure is such that it cannot be corrected within

such 90-day period, it will not constitute an Event of Default if corrective action is instituted within such period and diligently pursued until the failure is corrected; and

(e) if the City and County: (i) admits in writing its inability to pay its debts generally as they become due; or (ii) files a petition in bankruptcy or seeking a composition of indebtedness under the provisions of any Federal or state bankruptcy or similar law; or (iii) makes an assignment for the benefit of its creditors; or (iv) files a petition or any answer seeking relief under the provisions of any Federal or state bankruptcy or similar law; or (v) consents to the appointment of a receiver of the whole or any substantial part of the Wastewater System; or (vi) consents to the assumption by any court of competent jurisdiction under the provisions of any other law for the relief or aid of debtors of custody or control of the City and County or the Department, or of the whole or any substantial part of the Wastewater System.

Notice to Bondholders of Event of Default

Immediately after the occurrence of an Event of Default or within 30 days after any Paying Agent knows of any other Event of Default, the Paying Agent or Paying Agents shall give notice of all such Events of Default to the Bondholders, all other Paying Agents and Support Facility Providers, and each Rating Agency, in the manner as provided for in the Bond Resolution, unless such Events of Default shall have been cured before the giving of such notice.

Acceleration of Bonds

If an Event of Default shall happen and shall not have been remedied, then and in every such case the Holders of not less than 25% in principal amount of the Bonds then Outstanding, by notice in writing to the City and County and the Director of Budget and Fiscal Services, may declare the principal of all the Bonds then Outstanding, and the interest accrued thereon, to be due and payable immediately, and upon any such declaration the same shall become and be immediately due and payable. The right of the Holders of not less than 25% in principal amount of the Bonds then Outstanding to make any such declaration, however, shall be subject to the condition that if, at any time after such declaration, but before the Bonds shall have matured by their terms, all overdue installments of interest upon the Bonds, together with interest on such overdue installments of interest to the extent permitted by law and all other sums then payable by the City and County under the Bond Resolution (except the principal of, and interest accrued since the next preceding interest date on, the Bonds due and payable solely by virtue of such declaration) shall either be paid by or for the account of the City and County or provision satisfactory to the Holders of a majority in principal amount of the Bonds then Outstanding shall be made for such payment, and all defaults under the Bonds or under the Bond Resolution (other than the payment of principal and interest due and payable solely by reason of such declaration) shall be cured or be secured to the satisfaction of the Holders of a majority in principal amount of the Bonds then Outstanding or provision deemed by such Holders of the Bonds to be adequate shall be made therefor, then and in every such case the Holders of at least a majority in principal amount of the Bonds then Outstanding, by written notice to the City and County, may rescind such declaration and annul such default in its entirety, but no such rescission shall extend to or affect any subsequent default or impair or exhaust any resulting right or power.

The bond insurers for all Outstanding Bonds and for the Series 2007 Bonds have certain consent rights in connection with any default which may constrain the rights of the Holders described above.

Inspection of Books and Records; the City and County to Account as Trustee for Express Trust

The City and County covenants that if an Event of Default shall have happened and shall not have been remedied, the books of record and account of the Department relating to the Wastewater System and all other records relating thereto shall at all times be subject to the inspection and use of the Holders of at least 25% in principal amount of the Bonds then Outstanding and of their respective agents and attorneys or of any committee therefor.

The City and County covenants that if an Event of Default shall have happened and shall not have been remedied, the City and County will continue to account, as a trustee of an express trust, for all Revenues and other moneys, securities and funds pledged under the Bond Resolution.

Application of Revenues in an Event of Default

During the continuance of an Event of Default as described in items (a) through (c) of the Events of Default described above or of any other Event of Default resulting in an Event of Default described in items (a) through (c) of the Events of Default described above, the Revenues received by a receiver appointed pursuant to the Bond Resolution as the result of the taking of possession of the business and properties of the Wastewater System, are to be applied by the receiver: first, to the payment of all necessary and proper Operation and Maintenance Expenses of the Wastewater System and all other proper disbursements or liabilities made or incurred by the receiver; second, to the then due and overdue payments into the Debt Service Account, including the making up of deficiencies therein; and last, for any lawful purpose in connection with the Wastewater System.

In the event that at any time the funds held by the receiver are insufficient for the payment of the principal and Redemption Price (if any) of, and interest then due on, the Bonds, such funds (other than funds held for the payment or redemption of particular Bonds or coupons) and all Revenues of the Department and other of its moneys received or collected for the benefit or for the account of Holders of the Bonds by the receiver are to be applied as follows:

(1) Unless the principal of all of the Bonds shall have become due and payable,

First, to the payment of all necessary and proper Operation and Maintenance Expenses of the Wastewater System and all other proper disbursements or liabilities made or incurred by the receiver;

Second, to the payment to the persons entitled thereto of all installments of interest then due (including any interest on overdue principal) in the order of the maturity of such installments, earliest maturities first, and if the amounts available shall not be sufficient to pay in full any installment or installments of interest maturing on the same date, then to the payment thereof ratably, according to the amount due thereon, to the persons entitled thereto, without any discrimination or preference; and

Third, to the payment to the persons entitled thereto of the principal and premium, if any, due and unpaid upon the Bonds at the time of such payment without preference or priority of any Bond over any other Bonds, ratably, according to the amounts due respectively for principal and redemption premium, without any discrimination or preference.

(2) If the principal of all of the Bonds shall have become due and payable,

First, to the payment of all necessary and proper Operation and Maintenance Expenses of the Wastewater System and all other proper disbursements or liabilities made or incurred by the receiver;

Second, to the payment of the principal and interest then due and unpaid upon the Bonds without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest, or of any Bond over any other Bonds, ratably, according to the amounts due respectively for principal and interest, to the persons entitled thereto without any discrimination or preference.

Whenever moneys are to be applied as described in the foregoing paragraphs, such moneys shall be applied by the receiver at such times, and from time to time, as it in its sole discretion shall determine, having due regard to the amount of such moneys available for application and the likelihood of additional moneys becoming available for such application in the future.

If and whenever all overdue installments of interest on all Bonds, together with the reasonable and proper charges, expenses, and liabilities of the Holders of the Bonds, their respective agents and attorneys, and all other sums payable by the City and County under the Bond Resolution including the principal and Redemption Price (if any) of all Bonds which shall then be payable, shall either be paid in full by or for the account of the City and County or provision satisfactory to the receiver shall be made for such payment, and all defaults under the Bond Resolution or the Bonds shall be made good and secured to the satisfaction of the receiver or provision deemed by the receiver to be adequate therefor, the receiver shall pay over to the Department all of its moneys, securities, funds and Revenues then remaining unexpended in the hands of the Bondholders' Committee (except moneys, securities, funds or Revenues deposited or pledged, or required by the terms of the Bond Resolution to be deposited or pledged, with the Director of Budget and Fiscal Services), control of the business and possession of the property of the Department shall be restored to the Department, and thereupon the City and County shall be restored to its former positions and rights under the Bond Resolution, and all Revenues shall thereafter be applied as provided for in the Bond Resolution. No such payment over to the Department by the receiver or resumption of this application of Revenues as provided in the Bond Resolution, shall extend to or affect any subsequent default under the Bond Resolution or impair any right consequent thereon.

Suits at Law or Equity and Mandamus and Appointment of a Receiver

If an Event of Default shall happen and shall not have been remedied, then and in every such case, but subject to the provisions, limitations and conditions as set forth in the Bond Resolution, the Holder of any Bond at the time Outstanding shall be entitled, for the equal benefit and protection of all Holders of the Bonds similarly situated to proceed, protect and enforce the rights vested in such Holder by the Bond Resolution by such appropriate judicial proceeding as such Holder shall deem most effectual to protect and enforce any such right, either by suit in equity or by action of law, whether for the specific performance of any covenant or agreement contained in the Bond Resolution, or in aid of the exercise of any power granted in the Bond Resolution, or to enforce any other legal or equitable right vested in the Holders of Bonds by the Bond Resolution or by law; provided, however, that no judicial proceeding shall be brought seeking the appointment of a receiver to take possession of the Wastewater System or to manage, receive and apply the Revenues unless the Holders of not less than a majority in principal amount of the Bonds then Outstanding or a Bondholders' Committee representing the Holders of not less than a majority in principal amount of the Bonds then Outstanding shall have joined in or consented to such proceeding.

Bondholders' Committee

If an Event of Default shall happen and shall not have been remedied, the Holders of not less than 25% in principal amount of the Bonds then Outstanding may call a meeting of the Holders of Bonds for the purpose of electing a Bondholders' Committee. Such meeting shall be called and proceedings thereat shall be conducted as provided for other meetings of Bondholders pursuant to the Bond Resolution. At such meeting the Holders of not less than a majority of the principal amount of the Bonds then Outstanding must be present in person or by proxy in order to constitute a quorum for the transaction of business, less than a quorum, however, having power to adjourn from time to time without any notice other than that required by the Bond Resolution. A quorum being present at such meeting, the Bondholders present in person or by proxy may, by the votes cast by the Holders of a majority in principal amount of the Bonds so present in person or by proxy, elect one or more persons who may or may not be Bondholders to the Bondholders' Committee which shall act as trustee for all Bondholders. The Bondholders present in person or by proxy at said meeting, or at any adjourned meeting thereof, shall prescribe the manner in which the successors of the persons elected to the Bondholders' Committee at such Bondholders' meeting shall be elected or appointed, and may prescribe rules and regulations governing the exercise by the Bondholders' Committee of the power conferred upon it, and may provide for the termination of the existence of the Bondholders' Committee.

Bondholders May Direct Proceedings

The Holders of not less than a majority in principal amount of the Bonds at the time outstanding are authorized and empowered: (1) to direct the time, method, and place of conducting any proceeding for any remedy available to the holders of the Bonds; or (2) on behalf of the holders of the Bonds then outstanding, to consent to the waiver of any Event of Default or its consequences. No waiver or rescission shall extend to any subsequent or other default, or impair any right consequent thereon.

The bond insurers for all Outstanding Bonds and for the Series 2007 Bonds have certain consent rights in connection with any default which may constrain the rights of the Holders described above.

Abandonment of Proceedings; Adverse Determination

No delay or omission of any Holder of Bonds to exercise any right or power arising upon the occurrence of a default under the Bond Resolution, including an Event of Default, shall impair any right or power or shall be construed to be a waiver of any such default or to be an acquiescence therein. Every power and remedy given by the Bond Resolution to the Holders of Bonds may be exercised from time to time and as often as may be deemed expedient by such Holders.

In case the Holders of the Bonds or a Bondholders' Committee formed pursuant to the Bond Resolution shall have proceeded to enforce any right under the Bond Resolution and such proceedings shall have been discontinued or abandoned for any reason, or shall have been determined adversely to the Holders of the Bonds or such Bondholders' Committee, then and in every such case the City and County, and the Holders of the Bonds shall be restored to their former positions and rights under the Bond Resolution, and all rights, remedies and powers of the Holders of the Bonds shall continue as if no such proceedings had been taken.

Amending and Supplementing of Resolution

Amending and Supplementing of Resolution Without Consent of Holders of Bonds. The City and County, from time to time and at any time and without the consent or concurrence of any Holder of any Bond, may adopt (i) a Series Resolution for the purpose of providing for the issuance of Bonds pursuant to the provisions as set forth in the Bond Resolution; (ii) to make any changes, modifications, amendments or deletions to the Bond Resolution which may be required to permit the Bond Resolution to be qualified under the Trust Indenture Act of 1939 of the United States of America; or (iii) if the rights of the Holders of the Bonds then Outstanding shall not be materially adversely affected thereby, a Supplemental Resolution (herein defined and referred to as a "Supplemental Resolution") for any one or more of the following purposes:

1. to make any changes or corrections in the Bond Resolution as to which the City and County shall have been advised by counsel that the same are verbal corrections or changes or are required for the purpose of curing or correcting any ambiguity or defective or inconsistent provision or omission or mistake or manifest error contained in the Bond Resolution, or to insert in the Bond Resolution such provisions clarifying matters or questions arising under the Bond Resolution as are necessary or desirable;

2. to add additional covenants and agreements of the City and County for the purpose of further securing the payment of the Bonds;

3. to surrender any right, power or privilege reserved to or conferred upon the City and County by the terms of the Bond Resolution;

4. to confirm as further assurance any lien, pledge or charge, or the subjection to any lien, pledge, or charge, created or to be created by the provisions of the Bond Resolution;

5. to grant to or to confer upon the Holders of the Bonds any additional rights, remedies, powers, authority or security that lawfully may be granted to or conferred upon them; and

6. to modify in any other respect any of the provisions of the Bond Resolution.

Except for Series Resolutions authorizing the issuance of Bonds pursuant to the Bond Resolution, the City and County shall not adopt any Supplemental Resolution authorized by the foregoing provisions of the Bond Resolution unless in the Opinion of Counsel the adoption of such Supplemental Resolution is permitted by the Bond Resolution and the provisions of such Supplemental Resolution do not materially adversely affect the rights of the Holders of the Bonds then Outstanding.

Amendment of Resolution With Consent of Holders of the Bonds. With the consent of the Holders of not less than a majority of the Bonds then Outstanding and with written consent of each Support Facility Provider, the City and County from time to time and at any time may adopt a resolution amendatory of or supplemental to the Bond Resolution for the purpose of adding any provisions to, or changing in any manner or eliminating any of the provisions of, the Bond Resolution, or modifying or amending the rights and obligations of the City and County thereunder, or modifying or amending in any manner the rights of the Holders of the Bonds then Outstanding. For purposes of the preceding sentence, the written consent of each Support Facility Provider providing a Support Facility for any Bonds will constitution consent of the Holders of such Bonds. Without the specific consent of the Holder of each such Bond which would be affected thereby, no Supplemental Resolution amending or supplementing the provisions of the Bond Resolution shall: (1) change the fixed maturity date for the payment of the principal of any Bond or the dates for the payment of interest thereon or the terms of the redemption thereof, or reduce the principal amount of any Bond or the rate of interest thereon or the Redemption Price (or the redemption premium) payable upon the redemption or prepayment thereof; or (2) reduce the aforesaid percentage of Bonds, the Holders of which are required to consent to any Supplemental Resolution amending or supplementing the provisions of the Bond Resolution; or (3) give to any Bond or Bonds any preference over any other Bond or Bonds secured by the Bond Resolution; or (4) authorize the creation of any pledge of the Revenues and other moneys pledged under the Bond Resolution, prior, superior or equal to the pledge of and lien and charge thereon created in the Bond Resolution for the payment of the Bonds except to the extent provided in the Bond Resolution; or (5) deprive any Holder of the Bonds in any material respect of the security afforded by the Bond Resolution; provided further, however, that without the specific consents of the Holders of not less than a majority in principal amount of the Term Bonds then Outstanding and affected thereby, no Supplemental Resolution amending or supplementing the provisions of the Bond Resolution shall (a) change the amount of any Sinking Fund Installments for the retirement of Term Bonds or the due dates of such installments or the terms for the purchase or redemption thereof from such installments, or (b) reduce the aforesaid percentage of Term Bonds, the Holders of which are required to consent to any such Supplemental Resolution. (Nothing in this paragraph contained, however, shall be construed as making necessary the approval of the Holders of the Bonds of the adoption of any Supplemental Resolution). A modification or amendment with respect to the Sewer Fund or the Debt Service Account or Common Reserve Account or any Separate Series Reserve Account therein shall not be deemed a change in the terms of payments; provided that no such modification or amendment shall, except upon the consent of the Holders of all Bonds then outstanding affected thereby, reduce the amount or amounts required to be credited to the Debt Service Account or Common Reserve Account or any Separate Series Reserve Account.

The bond insurers for all Outstanding Bonds and for the Series 2007 Bonds have certain consent rights in connection with any amendment which may constrain the rights of the Holders described above.

The proof of the giving of any consent of any Holder required and of the holding of Bonds for the purpose of giving consents shall be made in accordance with the Bond Resolution. It shall not be necessary that the consents of the Holders of the Bonds approve the particular form of wording of the proposed amendment or supplement or of the Supplemental Resolution affecting such amendment or supplement, but it shall be sufficient if such consents approve the substance of the proposed amendment or supplement. A record, consisting of the papers required by the Bond Resolution, shall be proof of the matters therein stated until the contrary is proved. No action or proceeding to set aside or invalidate such Supplemental Resolution or any of the proceedings for its adoption shall be instituted or maintained unless such action or proceeding is commenced within 60 days after the publication and mailing of the notice required by the Bond Resolution.

The City and County shall furnish a notice of each amendment or supplement and a copy of the Supplemental Resolution effecting such amendment or supplement to each rating agency at least 15 days prior to the effective day of the Supplemental Resolution.

Discharge of Liens and Pledges; Bonds No Longer Outstanding and Deemed to be Paid

Except as otherwise provided in the Bond Resolution with regard to Option Bonds, the obligations of the City and County under the Bond Resolution and the liens, pledges, charges, trusts, covenants and agreements of the City and County made or provided for in the Bond Resolution, shall be fully discharged and satisfied as to any Bond and such Bond shall no longer be deemed to be Outstanding under the Bond Resolution:

(i) when such Bond shall have been canceled, or shall have been surrendered for cancellation or is subject to cancellation, or shall have been purchased by or behalf of the City and County from moneys held under the Bond Resolution; or

(ii) as to any Bond not canceled or surrendered for cancellation or subject to cancellation or so purchased, when payment of the principal and redemption price (if any) of such Bond, plus interest on such principal to the due date thereof (whether such due date be by reason of maturity or upon redemption or prepayment, or otherwise) either (a) shall have been made or caused to be made in accordance with the terms thereof, or (b) shall have been provided for by irrevocably depositing with the Paying Agent for such Bond, in trust, and irrevocably appropriating and setting aside exclusively for such payment, either (1) moneys sufficient to make such payment or (2) noncallable Refunded Municipal Obligations or noncallable Investment Securities described in item (i) of the definition of Investment Securities as set forth in the Bond Resolution, maturing as to principal and interest in such amount and at such times as will insure, together with any cash deposit, the availability of sufficient moneys to make such payment, whichever the City and County deems to be in its best interest and as verified by an independent nationally recognized firm of certified public accountants in a report delivered to the City and County and the Director of Budget and Fiscal Services, and all necessary and proper fees, compensation and expenses of the Director of Budget and Fiscal Services and the Paying Agents pertaining to the Bond with respect to which such deposit is made shall have been paid or the payment thereof provided for to the satisfaction of the Director of Budget and Fiscal Services and said Paying Agents.

At such time as a Bond shall be deemed to be no longer Outstanding under the Bond Resolution, as aforesaid, such Bond, except for the purposes of any payment from such moneys, Refunded Municipal Obligations or Investment Securities, shall no longer be secured by or entitled to the benefits of the Bond Resolution.

Notwithstanding the foregoing, in the case of a Bond which is to be redeemed or otherwise prepaid prior to its stated maturity, no deposit under clause (b) of subparagraph (ii) of the second preceding paragraph above shall constitute such payment, discharge and satisfaction as aforesaid until such Bond shall have been irrevocably designated for redemption or prepayment and proper notice of such redemption or prepayment shall have been previously given in accordance with the Bond Resolution or provision shall have been irrevocably made for the giving of such notice.

Any such moneys so deposited with the Paying Agents for the Bonds as provided in the Bond Resolution may at the direction of the City and County also be invested and reinvested in Investment Securities, maturing in the amounts and times as set forth in the Bond Resolution. All income from all Refunded Municipal Obligations and Investment Securities in the hands of the Paying Agents which is not required for the payment of the Bonds and interest and premium thereon with respect to which such moneys shall have been so deposited, shall be paid to the City and County for deposit in the Sewer Fund free and clear of any trust, lien, security interest, pledge or assignment securing any Bonds or otherwise existing under the Bond Resolution.

All moneys, Refunded Municipal Obligations or Investment Securities set aside and held in trust pursuant to the provisions of the Bond Resolution for the payment of Bonds (including interest and premium thereof, if any) shall be applied to and used solely for the payment of the particular Bond (including interest and premium thereof, if any) with respect to which such moneys and Investment Securities have been so set aside in trust.

If moneys, Refunded Municipal Obligations or Investment Securities have been deposited or set aside with a Paying Agent pursuant to the Bond Resolution for the payment of a specific Bond and such Bond is deemed to have been paid and to be no longer Outstanding under the Bond Resolution as provided in the defeasance provisions of the Bond Resolution, but such Bond has not in fact been actually paid in full, no amendment to the defeasance provisions of the Bond Resolution may be made without the consent of the Holder of each Bond affected thereby.

The City and County may at any time surrender to a Paying Agent for a Series of Bonds for cancellation by it any Bonds of such Series previously executed and delivered, which the City and County may have acquired in any manner whatever, and such Bonds upon such surrender for cancellation shall be deemed to be paid and no longer Outstanding under the Bond Resolution.

Appendix C

Proposed Form of Continuing Disclosure Certificate

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Appendix C

Proposed Form of Continuing Disclosure Certificate
[Excluding signatures and exhibit to Master Certificate]

MASTER CERTIFICATE OF THE DIRECTOR OF BUDGET AND FISCAL SERVICES
OF THE CITY AND COUNTY OF HONOLULU, HAWAII, PROVIDING
FOR CONTINUING DISCLOSURE

I, the undersigned, Roy K. Amemiya, Jr., being the duly appointed Director of Budget and Fiscal Services (the "Director") of the City and County of Honolulu, Hawaii (the "City and County"), DO HEREBY CERTIFY as follows:

ARTICLE I
PURPOSE AND DEFINITIONS

Section 1.1. *Purpose*. This Certificate shall constitute a written undertaking for the benefit of the Holders of the Bonds, and is being executed and delivered solely to assist the Underwriters in complying with subsection (b)(5) of the Rule.

Section 1.2. *Definitions*. The following terms used in this Certificate shall have the following respective meanings:

"*Annual Financial Information*" means, collectively, (i) the financial information and operating data with respect to the Department for each fiscal year of the Department of the type included in the Series 1998 Official Statement of the City and County under the headings "FINANCIAL STATEMENTS," and "PENDING LITIGATION;" and (ii) the information regarding amendments to this Certificate required pursuant to Sections 3.2(c) and (d) of this Certificate. Audited Financial Statements, if available, or Unaudited Financial Statements shall be included in the Annual Financial Information as described in Section 2.1(c) of this Certificate.

The descriptions contained in clause (i) above of financial information and operating data constituting Annual Financial Information are of general categories of financial information and operating data. When such descriptions include information that no longer can be generated because the operations to which it related have been materially changed or discontinued, a statement to that effect shall be provided in lieu of such information.

"*Audited Financial Statements*" means the annual financial statements, if any, of the Department, audited by such auditor as shall then be required or permitted by State law or the Charter of the City and County. Audited Financial Statements shall be prepared in accordance with GAAP; *provided*, *however*, that the Department may from time to time, if required by federal or State legal requirements, modify the accounting principles to be followed in preparing its financial statements. The notice of any such modification required by Section 3.2(d) of this Certificate shall include a reference to the specific federal or State law or regulation describing such accounting principles. Prior to the fiscal year ending June 30, 1999, Audited Financial Statements of the Department means the extracts of the audited financial statements of the City and County relating to the Sewer Fund and the Wastewater System Facility Charge Fund.

"*Beneficial Owner*" means any person who (i) has the power, directly or indirectly, to vote or consent with respect to, or dispose of ownership of, any Bonds (including a person who holds Bonds through a nominee, depository or other intermediary), or (ii) is treated as the owner of any Bonds for federal income tax purposes.

"*Bonds*" means any revenue bonds issued by the City and County under and pursuant to Resolution No. 98-193 duly adopted by the City Council of the City and County on November 10, 1998 and identified in a Series Certificate.

"*Counsel*" means Hawkins, Delafield & Wood or other nationally recognized bond counsel or counsel expert in federal securities laws.

"*Department*" means the Department of Environmental Services of the City and County.

"*Director*" means any duly appointed Director of Budget and Fiscal Services of the City and County.

"*GAAP*" means generally accepted accounting principles as prescribed from time to time for governmental units by the Governmental Accounting Standards Board.

"*Holder*" means any person who shall be the registered owner, or his duly authorized attorney-in-fact, representative or assign, of any Bond.

"*Material Event*" means any of the following events with respect to the Bonds, whether relating to the Department or otherwise, if material:

(1) principal and interest payment delinquencies;
(2) non-payment related defaults;
(3) unscheduled draws on debt service reserves reflecting financial difficulties;
(4) unscheduled draws on credit enhancements reflecting financial difficulties;
(5) substitution of credit or liquidity providers, or their failure to perform;
(6) adverse tax opinions or events affecting the tax-exempt status of the security;
(7) modifications to rights of security holders;
(8) bond calls;
(9) defeasances;
(10) release, substitution, or sale of property securing repayment of the securities; and
(11) rating changes.

"*Material Event Notice*" means notice of a Material Event.

"*MSRB*" means the Municipal Securities Rulemaking Board established pursuant to Section 15B(b)(1) of the Securities Exchange Act of 1934.

"*NRMSIR*" means, at any time, a then-existing nationally recognized municipal securities information repository, as recognized from time to time by the SEC for the purposes referred to in the Rule. The NRMSIRs as of the date of this Certificate are Bloomberg L.P. (Princeton, NJ), Disclosure, Inc. (Bethesda, MD), Kenny Information Systems (New York, NY), Moody's Investors Service (New York, NY), and Thomson Municipal Services Inc. (New York, NY). Filing information relating to such NRMSIRs is set forth in Exhibit A hereto.

"*Official Statement*" means the "final official statement," as defined in paragraph (f)(3) of the Rule.

"*Rule*" means Rule 15c2-12 promulgated by the SEC under the Securities Exchange Act of 1934 (17 CFR Part 240, §240.15c2-12), as in effect on the date of this Certificate, including any official interpretations thereof issued either before or after the effective date of this Certificate which are applicable to this Certificate.

"*SEC*" means the United States Securities and Exchange Commission.

"*Series Certificate*" means any certificate executed by the Director as described in Section 3.3 of this Certificate extending the benefits of this Certificate to the Beneficial Owners, Holders and Underwriters of Bonds of a Series.

"*Series 1998 Official Statement*" means the Official Statement of the City and County relating to its Wastewater System Revenue Bonds (First Bond Resolution), Senior Series 1998.

"*SID*" means, at any time, a then-existing state information depository, if any, as operated or designated as such by or on behalf of the State for the purposes referred to in the Rule. As of the date of this Certificate, there is no SID.

"*State*" means the State of Hawaii.

"*Supplemental Certificate*" means any certificate executed by the Director as described in Section 3.2 of this Certificate amending the provisions of this Certificate.

"*Unaudited Financial Statements*" means the same as Audited Financial Statements, except that they shall not have been audited.

"*Underwriter*" means any original underwriter of a Series of Bonds who is required to comply with the Rule and who is identified in a Series Certificate.

ARTICLE II
THE UNDERTAKING

Section 2.1. *Annual Financial Information*. (a) The City and County shall provide Annual Financial Information with respect to each fiscal year of the Department, commencing with the fiscal year ending June 30, 1998, by no later than eight months after the end of the respective fiscal year, to each NRMSIR and the SID. The City and County may provide Annual Financial Information by specific reference to documents (i) either (1) provided to each NRMSIR existing at the time of such reference and the SID or (2) filed with the SEC, or (ii) if such document is an Official Statement, available from the MSRB. The Department may provide Annual Financial Information in one document or multiple documents comprising a package, and at one time or in part from time to time.

(b) The City and County shall provide, in a timely manner, notice of any failure of the City and County to provide the Annual Financial Information by the date specified in subsection (a) above to (i) either the MSRB or each NRMSIR, and (ii) the SID.

(c) If Audited Financial Statements are not provided as part of Annual Financial Information by the date required by Section 2.1(a) of this Certificate, the City and County shall provide (i) as part of the Annual Financial Information, Unaudited Financial Statements in a format similar to the unaudited financial statements contained in the Series 1998 Official Statement under the heading "FINANCIAL STATEMENTS," and (ii) Audited Financial Statements, when and if available, to each NRMSIR and the SID.

(d) The Department's current fiscal year is July 1 of a calendar year to June 30 of the succeeding calendar year. The City and County promptly notify (i) each NRMSIR, and (ii) the SID of each change in its fiscal year.

Section 2.2. *Material Event Notices*. (a) If a Material Event occurs, the City and County shall provide, in a timely manner, a Material Event Notice to (i) either the MSRB or each NRMSIR, and (ii) the SID.

(b) Upon any legal defeasance of any Bonds of a Series, the City and County shall provide notice of such defeasance to (i) each NRMSIR or the MSRB and (ii) the SID, which notice shall state whether such Bonds have been defeased to maturity or to redemption and the timing of such maturity or redemption.

(c) Each Material Event Notice shall be so captioned and shall prominently state the title, date and CUSIP numbers of the Bonds.

Section 2.3. *Additional Disclosure Obligations*. The City and County acknowledges and understands that other state and federal laws, including but not limited to the Securities Act of 1933 and Rule 10b-5 promulgated under the Securities Exchange Act of 1934, may apply to the Department, and that under some circumstances compliance with this Certificate, without additional disclosures or other action, may not fully discharge all duties and obligations of the Department under such laws.

Section 2.4. *Additional Information*. Nothing in this Certificate shall be deemed to prevent the City and County from disseminating any other information, using the means of dissemination set forth in this Certificate or any other means of communication, or including any other information in any Annual Financial Information or Material Event Notice, in addition to that which is required by this Certificate. If the City and County chooses to include any information in any Annual Financial Information or Material Event Notice in addition to that which is specifically required by this Certificate, the City and County shall have no obligation under this Certificate to update such information or include it in any future Annual Financial Information or Material Event Notice.

Section 2.5. *No Previous Non-Compliance*. The City and County represents that since July 3, 1995, it has not failed to comply in any material respect with any previous undertaking in a written contract or agreement specified in paragraph (b)(5)(i) of the Rule.

Section 2.6. *Transmission of Information and Notices*. Unless otherwise required by law and, in the City and County's sole determination, subject to technical and economic feasibility, the City and County shall employ such methods of information and notice transmission as shall be requested or recommended by the herein-designated recipients of the Department's information and notices.

ARTICLE III
TERMINATION, AMENDMENT, ENFORCEMENT, BENEFICIARIES AND DISSEMINATION AGENT

Section 3.1. *Termination*. (a) The City and County's obligations under this Certificate with respect to the Bonds shall terminate upon (i) a prior redemption or payment in full of all of the Bonds of such Series, or (ii) a legal defeasance of all of the Bonds of such Series.

(b) This Certificate, or any provision of this Certificate, shall be null and void in the event that there is delivered (i) to Director an opinion of Counsel, addressed to the City and County, to the effect that those portions of the Rule which require this Certificate, or any of the provisions of this Certificate, respectively, do not or no longer apply to the Bonds, whether because such portions of the Rule are invalid, have been repealed, or otherwise, as shall be specified in such opinion, and (2) copies of such opinion to each NRMSIR and the SID.

Section 3.2. *Amendment*. (a) This Certificate may be amended by a Supplemental Certificate of the Director, without the consent of the Holders of the Bonds, if all of the following conditions are satisfied:

(1) such amendment is made in connection with a change in circumstances that arises from a change in legal (including regulatory) requirements, a change in law (including rules or regulations) or in interpretations thereof, or a change in the identity, nature or status of the Department or the type of business conducted thereby;

(2) this Certificate as so amended would have complied with the requirements of the Rule as of the date of this Certificate, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances;

(3) there shall have been delivered to the Director, an opinion of Counsel, addressed to the City and County, to the same effect as set forth in clause (2) above;

(4) there shall have been delivered to the Director, an opinion of Counsel or a determination by a person, in each case unaffiliated with the City and County (such as bond counsel) and acceptable to

the City and County, addressed to the City and County, to the effect that the amendment does not materially impair the interests of the Holders of the Bonds; and

(5) the City and County shall have delivered copies of such opinion(s) and amendment to each NRMSIR and the SID.

(b) In addition to subsection (a) above, this Certificate may be amended and any provision of this Certificate may be waived by a Supplemental Certificate of the Director, without the consent of the holders of the Bonds, if all of the following conditions are satisfied: (1) an amendment to the Rule is adopted, or a new or modified official interpretation of the Rule is issued, after the effective date of this Certificate which is applicable to this Certificate, (2) there shall have been delivered to the Director an opinion of Counsel, addressed to the City and County, to the effect that performance by the City and County under this Certificate as so amended or giving effect to such waiver, as the case may be, will not result in a violation of the Rule as amended or officially interpreted and (3) the City and County shall have delivered copies of such opinion and amendment to each NRMSIR and the SID.

(c) To the extent any amendment to this Certificate results in a change in the type of financial information or operating data provided pursuant to this Certificate, the first Annual Financial Information provided thereafter shall include a narrative explanation of the reasons for the amendment and the impact of the change.

(d) If an amendment is made to the accounting principles to be followed in preparing financial statements, the Annual Financial Information for the year in which the change is made shall present a comparison between the financial statements or information prepared on the basis of the new accounting principles and those prepared on the basis of the former accounting principles. Such comparison shall include a qualitative and, to the extent reasonably feasible, quantitative discussion of the differences in the accounting principles and the impact of the change in the accounting principles on the presentation of the financial information. Notice of such amendment shall be provided by the City and County to (i) either the MSRB or each NRMSIR and (ii) the SID.

Section 3.3. *Benefit; Third-Party Beneficiaries; Enforcement*. (a) By execution of a Series Certificate identifying the Underwriters and the Bonds of a Series, the provisions of this Certificate shall inure solely to the benefit of such Underwriters and the Holders from time to time of such Bonds. Beneficial Owners of such Bonds shall be third party beneficiaries of this Certificate.

(b) Except as provided in this subsection (b), the provisions of this Certificate shall create no rights in any person or entity. The obligations of the City and County to comply with the provisions of this Certificate shall be enforceable by any Holder of outstanding Bonds; *provided*, *however*, that such right to enforce the provisions of this Certificate shall be limited solely to a right, by action in mandamus or for specific performance, to compel performance of the City and County's obligations under this Certificate. In consideration of the third-party beneficiary status of Beneficial Owners of Bonds pursuant to subsection (a) of this Section, Beneficial Owners shall be deemed to be Holders of Bonds for purposes of this subsection (b).

(c) Any failure by the City and County to perform in accordance with this Certificate shall not constitute a default under any ordinance or resolution of the City and County authorizing the Bonds of any Series or any certificate of the Director providing for the issuance of the Bond of a Series.

(d) This Certificate shall be construed and interpreted in accordance with the laws of the State, and any suits and actions arising out of this Certificate shall be instituted in a court of competent jurisdiction in the State; *provided*, *however*, that to the extent this Certificate addresses matters of federal securities laws, including the Rule, this Certificate shall be construed in accordance with such federal securities laws and official interpretations thereof.

Section 3.4. *Dissemination Agent*. The Director, on behalf of the Department, shall disseminate the Annual Financial Information, the Audited Financial Statements, the Unaudited Financial Statements, the Material Event Notices and all other information and notices as described in this Certificate. The Director may appoint one or more agents to disseminate such information and notices.

Dated this 23rd day of December, 1998.

SERIES CERTIFICATE OF THE DIRECTOR OF BUDGET AND FISCAL SERVICES OF THE CITY AND COUNTY OF HONOLULU, PROVIDING FOR CONTINUING DISCLOSURE

I, the undersigned, Mary Patricia Waterhouse, being the duly appointed Director of Budget and Fiscal Services (the "Director") of the City and County of Honolulu (the "City and County"), DO HEREBY CERTIFY that: (i) this Certificate is a Series Certificate as defined in Section 1.1 and described in Section 3.3 of the Master Certificate of the Director of Budget and Fiscal Services of the City and County of Honolulu, Hawaii, Providing for Continuing Disclosure, dated December 23, 1998 (the "Master Certificate"); (ii) UBS Securities LLC, on behalf of the Underwriters of the $162,565,000 Wastewater System Revenue Bonds (First Bond Resolution), Senior Series 2007A of the City and County, to be dated the date of issuance thereof (the "Series 2007 Bonds"), shall be beneficiaries of the Master Certificate; (iii) the Holders of the Series 2007 Bonds shall also beneficiaries of the Master Certificate; (iv) the Beneficial Owners of Series 2007 Bonds shall third-party beneficiaries of the Master Certificate; and (v) all capitalized terms used herein shall have the respective meanings as defined in the Master Certificate.

The NRMSIRs as of the date of this Series Certificate are set forth at:

www.sec.gov/info/consumer/nrmsir.htm.

Dated this July 24, 2007.

_____
Director of Budget and Fiscal Services
City and County of Honolulu

The above and foregoing certificate
is hereby approved as to form and legality
this July 24, 2007.

_____
Corporation Counsel
City and County of Honolulu

Appendix D

Proposed Form of Opinion of Bond Counsel

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Appendix D

Proposed Form of Opinion of Bond Counsel

[Closing Date]

City and County of Honolulu
Honolulu, Hawaii

Re: City and County of Honolulu
Wastewater System Revenue Bonds
(First Bond Resolution) Senior Series 2007A
(Final Opinion)

Ladies and Gentlemen:

We have acted as bond counsel to the City and County of Honolulu (the "City and County") in connection with the issuance of $162,565,000 aggregate principal amount of its Wastewater System Revenue Bonds (First Bond Resolution) Senior Series 2007A (the "Bonds"), pursuant to the provisions of Chapter 49, Hawaii Revised Statutes (the "Act"), the City Charter, a Bond Resolution and a Series Resolution of the City and County (collectively, the "Resolution"), and a Series Certificate of the Director of Budget and Fiscal Services of the City and County (the "Certificate"). Terms not otherwise defined herein shall have the meanings assigned to them in the Certificate.

In such connection, we have reviewed the Resolution, the Certificate, the Tax Certificate of the City and County, dated the date hereof (the "Tax Certificate"), an opinion of the Corporation Counsel of the City and County, certificates of the City and County and others, and such other documents, opinions and matters to the extent we deemed necessary to render the opinions set forth herein.

The opinions expressed herein are based on an analysis of existing laws, regulations, rulings and court decisions and cover certain matters not directly addressed by such authorities. Such opinions may be affected by actions taken or omitted or events occurring after the date hereof. We have not undertaken to determine, or to inform any person, whether any such actions are taken or omitted or events do occur or any other matters come to our attention after the date hereof. Accordingly, this opinion is not intended to, and may not, be relied upon in connection with any such actions, events or matters. Our engagement with respect to the Bonds has concluded with their issuance, and we disclaim any obligation to update this letter. We have assumed the genuineness of all documents and signatures presented to us (whether as originals or as copies) and the due and legal execution and delivery thereof by, and validity against, any parties other than the City and County. We have assumed, without undertaking to verify, the accuracy of the factual matters represented, warranted or certified in the documents, and of the legal conclusions contained in the opinions, referred to in the second paragraph hereof. Furthermore, we have assumed compliance with all covenants and agreements contained in the Resolution, the Certificate and the Tax Certificate, including (without limitation) covenants and agreements compliance with which is necessary to assure that future actions, omissions or events will not cause interest on the Bonds to be included in gross income for federal income tax purposes. We call attention to the fact that the rights and obligations under the Bonds, the Resolution, the Certificate and the Tax Certificate and their enforceability may be subject to bankruptcy, insolvency, reorganization, arrangement, fraudulent conveyance, moratorium and other laws relating to or affecting creditors' rights, to the application of equitable principles, to the exercise of judicial discretion in appropriate cases, and to the limitations on legal remedies against counties in the State of Hawaii. We express no opinion with respect to any indemnification, contribution, penalty, choice of law, choice of forum, choice of venue, waiver or severability provisions contained in the foregoing documents, nor do we express any opinion with respect to the state or quality of title to or interest in any assets described in or as subject to the lien of the Resolution or the accuracy or sufficiency of the description contained therein of, or the remedies available to enforce liens on, any such assets.

Finally, we undertake no responsibility for the accuracy, completeness or fairness of the Official Statement or other offering material relating to the Bonds and express no opinion with respect thereto.

Based on and subject to the foregoing, and in reliance thereon, as of the date hereof, we are of the following opinions:

1. The Bonds constitute valid and binding special obligations of the City and County.

2. The Bonds are payable solely from and are secured by the Net Revenues and other funds pledged to the payment thereof pursuant to the Resolution, subject to the provisions of the Resolution permitting the application thereof for the purposes and on the terms and conditions set forth in the Resolution.

3. The Resolution has been duly adopted and constitutes the valid and binding obligation of the City and County, and the Certificate has been duly executed and delivered and constitutes the valid and binding obligation of the City and County.

4. Interest on the Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, and the Bonds and the income therefrom are exempt from all taxation by the State of Hawaii or any county or other political subdivision thereof, except inheritance, transfer, estate and certain franchise taxes. Interest on the Bonds is not a specific preference item for purposes of the federal individual or corporate alternative minimum taxes, although we observe that it is included in adjusted current earnings when calculating corporate alternative minimum taxable income. We express no opinion regarding other tax consequences related to the ownership or disposition of, or the accrual or receipt of interest on, the Bonds.

Faithfully yours,

ORRICK, HERRINGTON & SUTCLIFFE LLP

per

Appendix E

Specimen Bond Insurance Policy

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Appendix E

Specimen Bond Insurance Policy

FINANCIAL GUARANTY INSURANCE POLICY

MBIA Insurance Corporation
Armonk, New York 10504

Policy No. [NUMBER]

MBIA Insurance Corporation (the "Insurer"), in consideration of the payment of the premium and subject to the terms of this policy, hereby unconditionally and irrevocably guarantees to any owner, as hereinafter defined, of the following described obligations, the full and complete payment required to be made by or on behalf of the Issuer to [PAYING AGENT/TRUSTEE] or its successor (the "Paying Agent") of an amount equal to (i) the principal of (either at the stated maturity or by any advancement of maturity pursuant to a mandatory sinking fund payment) and interest on, the Obligations (as that term is defined below) as such payments shall become due but shall not be so paid (except that in the event of any acceleration of the due date of such principal by reason of mandatory or optional redemption or acceleration resulting from default or otherwise, other than any advancement of maturity pursuant to a mandatory sinking fund payment, the payments guaranteed hereby shall be made in such amounts and at such times as such payments of principal would have been due had there not been any such acceleration, unless the Insurer elects, in its sole discretion, to pay in whole or in part any principal due by reason of such acceleration); and (ii) the reimbursement of any such payment which is subsequently recovered from any owner pursuant to a final judgment by a court of competent jurisdiction that such payment constitutes an avoidable preference to such owner within the meaning of any applicable bankruptcy law. The amounts referred to in clauses (i) and (ii) of the preceding sentence shall be referred to herein collectively as the "Insured Amounts." "Obligations" shall mean:

[PAR]
[LEGAL NAME OF ISSUE]

Upon receipt of telephonic or telegraphic notice, such notice subsequently confirmed in writing by registered or certified mail, or upon receipt of written notice by registered or certified mail, by the Insurer from the Paying Agent or any owner of an Obligation the payment of an Insured Amount for which is then due, that such required payment has not been made, the Insurer on the due date of such payment or within one business day after receipt of notice of such nonpayment, whichever is later, will make a deposit of funds, in an account with U.S. Bank Trust National Association, in New York, New York, or its successor, sufficient for the payment of any such Insured Amounts which are then due. Upon presentment and surrender of such Obligations or presentment of such other proof of ownership of the Obligations, together with any appropriate instruments of assignment to evidence the assignment of the Insured Amounts due on the Obligations as are paid by the Insurer, and appropriate instruments to effect the appointment of the Insurer as agent for such owners of the Obligations in any legal proceeding related to payment of Insured Amounts on the Obligations, such instruments being in a form satisfactory to U.S. Bank Trust National Association, U.S. Bank Trust National Association shall disburse to such owners, or the Paying Agent payment of the Insured Amounts due on such Obligations, less any amount held by the Paying Agent for the payment of such Insured Amounts and legally available therefor. This policy does not insure against loss of any prepayment premium which may at any time be payable with respect to any Obligation.

As used herein, the term "owner" shall mean the registered owner of any Obligation as indicated in the books maintained by the Paying Agent, the Issuer, or any designee of the Issuer for such purpose. The term owner shall not include the Issuer or any party whose agreement with the Issuer constitutes the underlying security for the Obligations.

Any service of process on the Insurer may be made to the Insurer at its offices located at 113 King Street, Armonk, New York 10504 and such service of process shall be valid and binding.

This policy is non-cancellable for any reason. The premium on this policy is not refundable for any reason including the payment prior to maturity of the Obligations.

IN WITNESS WHEREOF, the Insurer has caused this policy to be executed in facsimile on its behalf by its duly authorized officers, this [DAY] day of [MONTH, YEAR].

MBIA Insurance Corporation

_____
President

Attest: _____
Assistant Secretary

SPECIMEN

STD-R-7
01/05

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CITY AND COUNTY OF HONOLULU • WASTEWATER SYSTEM REVENUE BONDS (FIRST BOND RESOLUTION) SENIOR SERIES 2007A

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