

**NEW ISSUE
BOOK-ENTRY ONLY**

**RATINGS: Moody's: Aaa
Fitch: AAA
(See "Ratings" herein)**

In the opinion of Orrick, Herrington & Sutcliffe LLP, Bond Counsel, based upon an analysis of existing laws, regulations, rulings and court decisions, and assuming, among other matters, compliance with certain covenants, interest on the Series 2001 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 2001 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 2001 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 in 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 Bonds. See "TAX MATTERS" in this Official Statement.

\$136,020,000
City and County of Honolulu
Wastewater System Revenue Bonds
(First Bond Resolution)
Senior Series 2001

Dated: July 15, 2001

Due: July 1, as shown on inside cover

The Series 2001 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 2001 Bonds, purchases of the Series 2001 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 2001 Bonds will not receive physical delivery of Bond certificates; payment of the principal of and interest and any premium on the Series 2001 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 2001 Bonds may be made in the denomination of \$5,000 or any integral multiple thereof.

The Series 2001 Bonds bear interest payable on January 1 and July 1 of each year, commencing January 1, 2002. The Series 2001 Bonds are subject to redemption prior to the stated maturity thereof as described herein.

The proceeds of the Series 2001 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"); (ii) to fund a reserve; and (iii) to pay the costs of issuance of the Series 2001 Bonds.

The Series 2001 Bonds will be issued by the City and County under a bond resolution, as supplemented (the "First Resolution"), pursuant to which the City has previously issued bonds and may issue additional bonds on a parity with the Series 2001 Bonds, as described herein (collectively with the Series 2001 Bonds, the "Bonds"). The Series 2001 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 First Resolution, the Net Revenues, and certain funds and accounts established by the First Resolution, on a parity with all other Bonds issued under the First 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 2001 Bonds when due will be insured by a financial guaranty insurance policy to be issued by Ambac Assurance Corporation simultaneously with the delivery of the Series 2001 Bonds.

Ambac

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 2001 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, San Francisco, California, 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 2001 Bonds in definitive form will be available for delivery to DTC, in New York, New York, on or about July 26, 2001.

Salomon Smith Barney

UBS PaineWebber Inc.

Dated: July 10, 2001

\$136,020,000
City and County of Honolulu
Wastewater System Revenue Bonds
(First Bond Resolution)
Senior Series 2001

Maturity Schedule

Serial Bonds, \$74,420,000

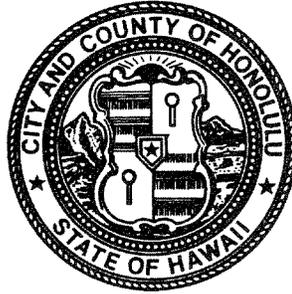
<u>Year</u> <u>(July 1)</u>	<u>Principal</u> <u>Amount</u>	<u>Interest</u> <u>Rate</u>	<u>Yield</u>	<u>Year</u> <u>(July 1)</u>	<u>Principal</u> <u>Amount</u>	<u>Interest</u> <u>Rate</u>	<u>Yield</u>
2005	\$2,365,000	5.00%	3.70%	2015	\$3,950,000	5.50%	4.90% *
2006	2,475,000	4.00	3.84	2016	4,175,000	5.50	4.97 *
2007	2,590,000	5.00	4.01	2017	4,410,000	5.50	5.04 *
2008	2,725,000	5.00	4.17	2018	4,660,000	5.50	5.09 *
2009	2,860,000	5.00	4.31	2019	4,920,000	5.25	5.18 *
2010	3,010,000	5.00	4.41	2020	5,185,000	5.25	5.21 *
2011	3,170,000	5.50	4.51	2021	5,465,000	5.25	5.23 *
2012	3,350,000	5.50	4.64 *	2022	5,760,000	5.25	5.25
2013	3,540,000	5.50	4.74 *	2023	6,070,000	5.25	5.27
2014	3,740,000	5.50	4.83 *				

\$61,600,000 5.125% Term Bonds Due July 1, 2031, Price 96.125

(plus accrued interest from July 15, 2001)

* Priced to call date of July 1, 2011.

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



MAYOR
Jeremy Harris

CITY COUNCIL

Jon C. Yoshimura
Chair and Presiding Officer

John DeSoto
Vice-Chair

Steve Holmes
Floor Leader

Duke Bainum

John Henry Felix

Rene Mansho

Andy Mirikitani

Gary H. Okino

Romy M. Cachola

DIRECTOR OF BUDGET AND FISCAL SERVICES
Caroll Takahashi

ACTING DIRECTOR OF ENVIRONMENTAL SERVICES
Timothy E. Steinberger

CORPORATION COUNSEL
David Z. Arakawa

BOND COUNSEL
Orrick, Herrington & Sutcliffe LLP
San Francisco, California

No dealer, broker, salesperson or other person has been authorized by the City and County of Honolulu, Hawaii or by the Underwriters to give any information or to make any representations other than as contained in this Official Statement, and if given or made, such other information or representations must not be relied upon as having been authorized by any of the foregoing. This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of, the Series 2001 Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale. The information set forth herein has been furnished by the City and County of Honolulu, Hawaii and by other sources which are believed to be reliable but is not guaranteed as to accuracy or completeness and is not to be construed as a representation by the Underwriters. The information and expressions of opinion herein are subject to change without notice and neither the delivery of this Official Statement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the City and County since the date hereof.

In connection with this offering, the Underwriters may over-allot or effect transactions which stabilize or maintain the market price of the Series 2001 Bonds at a level above that which might otherwise prevail in the open market. Such stabilizing, if commenced, may be discontinued at any time. The Underwriters may offer and sell the Series 2001 Bonds to certain dealers and certain dealer banks and banks acting as agents at prices lower than the public offering prices stated on the cover page hereof and said public offering prices may be changed from time to time by the Underwriters.

TABLE OF CONTENTS

	<u>Page</u>		<u>Page</u>
INTRODUCTORY STATEMENT	1	2001-2010 Capital Improvement Program	22
SOURCES AND USES OF FUNDS	3	1998-2017 Capital Improvement Program	23
THE SERIES 2001 BONDS	3	HISTORICAL AND PROJECTED	
General	3	REVENUES, EXPENSES AND COVERAGES ..	24
Optional Redemption	3	CONCLUSIONS OF CONSULTING	
Mandatory Redemption	3	ENGINEER	25
Notice of Redemption	4	CERTAIN FINANCIAL, OPERATING AND	
Effect of Redemption	4	OTHER INFORMATION AND STATISTICS	27
Selection for Redemption	4	Management’s Discussion of Financial	
Book-Entry System	4	Performance	27
SECURITY FOR THE BONDS	7	Billing and Collection	27
General	7	Ten Largest Customers	27
Funds and Accounts	7	Debt and Financial Policies	28
Common Reserve Account and Separate		FINANCIAL STATEMENTS	34
Series Reserve Accounts	9	PENDING LITIGATION	39
Rate Covenant	10	RATINGS	39
Additional Bonds and Refunding Bonds	11	UNDERWRITING	39
BOND INSURANCE	12	TAX MATTERS	39
REVENUE BOND DEBT SERVICE		APPROVAL OF LEGAL PROCEEDINGS	41
REQUIREMENTS	15	CONTINUING DISCLOSURE	41
THE CITY AND COUNTY AND THE		MISCELLANEOUS	41
DEPARTMENT	16	Appendix A: Extracts from Audited Financial	
Purpose and Powers	16	Statements of City and County	
Department Work Force	17	Appendix B: Engineer’s Report	
Department Principal Officers	17	Appendix C: Summary of Certain Provisions of	
THE WASTEWATER SYSTEM	17	the First Resolution	
Introduction	17	Appendix D: Proposed Form of Continuing	
General Description of Existing Facilities	17	Disclosure Certificate	
Environmental Compliance	18	Appendix E: Proposed Form of Opinion of Bond	
Projected Customer Growth	19	Counsel	
CAPITAL IMPROVEMENT PROGRAM	20	Appendix F: Specimen Financial Guaranty	
EPA Consent Decree	20	Insurance Policy	
Criteria for Ranking CIP Projects by Priority	21		
Classification of CIP Projects	21		
2001-2005 Capital Improvement Program	22		

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OFFICIAL STATEMENT

\$136,020,000

City and County of Honolulu

Wastewater System Revenue Bonds
(First Bond Resolution)
Senior Series 2001

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") of \$136,020,000 aggregate principal amount of Wastewater System Revenue Bonds (First Bond Resolution), Senior Series 2001 (the "Series 2001 Bonds"). The Series 2001 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 (the "First Bond Resolution"), and the Series 2001 Resolution adopted by the City Council of the City and County on June 20, 2001 (the "Series 2001 Resolution"). The First Bond Resolution, as amended and supplemented, is referred to herein as the "First Resolution."

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

The proceeds of the Series 2001 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 fund 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 2001 Bonds.

The Series 2001 Bonds are the second series of bonds (each a "Series" and collectively, the "Bonds") issued under and pursuant to the First Resolution and will be secured by and entitled to the protection of the First Resolution on a parity with all Bonds heretofore issued and to be hereafter issued under and pursuant to the First 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 First Resolution, the Net Revenues, and certain funds and accounts established by the First 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."

In 1998, the City and County issued \$55,300,000 of Bonds under the First Resolution, and, as part of the same plan of finance, also issued \$264,152,890 principal amount of Wastewater System Revenue Bonds (Second Bond Resolution), Junior Series 1998 (the "Junior Series 1998 Bonds"), under a Second Wastewater Revenue Bond Resolution adopted by the City Council of the City and County on November 10, 1998 (as supplemented, the "Second Resolution"). The Junior Series 1998 Bonds are limited special obligations of the City and County payable solely from, and secured solely by a pledge of, the Net Revenues, proceeds of bonds held or set aside under the Second Resolution and certain funds and accounts established by the Second Resolution. Such pledge of the Net Revenues is junior and subordinate to the pledge of the Net Revenues to secure the Bonds issued under and pursuant to the First Resolution. The Junior Series 1998 Bonds are considered to be Subordinate Obligations for purposes of the First Resolution.

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-wide reorganization to streamline

operations. 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."

The Wastewater System services approximately 130,000 separate accounts and a population of approximately 600,000, which is approximately 70% of the total population of the City and County. The service area covers nearly 500 square miles. The customer base includes the residential population, business and industrial, and other users located in the service area. Of the 130,000 accounts, 123,000 are residential, representing 77.8% of the total revenue from sewer service charges; and the remaining 7,000 are non-residential, representing 22.2% of the total revenue from sewer service charges. The average total volume of wastewater processed by the City and County's Wastewater System is 113.6 million gallons per day. 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 4.1 million gallons per day. See "THE WASTEWATER SYSTEM."

The additions and improvements to the Wastewater System, the costs of which are to be financed from the proceeds of the Series 2001 Bonds, are part of a five year capital improvement program adopted by the Department and approved by the City Council of the City and County (the "2001-2005 Capital Improvement Program"). The 2001-2005 Capital Improvement Program is projected to cost approximately \$907 million (in inflated dollars) and is being undertaken for the purposes, among others, of meeting certain consent decrees 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 2001-2005 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 \$2.4 billion (in inflated dollars) and has been undertaken for the same basic purposes as the 2001-2005 Capital Improvement Program. The cost of the 1998-2017 Capital Improvement Program, including the 2001-2005 Capital Improvement Program, is expected to be financed primarily from (i) the proceeds of the Series 2001 Bonds and Bonds previously issued, (ii) proceeds of additional Bonds and Subordinate Obligations to be hereafter issued, (iii) proceeds of Reimbursable Obligations previously issued and currently available, (iv) the Net Revenues of the Wastewater System, and (v) Wastewater System Facilities Charges. See "THE CAPITAL IMPROVEMENT PROGRAM" and Appendix B, "Engineer's Report."

Carollo Engineers, P.C., Consulting Engineer (the "Consulting Engineer"), has projected revenues, expenses and coverages for the Wastewater System for the Fiscal Years 2001-2010, inclusive. The projections are based on inflated dollars (*i.e.*, adjusted from 2001 dollars). The projections indicate that with respect to the Fiscal Years 2001-2010, inclusive, the City and County can (i) issue the Series 2001 Bonds to finance \$125 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 2001 Bonds; (ii) finance an additional \$1.45 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 wastewater revenue bonds previously issued and currently available, the Net Revenues and Wastewater System Facility Charges over the nine year period; and (iii) fully meet all reserve funding and coverage requirements under the First Resolution and the Second Bond Resolution by raising sewer rates and charges by 11% in Fiscal Year 2003-2004 and another 6% to 12% in each of the Fiscal Years thereafter, and by raising Wastewater System Facility Charges by 3.0% in Fiscal Year 2003-2004 and another 3.0% in each of the Fiscal Years thereafter. The average monthly residential wastewater charge is expected to increase from \$33.35 to \$64.29 (in inflated dollars) by 2010. The Wastewater System Facility Charge is expected to increase from \$1,146 to \$1,409 (in inflated dollars) by 2010. The Consulting Engineer has concluded that current customer rates and charges for the City and County compare favorably to other similar wastewater agencies. See Appendix B, "Engineer's Report."

Pursuant to the Chapter 49, Hawaii Revised Statutes (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 First 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. The City Council has not as of the date of this Official Statement adopted any of the rate increases discussed in the Engineer's Report.

SOURCES AND USES OF FUNDS

Sources and uses of funds with respect to the Series 2001 Bonds are as follows:

Sources of Funds	
Principal Amount of Series 2001 Bonds.....	\$136,020,000.00
Plus Accrued Interest	216,233.26
Less Net Original Issue Discount	<u>(151,176.80)</u>
Total Sources	<u>\$136,085,056.46</u>
 Uses of Funds	
Deposit to Improvement Account	\$125,001,169.77
Deposit to Debt Service Account	216,233.26
Common Reserve Account	9,385,515.88
Cost of Issuance*	<u>1,482,137.55</u>
Total Uses	<u>\$136,085,056.46</u>

* Includes insurance premium and underwriters' discount

THE SERIES 2001 BONDS

General

The Series 2001 Bonds will be dated and bear interest from July 15, 2001, with interest payable on January 1 and July 1 of each year, commencing January 1, 2002, at the rates per annum and will mature in the principal amounts on July 1 in each year, as set forth on the inside cover page of this Official Statement.

Optional Redemption

The Series 2001 Bonds maturing after July 1, 2011, are subject to redemption at the option of the City and County, on or after July 1, 2011 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 2001 Bonds or portions thereof to be redeemed, plus accrued interest to the date of redemption.

Mandatory Redemption

The Series 2001 Bonds maturing on July 1, 2031 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 2001 Bonds specified for July of each of the years shown below:

Series 2001 Bonds
Maturing July 1, 2031

<u>Year</u> <u>(July 1)</u>	<u>Principal</u> <u>Amount</u>
2024	\$6,390,000
2025	6,725,000
2026	7,080,000
2027	7,455,000
2028	7,845,000
2029	8,260,000
2030	8,695,000
2031†	9,150,000

† 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 2001 Bonds or portions of the Series 2001 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 First 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 2001 Bonds. See "THE SERIES 2001 BONDS - Book-Entry System."

Effect of Redemption

If, on the redemption date, moneys for the redemption of all the Series 2001 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 First Resolution, then, from and after the redemption date, interest on the Series 2001 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 2001 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 2001 Bonds is in effect, if less than all of the Series 2001 Bonds of any one maturity are to be redeemed, the particular Series 2001 Bonds or portions of Series 2001 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 2001 Bonds is no longer in effect, selection for redemption of less than all Series 2001 Bonds of any one maturity will be made by the Paying Agent by lot as provided in the First Resolution.

Book-Entry System

The Depository Trust Company ("DTC"), New York, New York, will act as securities depository for the Series 2001 Bonds. The Series 2001 Bonds will be issued as fully-registered securities in the name of Cede & Co. (DTC's partnership nominee). One fully-registered Series 2001 Bond certificate will be issued for each maturity of the Series 2001 Bonds, each in the aggregate principal amount of such maturity of such series, and will be deposited with DTC.

DTC 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 securities that its participants (“Direct Participants”) deposit with DTC. DTC also facilitates the settlement among Participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerized book-entry changes in Direct Participants’ accounts, thereby eliminating the need for physical movement of securities certificates. Direct Participants include securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. DTC is owned by a number of its Direct Participants and by the New York Stock Exchange, Inc., the American Stock Exchange, Inc., and the National Association of Securities Dealers, Inc. Access to the DTC system is also available to others such as securities brokers and dealers, banks and trust companies that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly (“Indirect Participants” and, together with Direct Participants, “Participants”). The rules applicable to DTC and its Participants are on file with the Securities and Exchange Commission.

Purchases of Series 2001 Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Series 2001 Bonds on DTC’s records. The ownership interest of each actual purchaser of each Series 2001 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, but Beneficial Owners are 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 2001 Bonds are to be accomplished by entries made on the books of Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the Series 2001 Bonds, except in the event that use of the book-entry system for the Series 2001 Bonds is discontinued.

To facilitate subsequent transfers, all Series 2001 Bonds deposited by Participants with DTC and their registration in the name of Cede & Co. or other nominee of DTC effect no change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Series 2001 Bonds; DTC’s records reflect only the identity of the Direct Participants to whose accounts such Series 2001 Bonds are credited, which may or may not be the Beneficial Owners. The Participants will remain responsible for keeping account of their holdings on behalf of their customers.

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 Cede & Co. If less than all of the Bonds within a maturity of a Series of the Series 2001 Bonds are being redeemed, DTC’s practice is to determine by lot the amount of the interest of each Direct Participant in such maturity to be redeemed.

Neither DTC nor any nominee will consent or vote with respect to Series 2001 Bonds. Under its usual procedures, DTC mails an omnibus proxy (the “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 the Series 2001 Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal, redemption premium, if any, and interest payments on the Series 2001 Bonds will be made to DTC or its nominee. DTC’s practice is to credit Direct Participants’ accounts on the payable date in accordance with their respective holdings shown on DTC’s records unless DTC has reason to believe that it will not receive payment on the payable date. 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, the 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 principal, redemption premium, if any, and interest to DTC is the responsibility of the City and County

or the Paying Agent, disbursement of such payments to Direct Participants shall be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners shall be the responsibility of Direct and Indirect Participants.

The City and County and the Paying Agent may treat DTC (or its nominee) as the sole and exclusive registered owner of the Series 2001 Bonds for the purpose of payment of the principal and redemption premium, if any, of, or interest on, the Series 2001 Bonds, giving any notice permitted or required to be given to registered owners under the First Resolution, registering the transfer of the Series 2001 Bonds, or other action to be taken by registered owners and for all other purposes whatsoever. The City and County and the Paying Agent shall not have any responsibility or obligation to any Participant, any person claiming a beneficial ownership interest in the Series 2001 Bonds under or through DTC or any Participant, or any other person which is not shown on the registration books of the City and County (kept by the Paying Agent) as being a registered owner, with respect to the accuracy of any records maintained by DTC or any Participant; the payment by DTC or any Participant of any amount in respect of the principal, redemption premium, if any, or interest on the Series 2001 Bonds; any notice which is permitted or required to be given to registered owners thereunder or under the conditions to transfers or exchanges adopted by the City and County; or other action taken by DTC as registered owner. Interest, redemption premium, if any, and principal will be paid by the Paying Agent to DTC, or its nominee. Disbursement of such payments to the Participants is the responsibility of DTC and disbursement of such payments to the Beneficial Owners is the responsibility of the Participants or the Indirect Participants.

For every transfer and exchange of beneficial ownership of any of the Series 2001 Bonds, a Beneficial Owner may be charged a sum sufficient to cover any tax, fee or other governmental charge that may be imposed in relation thereto.

DTC may discontinue providing its service with respect to the Series 2001 Bonds at any time by giving notice to the City and County and discharging its responsibilities with respect thereto under applicable law, or the City and County may terminate its participation in the system of book-entry transfer through DTC at any time by giving notice to DTC. In either event, the City and County may retain another securities depository for the Series 2001 Bonds or may direct the Paying Agent to deliver bond certificates in accordance with instructions from DTC or its successor. If the City and County directs the Paying Agent to deliver such bond certificates, such Series 2001 Bonds may thereafter be exchanged for an equal aggregate principal amount of Series 2001 Bonds in any other authorized denominations and of the same maturity as set forth in the First Resolution, upon surrender thereof at the principal corporate trust office of the Paying Agent, who will then be responsible for maintaining the registration books of the City and County.

Unless otherwise noted, certain of the information contained in the preceding paragraphs of this subsection "Book-Entry Only System" has been extracted from information provided by DTC. Neither the City and County, the Paying Agent nor the Underwriters make any representation as to the completeness or the accuracy of such information or as to the absence of material adverse changes in such information subsequent to the date hereof.

Neither the City and County nor the Paying Agent will have any responsibility or obligations to such DTC Participants, Indirect Participants, or the persons for whom they act as nominees with respect to the payments to or the providing of notice for such DTC Participants, Indirect Participants, or the Beneficial Owners. Payments made to DTC or its nominee shall satisfy the City and County's obligation under the First Resolution to the extent of such payments.

So long as Cede & Co. is the registered owner of the Series 2001 Bonds, as nominee for DTC, references herein to the Bondholders or registered owners of the Series 2001 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 2001 Bonds.

SECURITY FOR THE BONDS

General

The Bonds issued under and pursuant to the First Resolution, including the Series 2001 Bonds, are limited special obligations of the City and County. Pursuant to the First 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 First Resolution, the Net Revenues, and all Funds and Accounts established by the First Resolution other than the Rebate Account, the Subordinate Obligation Account, and the Reimbursable Obligation Account and in certain instances pursuant to the First Resolution, the Common Reserve Account or Separate Series Reserve Accounts. The Bonds are equally and ratably payable and secured under the First Resolution except that the City and County has reserved the right under the First 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 First 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 First 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 First 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 First Resolution is superior to the pledge and security for Subordinate Obligations and Reimbursable Obligations authorized to be issued pursuant to the First 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 First 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 June 1, 2001, \$358,298,461 principal amount of Subordinate Obligations and Reimbursable Obligations were outstanding.

The Series 2001 Bonds will constitute Bonds under the First Resolution. The Series 2001 Bonds are the second Series of Bonds to be issued under the First Resolution. The City and County expects to issue additional Bonds under the First Resolution on a parity with the Series 2001 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 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.

Funds and Accounts

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

The City and County has established the Sewer Fund by ordinance. Revenues are deposited in the Sewer Fund. The First 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 First Resolution. The First 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.

Debt service on and redemption price of 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 funded (i) from the Net Revenues but only after paying the Operation and Maintenance Expenses and after transferring required amounts to other funds and accounts as provided in the First 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 First 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 First 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 2001 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 be used to pay 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 First 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 First 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 First Resolution. The Wastewater System Facility Charges are not considered to be Revenues under the First Resolution.

The City and County has also established by ordinance the Improvement Fund. The First 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 First 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 First 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 First 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 First Resolution establishes a Common Reserve Account. Under the First 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 2001 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 First 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 First 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 First 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 First 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 First Resolution. The City and County may at any time deposit cash or Investment Securities as replacement for one or more Support Facilities.

Separate Series Reserve Accounts. The First 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 2001 Bonds.

Transfers to Reserve Accounts. The First 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 First 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 First Resolution so long as the provisions of the First 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 First 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 OPERATING AND OTHER STATISTICS - Summary of Current Sewer Rate Ordinance" for current sewer charges, "PROJECTED REVENUES, EXPENSES AND COVERAGES" and Appendix B, "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 First 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 First Resolution. The Series 2001 Bonds are being issued as Additional Bonds under the First 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 twelve (12) month period out of twenty-four (24) months immediately preceding the month in which such Bonds are issued were not less than the greater of: (x) the sum of (1) the maximum Aggregate Debt Service on all Bonds then Outstanding and on the proposed Series of Bonds in any Fiscal Year and the twelve (12) month period selected and (2) the Required Deposits for such Fiscal Year or the twelve (12) month period selected; and (y) 1.20 times the maximum Aggregate Debt Service on all Bonds then Outstanding and on the proposed Series of Bonds in any Fiscal Year and the twelve (12) month period selected, 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 the greater of: (x) the sum of (1) the maximum Aggregate Debt Service on all Bonds then Outstanding and on the proposed Series of Bonds in any such Fiscal Year, and (2) the Required Deposits for any such Fiscal Year; and (y) 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 First Resolution. In addition, the First 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 C, "Summary of Certain Provisions of the First 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 C, "Summary of Certain Provisions of the First Resolution."

The First 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 First Resolution.

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

The First 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 C under "Bond Anticipation Notes."

BOND INSURANCE

The following information has been furnished by Ambac Assurance Corporation ("Ambac Assurance") for use in this Official Statement. Neither the City and County nor any Underwriter guarantees or makes any representation as to the accuracy or completeness thereof. Reference is made to Appendix F for a specimen of the policy which has been provided for use herein. As used in this section, the term "Obligations" means the Series 2001 Bonds, and the term "Obligor" means the City and County.

Payment Pursuant to Financial Guaranty Insurance Policy

Ambac Assurance has made a commitment to issue a financial guaranty insurance policy (the "Financial Guaranty Insurance Policy") relating to the Obligations effective as of the date of issuance of the Obligations. Under the terms of the Financial Guaranty Insurance Policy, Ambac Assurance will pay to The Bank of New York, in New York, New York or any successor thereto (the "Insurance Trustee") that portion of the principal of and interest on the Obligations which shall become Due for Payment but shall be unpaid by reason of Nonpayment by the Obligor (as such terms are defined in the Financial Guaranty Insurance Policy). Ambac Assurance will make such payments to the Insurance Trustee on the later of the date on which such principal and interest becomes Due for Payment or within one business day following the date on which Ambac Assurance shall have received notice of Nonpayment from the Trustee/Paying Agent. The insurance will extend for the term of the Obligations and, once issued, cannot be canceled by Ambac Assurance.

The Financial Guaranty Insurance Policy will insure payment only on stated maturity dates and on mandatory sinking fund installment dates, in the case of principal, and on stated dates for payment, in the case of interest. If the Obligations become subject to mandatory redemption and insufficient funds are available for redemption of all outstanding Obligations, Ambac Assurance will remain obligated to pay principal of and interest on outstanding Obligations on the originally scheduled interest and principal payment dates including mandatory sinking fund redemption dates. In the event of any acceleration of the principal of the Obligations, the insured payments will be made at such times and in such amounts as would have been made had there not been an acceleration.

In the event the Paying Agent has notice that any payment of principal of or interest on an Obligation which has become Due for Payment and which is made to a Holder by or on behalf of the Obligor has been deemed a preferential transfer and there-tofore recovered from its registered owner pursuant to the United States Bankruptcy Code in accordance with a final, nonappealable order of a court of competent jurisdiction, such registered owner will be entitled to payment from Ambac Assurance to the extent of such recovery if sufficient funds are not otherwise available.

The Financial Guaranty Insurance Policy does not insure any risk other than Nonpayment, as defined in the Policy. Specifically, the Financial Guaranty Insurance Policy does not cover:

1. payment on acceleration, as a result of a call for redemption (other than mandatory sinking fund redemption) or as a result of any other advancement of maturity.
2. payment of any redemption, prepayment or acceleration premium.
3. nonpayment of principal or interest caused by the insolvency or negligence of any Trustee or Paying Agent, if any.

If it becomes necessary to call upon the Financial Guaranty Insurance Policy, payment of principal requires surrender of Obligations to the Insurance Trustee together with an appropriate instrument of assignment so as to permit ownership of such Obligations to be registered in the name of Ambac Assurance to the extent of the payment under the Financial Guaranty Insurance Policy. Payment of interest pursuant to the Financial Guaranty Insurance Policy requires proof of Holder entitlement to interest payments and an appropriate assignment of the Holder's right to payment to Ambac Assurance.

Upon payment of the insurance benefits, Ambac Assurance will become the owner of the Obligation, appurtenant coupon, if any, or right to payment of principal or interest on such Obligation and will be fully subrogated to the surrendering Holder's rights to payment.

Ambac Assurance Corporation

Ambac Assurance Corporation ("Ambac Assurance") is a Wisconsin-domiciled stock insurance corporation regulated by the Office of the Commissioner of Insurance of the State of Wisconsin and licensed to do business in 50 states, the District of Columbia, the Territory of Guam and the Commonwealth of Puerto Rico, with admitted assets of approximately \$4,568,000,000 (unaudited) and statutory capital of approximately \$2,787,000,000 (unaudited) as of March 31, 2001. Statutory capital consists of Ambac Assurance's policyholders' surplus and statutory contingency reserve. Standard & Poor's Credit Markets Services, a Division of The McGraw-Hill Companies, Moody's Investors Service and Fitch, Inc. have each assigned a triple-A financial strength rating to Ambac Assurance.

Ambac Assurance has obtained a ruling from the Internal Revenue Service to the effect that the insuring of an obligation by Ambac Assurance will not affect the treatment for federal income tax purposes of interest on such obligation and that insurance proceeds representing maturing interest paid by Ambac Assurance under policy provisions substantially identical to those contained in its financial guaranty insurance policy shall be treated for federal income tax purposes in the same manner as if such payments were made by the Obligor of the Obligations.

Ambac Assurance makes no representation regarding the Obligations or the advisability of investing in the Obligations and makes no representation regarding, nor has it participated in the preparation of, the Official Statement other than the information supplied by Ambac Assurance and presented under the heading "BOND INSURANCE".

Available Information

The parent company of Ambac Assurance, Ambac Financial Group, Inc. (the "Company"), is subject to the informational requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and in accordance therewith files reports, proxy statements and other information with the Securities and Exchange Commission (the "Commission"). Such reports, proxy statements and other information may be inspected and copied at the public reference facilities maintained by the Commission at 450 Fifth Street, N.W., Washington, D.C. 20549 and at the Commission's regional offices at 7 World Trade Center, New York, New York 10048 and Northwestern Atrium Center, 500 West Madison Street, Suite 1400, Chicago, Illinois 60661. Copies of such material can be obtained from the public reference section of the Commission at 450 Fifth Street, N.W., Washington, D.C. 20549 at prescribed rates. In addition, the aforementioned material may also be inspected at the

offices of the New York Stock Exchange, Inc. (the "NYSE") at 20 Broad Street, New York, New York 10005. The Company's Common Stock is listed on the NYSE.

Copies of Ambac Assurance's financial statements prepared in accordance with statutory accounting standards are available from Ambac Assurance. The address of Ambac Assurance's administrative offices and its telephone number are One State Street Plaza, 19th Floor, New York, New York 10004 and (212) 668-0340.

Incorporation of Certain Documents by Reference

The following documents filed by the Company with the Commission (File No. 1-10777) are incorporated by reference in this Official Statement:

1. The Company's Current Report on Form 8-K dated January 24, 2001 and filed on January 24, 2001;
2. The Company's Current Report on Form 8-K dated March 19, 2001 and filed on March 19, 2001;
3. The Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2000 and filed on March 28, 2001; and
4. The Company's Quarterly Report on Form 10-Q for the fiscal quarterly period ended March 31, 2001 and filed on May 15, 2001.

All documents subsequently filed by the Company pursuant to the requirements of the Exchange Act after the date of this Official Statement will be available for inspection in the same manner as described above in "Available Information".

REVENUE BOND DEBT SERVICE REQUIREMENTS

Years Ending June 30⁽¹⁾

Year	Principal Series 2001 Bonds	Interest Series 2001 Bonds ⁽²⁾	Total Series 2001 Debt Service	Debt Service on Outstanding Senior Bonds	Total Senior Debt Service	Debt Service on Outstanding Junior Bonds	Total Debt Service
2002		\$3,263,157	\$3,263,157	\$3,563,306	\$6,826,463	\$11,460,673	\$18,287,135
2003		7,076,725	7,076,725	3,562,106	10,638,831	11,460,673	22,099,504
2004		7,076,725	7,076,725	3,564,206	10,640,931	11,460,673	22,101,604
2005		7,076,725	7,076,725	3,564,506	10,641,231	11,460,673	22,101,904
2006	\$2,365,000	7,017,600	9,382,600	3,563,006	12,945,606	11,460,673	24,406,279
2007	2,475,000	6,908,975	9,383,975	3,564,606	12,948,581	11,460,673	24,409,254
2008	2,590,000	6,794,725	9,384,725	3,564,206	12,948,931	11,460,673	24,409,604
2009	2,725,000	6,661,850	9,386,850	3,560,972	12,947,822	12,341,773	25,289,594
2010	2,860,000	6,522,225	9,382,225	3,563,438	12,945,663	14,148,691	27,094,354
2011	3,010,000	6,375,475	9,385,475	3,561,688	12,947,163	16,898,704	29,845,866
2012	3,170,000	6,213,050	9,383,050	3,561,313	12,944,363	21,331,768	34,276,130
2013	3,350,000	6,033,750	9,383,750	3,562,063	12,945,813	22,905,356	35,851,169
2014	3,540,000	5,844,275	9,384,275	3,560,944	12,945,219	22,906,656	35,851,875
2015	3,740,000	5,644,075	9,384,075	3,562,938	12,947,013	22,911,156	35,858,169
2016	3,950,000	5,432,600	9,382,600	3,560,894	12,943,494	22,912,938	35,856,431
2017	4,175,000	5,209,163	9,384,163	3,559,694	12,943,856	22,916,081	35,859,938
2018	4,410,000	4,973,075	9,383,075	3,563,981	12,947,056	22,919,538	35,866,594
2019	4,660,000	4,723,650	9,383,650	3,563,519	12,947,169	22,922,256	35,869,425
2020	4,920,000	4,466,350	9,386,350	3,563,188	12,949,538	22,918,925	35,868,463
2021	5,185,000	4,201,094	9,386,094	3,562,750	12,948,844	22,922,800	35,871,644
2022	5,465,000	3,921,531	9,386,531	3,561,969	12,948,500	22,919,675	35,868,175
2023	5,760,000	3,626,875	9,386,875	3,560,606	12,947,481	22,921,175	35,868,656
2024	6,070,000	3,316,338	9,386,338	3,563,306	12,949,644	22,920,175	35,869,819
2025	6,390,000	2,993,256	9,383,256	3,559,831	12,943,088	22,922,488	35,865,575
2026	6,725,000	2,657,184	9,382,184	3,559,944	12,942,128	22,920,513	35,862,641
2027	7,080,000	2,303,431	9,383,431	3,563,169	12,946,600	22,918,938	35,865,538
2028	7,455,000	1,930,972	9,385,972	3,564,150	12,950,122	22,920,850	35,870,972
2029	7,845,000	1,538,909	9,383,909	3,562,650	12,946,559	22,919,338	35,865,897
2030	8,260,000	1,126,219	9,386,219		9,386,219		9,386,219
2031	8,695,000	691,747	9,386,747		9,386,747		9,386,747
2032	9,150,000	234,469	9,384,469		9,384,469		9,384,469

(1) Based on payments, not on accruals.

(2) Includes accrued interest on Series 2001 Bonds from July 15, 2001

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 593 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 1,121,537, and that of Oahu was 845,157, 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 (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, (ii) to enact operating and capital budget ordinances, (iii) with certain exceptions, to fix fees and charges for services rendered by the City, 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. 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.

Department of Environmental Services. The Department of Environmental Services 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 of Environmental Services, 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 chemical treatment and pumping of defective 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, 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 First 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 590 persons in various managerial, clerical, engineering and operational positions in support of wastewater activities. This work force, with the exception of 9 excluded 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, and all are effective until June 30, 2003. All employees are covered by the Hawaii State Employees Retirement System.

Department Principal Officers

The principal officers of the Department of Environmental Services include the Director, Deputy Director and Executive Assistant.

The following are brief biographies of the Department's principal officers:

Timothy E. Steinberger, Acting Director/Deputy Director. Mr. Steinberger was appointed Acting Director/Deputy Director of the Department of Environmental Services in January 2001. He previously served as Chief of the Wastewater Planning Branch in the Department of Design and Construction from 1997 to 2000. Prior to that, he served as EPA programs manager for the Department from 1994 to 1997. He has a Bachelor of Science in Mechanical Engineering from the University of Maryland and a Master of Science in Mechanical Engineering from the University of Hawaii at Manoa. As a licensed professional engineer, he was in private practice before coming to the City.

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 continues in that role with the Department of Environmental Services. 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

The Wastewater System services approximately 130,000 separate accounts and a population of approximately 600,000, which is approximately 70% of the total population of the City and County. The service area covers nearly 500 square miles. The customer base includes the residential population, business and industries, and other users located in the service area. Of the 130,000 accounts, 123,000 are residential and provide 77.8% of the total revenue from sewer service charges. See "CERTAIN OPERATING AND OTHER STATISTICS." The average total volume of wastewater processed by the City and County's Wastewater System is 113.6 million gallons per day. 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 4.1 million gallons per day.

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/West, Waianae, Waimanalo, and West Mamala Bay. Each basin is served by a wastewater treatment plant ("WWTP"). The function of each WWTP is to treat the wastewater by removing or reducing the levels of organic and inorganic materials contained in the wastewater 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 374,400 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 the capacity to process 82 million gallons per day ("MGD") of wastewater flow, and currently treats 67.6 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 of the Primary Urban Center. The population of the basin area is approximately 240,000, or more than 28 percent 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 38 MGD and a secondary treatment design capacity of 13 MGD. It currently processes 26.8 MGD of wastewater flow. 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 106,000, or approximately 13 percent 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 15.25 MGD and currently treats about 13.0 MGD of wastewater flow.

North Oahu (East and West). The North Oahu area is largely unsewered. Small facilities existing are the Kahuku WWTP (0.4 MGD capacity, secondary) and the Pa'alaia Kai WWTP (0.14 MGD capacity, secondary).

Waianae. The Waianae basin serves the west coast of the island, which has a population of approximately 39,300. The Waianae WWTP has the capacity to process 5.2 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 (2.5 MGD capacity, secondary).

Waimanalo. The Waimanalo basin is served by the Waimanalo WWTP with a capacity of 0.7 MGD. It is a secondary plant and serves the Waimanalo community, with a population of 9,200.

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 four basin areas including Central Oahu, North Oahu, 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 four basin areas is less than 12 percent of the total population of Oahu. The total design capacity of the WWTPs in the 4 basin areas is nearly 9 MGD and the current wastewater flow is approximately 5.9 MGD. Two private wastewater systems provide collection and treatment for the communities of Hawaii Kai and Laie. The Hawaii Kai system has an average flow of 3.8 MGD, including flows from the City and County's Kuliouou WWPS, and the Laie system has an average flow of 0.3 MGD. The two systems combined process less than 4% of the average flow of the City and County's Wastewater System. The City and County has entered into an agreement to acquire the Laie wastewater system over the next four years.

For a more detailed description of the Wastewater System, see Appendix B, "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; efficient reuse and biosolids reuse, and to construct new facilities. The Department has undertaken the rehabilitation and expansion of existing facilities, the implementation of pretreatment programs, efficient 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 2001-2005 Capital Improvement Program, the 2001-2010 Capital Improvement Program and the 1998-2017 Capital Improvement Program, in part, to comply with existing consent decrees and administrative orders.

The Consulting Engineer has concluded that, except for the Waimanalo WWTP, which is operated by the Department but is owned by the State of Hawaii, and the Sand Island WWTP, facilities of the Wastewater System are meeting current regulatory requirements and are operated and maintained in accordance with standard utility practices. However, the Consulting Engineer has also concluded that the collection and pumping facilities of the Wastewater System do not meet all of the current and anticipated federal and state regulatory requirements and will require additional capacity to serve projected growth in the service area. The Department has developed plans which will provide for anticipated requirements and established procedures.

See "CAPITAL IMPROVEMENT PROGRAM" and Appendix B, "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, 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⁽¹⁾, 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	34,924
Waianae	37,411	39,271	40,635	41,094	41,336	42,183
Central Oahu	44,540	45,252	44,996	44,716	44,546	44,231
Kailua/Kaneohe/Kahaluu	108,639	106,300	105,502	104,738	108,812	109,214
Waimanalo	<u>9,055</u>	<u>9,161</u>	<u>9,099</u>	<u>9,043</u>	<u>9,631</u>	<u>9,749</u>
Total	808,799	845,157	868,105	900,955	934,230	967,587

Notes:

- 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 served by a private sewer system operator, but which will be served by the City and County of Honolulu beginning in 2003.

Source: City and County of Honolulu, Department of Environmental Services, City & 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		1990-2020	
	Average Annual Change	Percent of Total Growth	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 & County of Honolulu, Department of Environmental Services, City & County of Honolulu, Department of Planning and Permitting, 2001.

The Department has developed the 2001-2005 Capital Improvement Program, the 2001-2010 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 B, "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 2001-2005 Capital Improvement Program and the 2001-2010 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.

EPA Consent Decree

The City and County and the EPA have entered into a consent decree that has established the City'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.

A number of projects identified in the CIP are designed to comply with an EPA consent decree approved October 17, 1995. 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. *Avoided cost*: Additional measures taken by the Department to avoid fines for violations or noncompliance.

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 2001, the long-range CIP included a list of projects with estimated appropriations totaling approximately \$2.4 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 2001 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.

2001-2005 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 2001-2005 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 2001 Bonds, are part of the 2001-2005 Capital Improvement Program. The City and County expects to appropriate approximately \$907 million (in inflated dollars) for the 2001-2005 Capital Improvement Program. A portion of these appropriations will actually be expended after the 2001-2005 period. For actual expenditures during the 2001-2005 period, see Appendix B, "Engineer's Report." The projected appropriations for the various CIP projects of and the expected sources of funding for the 2001-2005 Capital Improvement Program are set forth in the following tables.

Table 4

**Projected Appropriations for
2001-2005 Capital Improvement Program**

<u>Project</u>	<u>Projected Cost</u>
CIP Projects	\$858,710,000
Project Management	28,110,000
<u>Capital Equipment</u>	<u>19,730,000</u>
Total	\$906,550,000

Table 5

**Expected Sources of Funding for
2001-2005 Capital Improvement Program**

<u>Funding Source</u>	<u>Projected Amount</u>
Subordinate Obligations ⁽¹⁾	\$ 50,000,000
Facility Charges ⁽²⁾	8,330,000
Net Revenues ⁽³⁾	53,270,000
Series 2001 Bonds	125,000,000
<u>Additional Bonds</u>	<u>669,950,000</u>
Total	\$906,550,000

(1) State revolving fund loan proceeds.
 (2) Fees collected for new Wastewater System connections.
 (3) Cash funded CIP.

2001-2010 Capital Improvement Program

The 2001-2010 Capital Improvement Program is part of the 1998-2017 Capital Improvement Program. The City and County expects to appropriate approximately \$1.575 billion (in inflated dollars) for the 2001-2010 Capital Improvement Program. A portion of these appropriations will actually be expended after the 2001-2010 period. For actual expenditures during the 2001-2010 period, see Appendix B, "Engineer's Report." The projected appropriations for the various CIP projects of and the expected sources of funding for the 2001-2010 Capital Improvement Program are set forth in the following tables.

Table 6

**Projected Appropriations for
2001-2010 Capital Improvement Program**

<u>Project</u>	<u>Projected Cost</u>
CIP Projects	\$1,470,010,000
Project Management	61,840,000
<u>Capital Equipment</u>	<u>43,640,000</u>
Total	\$1,575,490,000

Table 7

**Expected Sources of Funding for
2001-2010 Capital Improvement Program**

<u>Funding Source</u>	<u>Projected Amount</u>
Subordinate Obligations ⁽¹⁾	\$ 100,000,000
Facility Charges ⁽²⁾	17,003,000
Net Revenues ⁽³⁾	117,170,000
Series 2001 Bonds	125,000,000
<u>Additional Bonds</u>	<u>1,216,317,000</u>
Total	\$1,575,490,000

(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 \$2.4 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**

<u>Project</u>	<u>Projected Cost</u>
CIP Projects	\$2,139,830,000
Project Management	118,260,000
Capital Equipment	87,460,000
<u>Ongoing Projects</u>	<u>84,420,000</u>
Total	\$2,429,970,000

Table 9**Expected Sources of Funding for
1998-2017 Capital Improvement Program**

Funding Source	Projected Amount
Reimbursable Obligations ⁽¹⁾	\$ 83,985,000
Subordinate Obligations ⁽²⁾	217,000,000
Facility Charges ⁽³⁾	39,183,000
Net Revenues ⁽⁴⁾	357,517,000
Series 1998 Bonds	50,000,000
Series 2001 Bonds	125,000,000
<u>Additional Bonds</u>	<u>1,555,285,000</u>
Total	\$2,429,970,000

(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)**

	<i>(Fiscal Year Ending June 30)</i>						
	Historical		Projected				
	1999	2000	2001	2002	2003	2004	2005
Revenues*							
Sewer Service Charges	\$110,630	\$121,703	\$111,253	\$111,220	\$112,600	\$125,600	\$141,400
Interest Earnings	2,864	2,809	1,900	5,700	4,194	4,637	4,959
Other Revenues	<u>1,092</u>	<u>1,050</u>	<u>1,038</u>	<u>872</u>	<u>872</u>	<u>872</u>	<u>872</u>
Total Revenues	\$114,586	\$125,562	\$114,191	\$117,792	\$117,666	\$131,109	\$147,231
Operating Expenses	65,660	67,700	66,447	71,310	69,675	77,362	77,400
Net Revenues	\$48,926	\$57,862	\$47,744	\$46,482	\$47,991	\$53,747	\$69,831
Annual Debt Service							
Senior Lien Bonds**	0	2,788	2,574	6,826	12,442	19,652	31,053
D/S Coverage	n.a.	20.75x	18.55x	6.81x	3.86x	2.73x	2.25x
Senior and Junior Lien Bonds	0	15,204	14,034	18,287	24,209	32,154	44,398
D/S Coverage	n.a.	3.81x	3.40x	2.54x	1.98x	1.67x	1.57x
Total Obligations	24,506	38,470	34,807	30,862	32,841	41,468	54,394
D/S Coverage	2.00x	1.50x	1.37x	1.51x	1.46x	1.30x	1.28x

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

** Includes actual debt service for Senior Series 1998 and 2001 Bonds and assumes 5.5% interest rate for all future issues.

CONCLUSIONS OF CONSULTING ENGINEER

The Consulting Engineer has concluded that (i) the estimated project costs and construction schedules that have been developed for the projects to be financed, including the projects to be financed from the proceeds of the Series 2001 Bonds, are reasonable and achievable; (ii) the 1998-2017 Capital Improvement Program is technically sound and conforms with good engineering practice and the estimated total costs of the program have been realistically assessed; (iii) the cost-effectiveness of the Wastewater System operations and maintenance activities is anticipated to improve after the proposed projects in the 1998-2017 Capital Improvement Program are accomplished; and (iv) completion of the proposed projects will permit the City and County to attain and to remain in compliance with all federal, state, and local regulations regarding the treatment and discharge as expressed in the current NPDES permit, consent decrees and administrative orders.

The Consulting Engineer has projected revenues, expenses and coverages for the Wastewater System for the Fiscal Years 2001 to 2010, inclusive. The projections are based on inflated dollars (*i.e.*, adjusted from 2001 dollars). The projections indicate that with respect to the Fiscal Years 2001 to 2010, inclusive, the City and County can (i) issue the Series 2001 Bonds to finance \$125 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 2001 Bonds; (ii) finance an additional \$1.45 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, the Net Revenues and Wastewater System Facility Charges over the nine year period; and (iii) fully meet all reserve funding and coverage requirements under the First Resolution and the Second Bond Resolution by raising sewer rates and charges by 11% in Fiscal Year 2003-2004 and another 6% to 12% in each of the Fiscal Years thereafter, and by raising Wastewater System Facility Charges by 3.0% in Fiscal Year 2003-2004 and another 3.0% in each of the Fiscal Years thereafter. The average monthly residential wastewater charge is expected to increase from \$33.35 to \$64.29 (in inflated dollars) by 2010. The Wastewater System Facility Charge is expected to increase from \$1,146 to \$1,409 (in inflated dollars) by 2010. The revenues from the Wastewater System Facility Charge were 1.8% of total revenues of the Wastewater System in fiscal year 1999-2000 and is projected still to be 1% by fiscal year 2009-2010. The Consulting Engineer has concluded that current customer rates and charges for the City and County compare favorably to other similar wastewater agencies. See Appendix B, "Engineer's Report."

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. All City and County-owned WWTPs are currently meeting national and state discharge requirements except for the Sand Island WWTP. Recently, the Sand Island WWTP plant has experienced difficulties in meeting the 30 percent BOD reduction requirement. The 2001-2005 CIP Projects implement the modifications required to fix other existing deficiencies, and to accommodate planned growth, as well as projects required by and identified in the new discharge permit.
2. Completion of the proposed CIP projects constituting the 1998-2017 Capital Improvement Program described in the Engineer's Report will permit the City and County to attain and to remain in compliance with all federal, state, and local regulations regarding the treatment and discharge as described in the current NPDES permit and consent decrees.
3. An estimated \$1.71 billion of non-discretionary CIP project expenditures for various treatment, collection and other facilities are required to be constructed during the 20-year CIP program. This is to eliminate the current and projected critical deficiencies, to meet consent decree milestones, and to provide a wastewater system in a satisfactory operating condition based on projected wastewater usage and environmental and other regulatory requirements. The remaining approximately \$0.39 billion of CIP projects are discretionary, and have been identified primarily to improve wastewater treatment and collection systems efficiency. These CIP project

expenditures are to be funded from proceeds of bonds, including the Wastewater Revenue Bonds, Series 2001 Bonds, and from net revenues and other charges.

4. The \$2.1 billion of CIP expenditure is technically sound and conforms with good engineering practice and the estimated total costs of the CIP have been realistically assessed.
5. The cost-effectiveness of the Wastewater System operations and maintenance activities is anticipated to improve after the proposed 1998-2017 Capital Improvement Program is accomplished.
6. The projects to be financed by proceeds of the Series 2001 Bonds are the highest priority projects required to meet consent decree requirements and protect public health. They are included in recently completed facility plans, which identify the need for projects through the year 2017, and provide the most cost effective facilities evaluated in those plans.
7. The estimated project costs and construction schedules that have been developed for the projects of the 2001-2005 Capital Improvement Program are reasonable and achievable.
8. The operations of the Wastewater System are directed by a competent professional staff for the disciplines of operations specialists, maintenance (including electrical, instrumentation and mechanical), laboratory personnel and other technical support personnel.
9. The financial projections with respect to the Wastewater System are based on reasonable and conservative assumptions and should fairly reflect the financial performance of the Wastewater System.
10. Current customer rates and charges for the City and County of Honolulu compare favorably to other similar wastewater agencies. Projected customer rates and charges are based on periodic larger increases followed by extended periods of stable rates. This rate setting philosophy results in projected rates and charges which are reasonable when compared on an equivalent annual basis.
11. In the opinion of Carollo Engineers, projected sewer service and system facility charges will provide revenue sufficient to:
 - Meet all 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 2001 Bonds and future bond issues.
 - Provide sufficient revenue to pay the costs of the City and County of Honolulu's CIP through the end of the forecast period.
 - Meet reserve requirements of bond resolution.
12. The funds obtained from the sale of the Series 2001 Bonds, current cash reserves, fees collected over the next few years and future bond issues will be adequate to fund these current projects.
13. The rate at which growth occurs will not affect the ability of the City and County to meet its debt obligations because the growth is a small component of the overall costs and revenues associated with the financial projections. In general, many of the CIP projects of the 1998-2017 Capital Improvement Program are necessary and must proceed based on consent decree requirements and public safety and health concerns with or without any additional connections.

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 has continued to hold steady since that time. Revenues have been sufficient throughout the period to meet all operation and maintenance and debt service requirements, including coverage since 1998, without a need for rate increases. Water conservation efforts have held water use at the same level 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; however, the Wastewater System Facility Charge accounts for less than 2% of revenues, is solely dedicated to expansion, and is not considered when calculating debt service coverage.

Equally important are continuing efforts to control increases in expenses. Operational expenditures and budgets have remained consistent over the past three years and continuing analysis of staffing levels, operational procedures, and automation opportunities will help continue this trend.

Net revenues have increased over the period, including fiscal years 1998, 1999, and 2000, reflecting continuing cost controls and improved structuring of capital debt. Net revenues were artificially high in 2000 reflecting the change to full enterprise accounting and full versus modified accrual of sewer service charge revenues. Net revenues decreased in 2001 reflecting the previously mentioned stable rate structure. Over the past five-year period, net income was \$50.4 million (8.7% of total revenues) without any increase in fees and charges. The enterprise has continued to maintain a surplus throughout the period.

In the opinion of the Department, the financial position of the Wastewater Enterprise 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 6% and an uncollectable rate of less than 0.3%.

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, listed below, of the Wastewater System account for less than 3% of the annual revenues of the system.

Table 11

Ten Largest Customers

Customer	Sewer Service Charges (FY00)	Percentage of Revenues
University of Hawaii	\$593,442	0.49%
Honolulu International Airport	424,660	0.35
Hilton Hawaiian Village	385,464	0.32
Sheraton Royal Hawaiian Hotel	378,585	0.31
Halawa Correctional Facility	300,625	0.28
Hyatt Regency Waikiki	272,321	0.22
United Laundry Services	201,356	0.17
Maunakea Tower	199,495	0.16
Halekulani Hotel	172,699	0.14
Hilton Hawaiian Village (2 nd account)	169,380	0.14

Debt and Financial Policies

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.

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

Water and Sewer Customer Accounts as of April, 2001

Customer Class	A	B	C	D	E	F	G	J	L	M	N	P	Q	
	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	Total Accounts
1 - Public Sewer														
10 - Single family/duplex	116,494	505	8,616	0	182	4	2,188	0	0	0	8	0	68	128,065
15 - Mixed residential	0	0	3	0	0	0	191	0	0	0	1	0	0	195
20 - Multi-family	5,777	3	98	0	0	0	76	0	0	0	10	0	0	5,964
25 - Mixed users	277	0	1	0	0	2	0	0	0	0	23	0	0	303
Total residential	122,548	508	8,718	0	182	6	2,455	0	0	0	42	0	68	134,527
Residential Sewer Accounts	122,548	508	0	0	182	6	0	0	0	0	42	0	0	123,286
30 - Commercial	4,592	0	476	1	0	14	1,705	625	1	0	95	45	1	7,555
40 - Hotels	256	0	2	0	0	0	3	0	1	0	1	0	0	263
50 - Industrial	503	0	85	0	0	1	19	0	0	1	0	0	0	609
61 - US Military Installation	8	0	13	0	0	0	11	0	0	0	2	0	1	35
62 - US Non-military	22	0	5	0	0	0	1	0	1	0	1	0	0	30
63 - State	190	0	99	0	0	148	294	0	1	0	12	0	0	744
65 - City	110	0	105	0	0	261	305	0	0	0	3	43	0	827
70 - Agriculture	2	0	370	0	0	0	17	0	0	0	0	0	1	390
80 - Religious	446	0	35	0	0	2	10	0	0	0	18	0	0	511
Total Non-residential	6,129	0	1,190	1	0	426	2,365	625	4	1	132	88	3	10,964
Non-residential Sewer Accounts	6,129	0	0	1	0	426	0	625	4	1	132	88	3	7,409
Total Accounts	128,677	508	9,908	1	182	432	4,820	625	4	1	174	88	71	145,491
Total Sewer Accounts	128,677	508	0	1	182	432	0	625	4	1	174	88	3	130,695
Percent Total Accounts	88.44%	0.35%	6.81%	0.00%	0.13%	0.30%	3.31%	0.43%	0.00%	0.00%	0.12%	0.06%	0.05%	100.00%
Percent Sewer Accounts	98.46%	0.35%	0.00%	0.00%	0.14%	0.33%	0.00%	0.48%	0.00%	0.00%	0.13%	0.07%	0.00%	100.00%

Table 13
History of New Sewer Connections by Type

Fiscal Year Ending	Single Family New Units	Multi Family		Nonresidential ESDUs	Total ESDUs
		New Units	ESDUs		
1996	1,359	1,399	979	79	2,417
1997	915	716	498	202	1,615
1998	998	226	158	118	1,274
1999	1,387	122	85	25	1,497
2000	1,527	69	48	36	1,611
5 year average	1,237	506	354	92	1,683
Projected annual growth	1,300	140	100	60	1,460

Table 14
Existing Sewer Users
Fiscal Year Ended June 30, 2000

Customer Classification	Number of Living Units	Number Of Equivalent Single-Family Dwelling Units (ESDUs)	Estimated Wastewater Flow (MGD)
Residential			
Single family/duplex	125,637	125,637	38.319
Multi-family residences	109,862	76,903	23.510
Less: Hawaii Kai	994	994	0.303
Total residential	234,505	201,546	61.527
Nonresidential	N/A	78,527	29.857
Infiltration/Inflow	N/A	N/A	27.566
Total	470,998	280,073	118.950

Table 15
Historic Population Growth
Oahu, 1970 - 2000

Calendar Year	Resident Population	Defacto Population*
1970	630,528	650,700
1980	764,600	822,408
1990	838,032	899,731
1991	846,594	897,798
1992	857,884	906,425
1993	862,867	901,984
1994	869,959	911,199
1995	871,369	911,501
1996	871,609	909,660
1997	837,115	919,240
1998	871,768	916,203
1999	864,571	913,222
2000	876,156	NA

Source: State of Hawaii Department of Business, Economic Development & Tourism, Data Book, 1999. U.S. Census 2000.

*Includes visitor population.

Table 16**Number of Equivalent Single Family Dwelling Units (ESDUs)**

Fiscal Year Ending 6/30	Single-Family Units	Multifamily Units	ESDUs	Commercial ESDUs	Total ESDUs
1990	110,089	98,233	68,764	75,806	254,659
1991	110,738	99,582	69,708	75,881	256,327
1992	111,663	101,403	70,983	76,166	258,812
1993	114,407	103,516	72,462	76,704	263,573
1994	116,446	105,058	73,541	76,941	266,928
1995	118,247	106,758	74,731	77,130	270,166
1996	119,451	107,039	74,928	77,280	271,659
1997	120,810	108,437	75,907	77,359	274,076
1998	121,725	109,514	76,405	77,561	275,691
1999	122,723	109,740	76,563	77,679	276,965
2000	124,110	109,862	76,648	77,704	278,462
2001	125,637	109,931	76,696	77,740	280,073

Table 17**Wastewater Flows by Treatment Facility (MGD)**

<u>Treatment Facility</u>	<u>Design Capacity</u>	<u>2000 Flow</u>	<u>Projected Flow (2020)</u>
Sand Island	82.00	67.56	92.60
Kahuku WWTP	0.40	0.13	0.15
Honouliuli WWTP	38.00	26.78	32.80
Waimanalo WWTP	0.70	0.57	0.62
Kuliouou WWPS* (Hawaii Kai WWTP)	N/A	0.37	0.38
Wahiawa WWTP	2.50	1.89	1.89
Kailua WWTP	15.25	12.99	13.40
Waianae WWTP	5.20	3.20	3.50
Paalaa Kai WWTP	0.14	0.12	0.14

* 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.

Table 18

History of Major Wastewater Revenue Sources

Fiscal Year Ending	Sewer Service Charges*	Wastewater Facilities Charge
1991	53,333,000	\$1,726,000
1992	74,967,000	3,256,000
1993	77,492,000	5,206,000
1994	105,303,000	3,895,000
1995	108,701,000	3,543,000
1996	109,765,778	1,769,950
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

* Sewer Service Charge Only - Does Not Include Connection Or Lateral Installation Charges.

** Sewer Service Charge revenue converted to accrual accounting in Fiscal Year 2000.

Table 19

Summary of Current Sewer Rate Ordinance*

	<u>Effective 7/1/93</u> <u>Standard</u>
Residential sewer service charges	
Single family and duplex dwellings served by city water system per dwelling unit per month:	
Monthly base charge:	\$24.85
Month usage charge:	
First 2,000 gallons of metered water consumed:	no charge
Charge per 1,000 gallons of metered water consumed over 2,000 gallons, the water consumed reduced by the irrigation factor of 18%:	1.05
Single family and duplex dwellings not served by city water system per dwelling unit per month:	33.65
Multiple-unit dwellings served by city water system per dwelling unit per month:	
Monthly base charge:	17.40
Monthly usage charge:	
First 2,000 gallons of metered water consumed:	no charge
Charge per 1,000 gallons of metered water consumed over 2,000 gallons, the water consumed reduced by the irrigation factor of 18%:	1.05
Multiple-unit dwellings not served by city water system per dwelling unit per month:	23.55
Nonresidential sewer service charges	
Domestic strength wastewater:	
1. Metered water usage:	
a. If 9,000 gallons or less per month,	
(1) Monthly base charge:	22.35
(2) Charge per 1,000 gallons:	0.13
b. If more than 9,000 gallons per month,	
(1) Charge per 1,000 gallons:	2.49
2. Metered wastewater discharge:	
a. If 7,000 gallons or less per month,	
(1) Monthly base charge:	22.35
(2) Charge per 1,000 gallons:	0.16
b. If more than 7,000 gallons per month,	
(1) Charge per 1,000 gallons:	3.12
Extra strength wastewater:	
1. Charge per 1,000 gallons of water usage: 0.857 + 0.143, (S.M./200):	2.49
2. Charge per 1,000 gallons of wastewater discharge: 0.857 + 0.143 (S.M./200):	3.12

* A separate and modified rate schedule exists for those customers, such as the U.S. Government agencies, who prepay a capital contribution to account for additional capacity requirements.

Wastewater system facility charge	<u>Effective 1991/92</u>
Wastewater system facility charge per ESDU	1,146
Terms in strength surcharge formula (A+(SSI/200xB)):	
A. Flow component of wastewater system facility charge	985
B. Strength component of wastewater system facility charge	161

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.

Attached hereto as Appendix A are extracts of the financial statements of the City and County as of June 30, 2000, relating to the Sewer Fund, together with the auditor's report thereon delivered by PricewaterhouseCoopers LLP. Such firm has not reviewed and has no responsibility with respect to this Official Statement.

The following tables have been extracted from both unaudited and 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.

The Sewer Fund was converted to enterprise accounting effective July 1, 1999. This change in accounting results in different presentations of financial data beginning with Fiscal Year 1999/2000. Tables 20 and 21 summarize revenues and expenses and Tables 22 and 23 provide fund balances. Future presentations will be in accordance with those shown in Tables 21 and 23 reflecting enterprise accounting and consistency with GASB 34 reporting requirements.

Table 20

**Department of Environmental Services
Summary of Wastewater Revenues and Expenses – FY 96-99**

	<u>1995/96</u>	<u>1996/97</u>	<u>1997/98</u>	<u>1998/99</u>
Revenues				
Sewer service charges	\$109,764,828	\$110,608,822	\$111,840,586	\$111,377,449
System facility charge	1,769,950	1,166,000	1,027,389	1,665,827
Cesspool services	747,271	839,978	0	0
Sewer connections	205,436	30,000	5,505	2,400
Sewer lateral installations	44,602	17,000	36,431	5,319
Other	198,032	147,000	238,300	179,164
Investments	0	0	0	2,863,715
State	<u>492,702</u>	<u>480,107</u>	<u>397,491</u>	<u>55,496</u>
Total revenues	<u>113,222,821</u>	<u>113,288,907</u>	<u>113,545,702</u>	<u>116,149,370</u>
Expenses				
Direct operating expenses				
Administration	3,776,689	5,286,243	2,750,213	3,361,981
Service control	1,696,143	1,842,568	1,850,266	0*
Planning	1,126,531	856,884	1,075,815	0*
Engineering	2,214,424	1,898,116	1,904,285	0*
Construction	1,473,593	1,426,919	1,622,423	0*
Environmental (Water) quality	5,321,592	4,978,702	4,188,302	3,996,671
Sewer maintenance	8,132,024	9,155,549	7,384,467	5,982,159
Cesspool pumping	984,100	866,482	930,565	904,965
Chemical treatment	92,233	104,508	98,171	91,293
Wilson Tunnel maintenance	327,055	480,107	262,425	0
Treatment and disposal				
Administration / maintenance	12,683,571	11,196,024	10,564,837	9,416,216
East Oahu	14,125,950	6,241,750	5,532,331	5,150,182
Windward	0	4,508,448	4,274,048	3,897,071
West Oahu	<u>6,831,720</u>	<u>6,578,957</u>	<u>6,112,403</u>	<u>5,879,232</u>
Total treatment and disposal	<u>33,641,241</u>	<u>28,525,179</u>	<u>26,483,619</u>	<u>24,342,701</u>
Subtotal direct operating expenses	58,785,625	55,421,257	48,550,551	38,679,770
Indirect operating expenses				
Central administrative support	6,198,783	5,467,795	5,795,000	4,893,200
Non-salary personnel costs	9,658,708	10,267,344	9,862,296	8,054,402
Other City agencies	2,381,350	2,904,509	3,665,180	7,693,225
Building Rental	0	675,000	675,000	675,000
Radio support	0	175,000	175,000	35,000
Judgement and losses	7,000,000	0	0	0
General fund reimbursement	0	13,224,360	3,772,163	0
Subtotal indirect operating expenses	<u>25,238,841</u>	<u>32,714,008</u>	<u>23,944,639</u>	<u>21,350,827</u>
Existing general obligation bond debt				
service & state revolving fund loans	33,431,876	35,577,183	39,104,000	24,505,861
Facilities replacement reserve	0	156,251	0	0
Total expenses	117,456,342	123,868,699	111,599,190	84,536,458
Net income (deficit)	(4,233,521)	(10,579,792)	(1,946,512)	31,612,912

* A city-wide reorganization effective July 1, 1998, resulted in direct operating expenses for the categories Service Control, Planning, Engineering, and Construction to be distributed into other direct operating expense categories (Administration) and into indirect operating categories (Other City Agencies).

Table 21

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

	1999/2000
Operating Revenues:	
Sewer Service Charges	\$122,450
Other Revenue	<u>2,410</u>
Total Operating Revenues	124,860
Operating Expenses:	
Administrative and general	31,323
Maintenance	532
Depreciation	23,295
Contractual services	7,105
Fringe benefits	10,157
Materials and supplies	57
Fuel and lubricants	535
Utilities	7,125
Other	<u>0</u>
Total Operating Expenses	<u>80,129</u>
Operating Income (Loss)	44,731
Nonoperating Revenues (Expenses):	
Interest revenue	6,873
Interest expense	(27,910)
Loss from disposal of property	(6)
Other	<u>(262)</u>
Total Nonoperating Revenues (Expenses)	(20,305)
Income (Loss) before operating transfers	24,426
Operating Transfers In	17,900
Operating Transfers Out	<u>(5,733)</u>
Net Income (Loss)	35,593
Retained Deficit – July 1 Residual equity transfer from other fund	<u>8,076</u>
Retained Earnings (Deficit) – June 30	\$ 44,669

Table 22

**Department of Environmental Services
Summary of Wastewater Fund Balances FY 96-99**

	1995/96	1996/97	1997/98	1998/99
	(\$ in thousands)			
Sewer Fund (#170)				
Excess of revenues	\$45,082	\$43,859	\$ 1,256	\$56,511
Unreserved – undesignated fund balance, July 1	<u>43,273</u>	<u>42,734</u>	<u>42,983</u>	<u>42,885</u>
Unreserved – undesignated fund balance, June 30 (budgetary basis)	\$43,273	\$42,734	\$44,239	\$99,396
Adjustments to conform with GAAP:				
Encumbrances included above	12,842	6,281	5,522	3,573
Expenditures – prior year encumbrances	<u>(9)</u>	<u>(9,672)</u>	<u>(10,366)</u>	<u>(4,990)</u>
Accrued Retroactive payroll		(45)	(45)	(4,024)
Decrease (increase) in reserved for encumbrances	(\$2,490)	(\$3,685)	\$5,208	
Residual equity transfer to WW System Facility Charge Fund			(1,763)	
Increase in reserved fund balance, June 30				(36,477)
Unreserved – undesignated fund balance, June 30 (GAAP basis)	43,859	42,983	42,885	59,352
Reserved for encumbrances, June 30	<u>19,782</u>	<u>16,097</u>	<u>10,889</u>	<u>9,015</u>
Increase in reserved for debt service	<u>0</u>	<u>0</u>	<u>0</u>	<u>36,477</u>
Fund balance (GAAP basis), June 30	<u>\$63,641</u>	<u>\$59,080</u>	<u>\$53,774</u>	<u>\$104,844</u>
Wastewater System Facility Charge Fund (#175)*				
Excess of revenues over expenditures and other uses	\$(2,259)	\$(2,915)		
Unreserved-undesignated fund balance, July 1	<u>2,511</u>	<u>252</u>		
Unreserved-undesignated fund balance, June 30 (budgetary basis)	252	(2,663)		
Unreserved-undesignated fund balance, June 30 (GAAP basis)	252	(2,663)		
Reserved for encumbrances, June 30	0	0		
Fund balance (GAAP basis), June 30	\$ 252	\$(2,663)		

* The Wastewater System Facility Charge Fund was abolished in May 1998. Wastewater System Facility Charges are accounted for in the Wastewater System Facility Charge Account.

Source: Comprehensive Annual Financial Reports, June 30, 1996, 1997, 1998, and 1999.

Table 23
Department of Environmental Services
Sewer Fund
Enterprise Fund Balance Sheet
(AMOUNTS IN THOUSANDS)

1999/2000

ASSETS	
Current Assets:	
Cash and cash equivalents	\$ 57,462
Investments	84,016
Receivables	
Accounts	16,227
Interest	393
Note	0
Due from other funds	7,583
Inventories of parts, materials and supplies at cost	0
Inventories of real estate held for sale	0
Prepaid expenses and other assets	0
Total Current Assets	183,553
Restricted Assets:	
Other	0
Fixed Assets:	
Land	53,713
Buildings and Improvements	331,031
Transmission and distribution system	469,538
Equipment and machinery	19,674
Construction work in progress	62,238
Accumulated depreciation	(23,295)
Deferred charges and other	0
Total Assets	\$1,106,452
LIABILITIES AND FUND EQUITY (DEFICIENCY)	
Current Liabilities:	
Checks payable	2,277
Accounts payable	5,576
Interest payable-current	8,333
Notes payable-current	3,868
Bonds payable-current	9,417
Due to other funds	1
Reserve for insurance claims payable	0
Other current liabilities	0
Total Current Liabilities	29,472
Notes payable	64,131
General obligation bonds payable	87,270
Revenue bonds payable	319,453
Deferred credits and other liabilities	5,769
Total Liabilities	506,095
Fund Equity (Deficiency):	
Contributed Capital	517,649
Reserved for Debt Service	38,039
Retained earnings (deficit)	
Unreserved	44,669
Total Fund Equity (Deficiency)	600,357
Total Liabilities and Fund Equity (Deficiency)	\$1,106,452

The First 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 First 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, 1999, June 30, 2000, and the first eight months of the Fiscal Year ending June 30, 2001, the Department has reached lawsuit settlements with claimants totaling \$20,058.87. There were no judgments chargeable against the Department during such period. 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.

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 2001 Bonds or that in any way contests the validity of the Series 2001 Bonds; or any proceedings of the City and County taken with respect to the authorization, sale, or issuance of the Series 2001 Bonds, the pledge or application of any moneys provided for the payment of or security for the Series 2001 Bonds.

RATINGS

Moody's Investors Service, Inc. and Fitch, Inc. have assigned ratings of "Aaa" and "AAA", respectively, to the Series 2001 Bonds with the understanding that upon delivery of the Series 2001 Bonds, the Policy insuring the payment of the principal of and interest on the Series 2001 Bonds will be issued by the Bond 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: Moody's Investors Service, Inc., 99 Church Street, New York, New York 10007 and Fitch, Inc., One State Street Plaza, New York, New York 10004. 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 2001 Bonds.

UNDERWRITING

The Series 2001 Bonds are being purchased for reoffering by the Underwriters. The Underwriters have agreed to purchase the Series 2001 Bonds at an aggregate purchase price of \$134,896,862.80, plus accrued interest. The contract of purchase with respect to the Series 2001 Bonds provides that the Underwriters will purchase all the Series 2001 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 2001 Bonds to certain dealers (including depositing the Series 2001 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, based upon an analysis of existing laws, regulations, rulings, and court decisions, and assuming, among other matters, compliance with certain covenants, interest on the Series 2001 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 2001 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 2001 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 2001 Bonds is set forth in Appendix D hereto.

The amount (if any) by which the amount (excluding amounts stated to be interest and payable at least annually over the term of such Series 2001 Bonds) to be paid at maturity of any maturity of the Series 2001 Bonds exceeds the issue price of such Series 2001 Bonds constitutes "original issue discount," the accrual of which, to the extent properly allocable to each owner thereof, is treated as interest on the Series 2001 Bonds which is excluded from gross income for federal income and State of Hawaii tax purposes. For this purpose, the issue price of a particular maturity of the Series 2001 Bonds is the first price at which a substantial amount of such maturity of the Series 2001 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 2001 Bonds accrues daily over the term to maturity of such Series 2001 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 2001 Bonds to determine taxable gain or loss upon disposition (including sale, redemption, or payment on maturity) of such Series 2001 Bonds. Owners of the Series 2001 Bonds should consult their own tax advisors with respect to the tax consequences of ownership of Series 2001 Bonds with original issue discount, including the treatment of purchasers who do not purchase such Series 2001 Bonds in the original offering to the public at the first price at which a substantial amount of such Series 2001 Bonds is sold to the public.

Series 2001 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 2001 Bonds. The County has covenanted to comply with certain restrictions designed to insure that interest on the Series 2001 Bonds will not be included in federal gross income. Failure to comply with these covenants may result in interest on the Series 2001 Bonds being included in gross income for federal income tax purposes, possibly from the date of original issuance of the Series 2001 Bonds. The opinion of Bond Counsel assumes 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) after the date of issuance of the Series 2001 Bonds may adversely affect the value of, or the tax status of interest on, the Series 2001 Bonds. Further, no assurance can be given that pending or future legislation or amendments to the Code, if enacted into law, or any proposed legislation or amendments to the Code, will not adversely affect the value of, or the tax status of interest on, the Series 2001 Bonds. Prospective Bondholders are urged to consult their own tax advisors with respect to proposals to restructure the federal income tax.

Certain requirements and procedures contained or referred to in the Resolution, the Series Certificate providing for issuance of the Series 2001 Bonds, the Tax Certificate relating to the Series 2001 Bonds, and other relevant documents may be changed and certain actions may be taken or omitted under the circumstances and subject to the terms and conditions set forth in such documents. Bond Counsel expresses no opinion as to any Series 2001 Bonds or the interest thereon if any such change occurs or action is taken or omitted upon the advice or approval of counsel other than Orrick, Herrington & Sutcliffe LLP.

Although Bond Counsel is of the opinion that interest on the Series 2001 Bonds is excluded from gross income for federal income tax purposes and that the Series 2001 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 2001 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.

APPROVAL OF LEGAL PROCEEDINGS

All legal matters incident to the authorization, issuance and sale of the Series 2001 Bonds are subject to the approval of Orrick, Herrington & Sutcliffe LLP, San Francisco, California, 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 2001 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, McCorrison 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 2001 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 2001 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 2001 Bonds. The form of the Master Continuing Disclosure Certificate and the proposed form of the Series Certificate for the Series 2001 Bonds are contained in Appendix D.

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 First Resolution and the Series 2001 Resolution do not purport to be complete. Refer to the Act, the City Charter, the First Resolution and the Series 2001 Resolutions for full and complete details of their provisions. Copies of the City Charter, the First Resolution and the Series 2001 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 2001 Bonds are fully set forth in the First Resolution and the Series 2001 Resolution. Neither any advertisement of the Series 2001 Bonds nor this Official Statement is to be construed as a contract with purchasers of the Series 2001 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 2001 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.

Appendix A contains extracts of the financial statements of the City and County as of June 20, 2000, relating to the Sewer Fund, together with the auditor's report thereon.

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

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

/s/ Caroll Takahashi
Director of Budget and Fiscal Services
City and County of Honolulu, Hawaii

/s/ Timothy E. Steinberger
Acting Director of Environmental Services
City and County of Honolulu, Hawaii

Appendix A

Extracts from Audited Financial Statements of City and County

**City and County of Honolulu
Sewer Fund**

**Financial
June 30, 2000**

Statements

PricewaterhouseCoopers	LLP
First Hawaiian Center	
999 Bishop Street, Suite 1900	
Honolulu HI	96813
Telephone (808) 531	3400
Facsimile (808) 531	3433

Report of Independent Accountants

To the Chair and Members of the City Council
City and County of Honolulu
Honolulu, Hawaii

In our opinion, the accompanying balance sheet and the related statements of revenues, expenses, retained earnings and cash flows presents fairly, in all material respects, the financial position of the Sewer Fund, City and County of Honolulu, ("Sewer Fund") at June 30, 2000, and the results of its operations and its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Sewer Fund's management; our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit of these statements in accordance with auditing standards generally accepted in the United States of America, which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

As discussed in Note 1 to the financial statements, the financial statements of the Sewer Fund are intended to present the financial position and results of operations and cash flows of only that portion of the funds of the City and County of Honolulu that is attributable to the transactions of the Sewer Fund.

Honolulu,
February 21, 2001

Hawaii

City and County of Honolulu Sewer Fund

Balance
June 30, 2000

Sheet

Assets	
Current Assets:	
Cash and cash equivalents (Note 3)	\$ 57,462,069
Investments (Note 3)	84,015,746
Receivables –	
Accounts (net of allowance for uncollectible accounts of \$315,484)	16,227,128
Interest	393,295
Due from other City funds (Note 4)	7,581,967
Inventories of materials and supplies	17,871,919
Total current assets	<u>183,552,124</u>
Property, Plant and Equipment, Net (Note 5)	<u>922,899,366</u>
	<u>\$ 1,106,451,490</u>
Liabilities and Fund Equity	
Current Liabilities:	
Checks payable	\$ 2,276,907
Accounts payable	5,575,442
Notes payable (Note 6)	3,867,923
Bonds payable (Note 6)	9,417,252
Interest payable	8,333,110
Total current liabilities	<u>29,470,634</u>
Notes Payable (Note 6)	64,131,492
General Obligation Bonds Payable (Note 6)	87,270,404
Revenue Bonds Payable (Note 6)	319,452,890
Deferred Credits and Other Liabilities	5,768,902
Total liabilities	<u>506,094,322</u>
Commitments and Contingencies (Note 10)	
Fund Equity:	
Contributed capital (Note 7)	517,649,362
Retained earnings –	
Reserved for debt service	38,038,611
Unreserved	44,669,195
Total retained earnings	<u>82,707,806</u>
Total fund equity	<u>600,357,168</u>
	<u>\$ 1,106,451,490</u>

The accompanying notes are an integral part of the financial statements.

**City and County of Honolulu
Sewer Fund**

**Statement of Revenues, Expenses and Retained Earnings
For the Year Ended June 30, 2000**

Operating Revenues:	
Sewer service charges	\$ 122,450,506
Other revenue	2,409,693
Total operating revenues	<u>124,860,199</u>
Operating Expenses:	
Administrative and general	31,322,926
Depreciation	23,295,362
Fringe benefits	10,156,832
Utilities	7,124,933
Contractual services	7,105,412
Fuel and lubricants	534,621
Maintenance	532,164
Materials and supplies	57,440
Total operating expenses	<u>80,129,690</u>
Operating income	44,730,509
Nonoperating Revenue (Expense):	
Interest revenue	7,873,051
Interest expense	(27,909,777)
Other	(268,214)
	<u>(20,304,940)</u>
Income before operating transfers	24,425,569
Operating Transfers In, net	<u>12,167,293</u>
Net income	36,592,862
Retained Earnings – Beginning of Year	—
Residual Equity Transfers	<u>8,076,333</u>
Retained Earnings – End of Year	<u>\$ 44,669,195</u>

The accompanying notes are an integral part of the financial statements.

**City and County of Honolulu
Sewer Fund
Statement of Cash Flows
For the Year Ended June 30, 2000**

Cash Flows from Operating Activities:	
Operating income	\$ 44,730,509
Adjustments to reconcile operating income to net cash provided by operating activities –	
Depreciation expense	23,295,362
Other revenues	390,911
Decrease in accounts receivable	3,029,635
Decrease in due from other City funds	613,158
Increase in materials and supplies	(7,593,176)
Increase in trade accounts and checks payables	6,416,847
Decrease in other liabilities	(17,105,102)
Net cash provided by operating activities	<u>53,778,144</u>
Cash Flows from Noncapital Financing Activities:	
Operating transfers in, net	<u>(2,935,341)</u>
Net cash used in noncapital financing activities	<u>(2,935,341)</u>
Cash Flows from Capital and Related Financing Activities:	
Cash contribution	147,980,821
Purchase of fixed assets	(25,193,132)
Principal payments – bonds and notes	(14,756,975)
Interest paid – bonds and notes	(23,712,832)
Net cash provided by capital and related financing activities	<u>84,317,862</u>
Cash Flows from Investing Activities:	
Purchase of investments	(604,432,206)
Proceeds from sale of investments	520,416,460
Interest received	6,317,150
Net cash used in investing activities	<u>(77,698,596)</u>
Net Increase in Cash and Cash Equivalents	57,462,069
Cash and Cash Equivalents, Beginning of Year	—
Cash and Cash Equivalents, End of Year	<u>\$ 57,452,069</u>
Supplemental Disclosure of Noncash Capital and Related Financing Activities –	
Contribution of fixed assets and infrastructure, net of related debt of \$498,810,294 transferred from the City and County of Honolulu	<u>\$ 369,668,541</u>

The accompanying notes are an integral part of the financial statements.

1. **Financial Reporting Entity**

A Sewer Fund was established in 1976 pursuant to Section 14-8.1 of the 1990 Revised Ordinances of the City and County of Honolulu to account for all revenues received pursuant to the provisions of the Federal Water Pollution Control Act amendments of 1972 and the Hawaii Revised Statutes and expended for the purposes authorized (operations of the City's wastewater system). The fund was operated primarily through user charges. The City and County of Honolulu (the "City") also established the Sewer Revenue Bond Improvement Fund to account for the proceeds of revenue bonds issued to pay all or part of those appropriations for improvements, repairs, and maintenance of the wastewater treatment system.

In conjunction with the November 1998 City Resolution 98-193, CD1, authorizing the issuance of the Wastewater System Revenue Bonds for the Wastewater System, a new Sewer Fund was established effective July 1, 1999 as an enterprise fund. The new Sewer Fund combines the operations of the Sewer and Sewer Revenue Bond Improvement Funds which were previously recorded in a special revenue fund and certain capital projects funds. Accordingly, various account balances, including cash and fixed assets, net of related debt, were transferred into the new Sewer Fund (the "Fund").

The accompanying financial statements present only the activities of the Sewer Fund and do not include other organizations, activities and functions of the City. Accordingly, the accompanying financial statements are not intended to present fairly the financial position of the City and the results of operations and cash flows of the City's proprietary funds.

2. **Summary of Significant Accounting Policies**

Basis of Accounting

The Sewer Fund uses the accrual basis of accounting. Revenues are recognized when earned and expenses are recognized when goods or services have been received or a liability has been incurred at year-end.

The Fund follows all applicable pronouncements prescribed by the Governmental Accounting Standards Board ("GASB") as well as pronouncements of the Financial Accounting Standards Board and its predecessor standard setting body, the Accounting Principles Board, that were issued on or before November 30, 1989, unless those pronouncements conflict or contradict GASB pronouncements.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents

Cash includes amounts in demand and time deposits primarily with various financial institutions in Hawaii. Cash on deposit with financial institutions is collateralized in accordance with State statutes. Investments with maturity of three months or less when purchased are considered cash equivalents.

Investments

Investments consist of government discount notes and are stated at cost, which approximates fair value.

Property, Plant and Equipment

Property, plant and equipment, including infrastructure (sewer system, network of pipes and sewer mains) are capitalized at cost. Interest cost is capitalized as part of the cost of acquiring certain assets when the effect of such capitalization is material to the financial statements. Depreciation is calculated on a straight-line basis over the following estimated useful lives:

	<u>Years</u>
Buildings and improvements other than buildings	10-50
Transmission and distribution system	13-50
Equipment and machinery	3-20

Sales and retirements of depreciable property are recorded by removing the related cost and accumulated depreciation from the accounts. Gains or losses on sales and retirements of property are reflected in results of operations.

Normal maintenance and repairs that do not add to the value of the assets or materially extend asset lives are not capitalized. Betterments are capitalized and depreciated over the remaining useful lives of the related assets, as applicable.

Materials and Supplies

Materials and supplies are stated at weighted average cost.

Receivables

Sewer service charge revenues are accrued by the City based on estimated billings for services provided through the end of the current fiscal year. Estimated unbilled sewer charges amounted to approximately \$9.3 million at June 30, 2000.

Contributed Capital

Contributed capital represents assets transferred from or constructed utilizing contributions from governmental sources and recorded at cost on the date placed in service.

Retained Earnings

Reservations of retained earnings represents amounts set aside for debt service as required by the City resolution establishing the Sewer Fund. In general the reserved balance represents the maximum debt service payments due in any given fiscal year for each series of revenue bonds issued.

Residual equity transfers are nonroutine transfers of equity between the Sewer Fund and other City funds. Residual equity transfers for the fiscal year 2000 represent transfers of cash contributed to the Sewer Fund.

Retirement Plan Contributions

The City's contribution to the Employee's Retirement System of the State of Hawaii (see Note 8) is based upon actuarial computations and is comprised of the normal cost plus a level annual payment required to amortize an unfunded actuarial accrued liability over the remaining period of 19 years from July 1, 1997. The City is required by State statute to fund the actuarially determined pension contribution requirement annually.

Deferred Compensation Plan

All full-time employees of the Fund are eligible to participate in the City and County of Honolulu's Public Employees' Deferred Compensation Program (Plan), adopted pursuant to Internal Revenue Code Section 457. The plan permits eligible employees to defer a portion of their salary until future years by contributing to a fund managed by a plan administrator. The deferred compensation amounts are not available to employees until termination, retirement, death or unforeseeable emergency.

A trust fund (annuity contract) was established to protect plan assets from claims of general creditors and from diversion to any uses other than paying benefits to participants and beneficiaries. Deferred compensation plan assets are not reported in the financial statements.

It is the opinion of the City's legal counsel that the Fund has no liability for losses under the plan, but does have the duty of due care that would be required of an ordinary prudent investor.

Compensated Absences

Vacation benefits accrue at one and three-quarters working days for each month. Each employee is allowed to accumulate a maximum of 90 days of vacation as of the end of the calendar year. At June 30, 2000 accrued vacation amounted to approximately \$5.6 million.

Sick leave accumulates at the rate of one and three-quarters working days for each month, without limit. Sick leave is taken only in the event of illness and is not convertible to pay; accordingly, sick leave is not accrued. Employees who retire or leave government service in good standing with sixty or more unused sick leave days are entitled to an additional service credit in the retirement system. At June 30, 2000, accumulated sick leave, including vested and nonvested accumulated rights to receive sick leave benefits, amounted to \$15.8 million.

Operating Transfers

Operating transfers include authorized transfers of resources from the fund legally required to receive them to the Sewer Fund through which such resources are to be expended.

New Accounting Pronouncements

In June 1999, the Governmental Accounting Standards Board (GASB) issued statement No. 34, "Basic Financial Statements - Management's Discussion and Analysis - for State and Local Governments." Since the Sewer Fund has total annual revenues of \$100 million or more and is also an entity of the City and County of Honolulu with total annual revenues of \$100 million or more, the Sewer Fund is required to implement the Statement for the fiscal year ending June 30, 2002.

Management has not yet determined the effect of the implementation of this Statement to the Sewer Fund's financial statements but does not anticipate it will materially affect the financial statements.

3. Cash and Investments

The cash and investments balances reported in the accompanying balance sheet are included in the City's cash and investment pool that is used by substantially all of the City's funds. Information pertaining to bank and investment balances and classification of risk is available for only the total cash and investment pool. These balances were fully insured or collateralized with securities by the City's agent in the City's name.

4. Due From Other City Funds

Due from other City funds consists primarily of bond proceeds relating to bond issuances for the Sewer Fund held by the City's General Improvement Bond Fund of \$5.9 million at June 30, 2000.

5. Property, Plant and Equipment

The property, plant and equipment at June 30, 2000 was as follows:

Land	\$ 63,713,695
Buildings and improvements other than buildings	331,030,879
Transmission and distribution system	469,537,935
Equipment and machinery	19,673,876
	<hr/>
	883,956,385
Less accumulated depreciation	(23,295,352)
	<hr/>

	860,661,033
Construction-work in progress	<u>62,238,333</u>
	<u>\$ 922,899,366</u>

6. Long-Term Debt

The City issues general obligation bonds for the construction of major capital facilities. The Sewer Fund's general obligation bonds are collateralized by or expected to be paid from sewer charge revenues received. These instruments are a direct obligation of the City for which its full faith and credit is pledged. The general obligation bonds for the Sewer Fund were issued during fiscal year 1992 through fiscal year 1998 in the original amount totaling \$410.2 million and maturing serially through fiscal year 2029. The general obligation bonds bear interest at rates ranging from 4.54% to 6.25% at June 30, 2000.

Wastewater system revenue bonds were issued in two series during fiscal year 1999, in the original aggregate amount of \$319.5 million. Both series are subject to redemption, at the option of the City, on or after July 1, 2009. The bonds bear interest at 4.0% to 5.25% at June 30, 2000 and mature at various dates through fiscal year 2029.

Other Long-Term Debt

The notes payable to the Hawaii state government are for the construction of necessary treatment works and for other projects intended for wastewater reclamation or waste management. The notes amounted to \$68.0 million at June 30, 2000, bear interest ranging from 2.1 % to 3.0%, and require annual principal and interest payments through fiscal year 2019.

At June 30, 2000, the approximate maturities for general obligation bonds, revenue bonds and notes payable were as follows:

	General Obligation Bonds	Revenue Bonds	Notes Payable
Year ending June 30,			
2001	\$ 9,417,000	\$ -	\$ 3,868,000
2002	9,941,000	1,010,000	3,961,000
2003	9,855,000	1,050,000	4,056,000
2004	9,776,000	1,095,000	4,154,000
2005	9,692,000	1,140,000	4,254,000
Thereafter	<u>48,006,656</u>	<u>315,157,890</u>	<u>47,706,415</u>
	96,687,656	319,452,890	67,999,415
Less: current portion	<u>9,417,252</u>	<u>-</u>	<u>3,867,923</u>
	<u>\$ 87,270,404</u>	<u>\$ 319,452,890</u>	<u>\$ 64,131,492</u>

7. Contributed Capital

At June 30, 2000, the contributed capital represented the transfers, into the Sewer Fund at July 1, 1999:

Fixed Assets, net	\$ 433,840,532
Infrastructure, net	466,783,708
Long term debt	(498,783,708)
Cash	147,980,821
Other	<u>(32,145,405)</u>
Total contributed capital	<u>\$ 517,649,362</u>

Assets that were contributed to the Sewer Fund upon its formation were valued at their estimated cost less accumulated depreciation as of the transfer date that would have been recorded had the assets been initially recorded in this enterprise fund. Cash contributed represents the cash balances of the former Sewer and Sewer Revenue Bond Improvement funds at June 30, 1999.

8. Employee Benefit Plans

Defined Benefit Pension Plans

Plan Description - All full-time employees of the City are eligible to participate in the Employees' Retirement System of the State of Hawaii (ERS), a cost-sharing multiple-employer defined benefit pension plan. The ERS was established by Chapter 88 of the Hawaii Revised Statutes (HRS) and is governed by a Board of Trustees. All contributions, benefits and eligibility requirements are established by Chapter 88, HRS, and can be amended by legislative action.

The ERS is composed of a contributory retirement plan and a noncontributory retirement plan. Prior to June 30, 1984, the plan consisted of only a contributory option. In 1984, legislation was enacted to create a new noncontributory option for members of the ERS who are also covered under social security. Persons employed in positions not covered by social security are precluded from the noncontributory option. The noncontributory option provides for reduced benefits and covers most eligible employees hired after June 30, 1984. Employees hired before that date were allowed to continue under the contributory option or to elect the new noncontributory option and receive a refund of employee contributions. Both plans provide death and disability benefits and cost-of-living increases. In the contributory plan, employees may elect normal retirement at age 55 with 5 or 10 years of credited service or elect early retirement at any age with 25 years of credited service. Such employees are entitled to retirement benefits, payable monthly for life, of 2% or 2.5% of their average final salary, as defined for each year of credited service with certain limitations. Benefits fully vest on reaching 5 years of service; retirement benefits are reduced for early retirement. In the noncontributory plan, employees may elect normal retirement at age 62 with 10 years of credited service or at age 55 with 30 years of credited service, or elect early retirement at age 55 with 20 years of credited service. Such employees are entitled to retirement benefits, payable monthly for life, of 1.25% of their average final salary, as defined, for each year of credited service. Benefits fully vest on reaching 10 years of service; retirement benefits are reduced for early retirement.

The ERS issues a Comprehensive Annual Financial Report that may be obtained by writing to the Employees' Retirement System of the State of Hawaii, 201 Merchant Street, Suite 1400, Honolulu, Hawaii 96813.

Funding Policy - All funding requirements are established by Chapter 88, HRS, and can be amended by the State legislature. Covered contributory plan employees are required to contribute 7.8% or 12.2% of their salary to the plan; the City is required to contribute the remaining amounts necessary to pay contributory plan benefits when due. The City is also required to contribute all amounts necessary to pay noncontributory benefits when due. The City's contribution requirements are actuarially determined based on actuarial assumptions established by Chapter 88, HRS. The Sewer Fund's contribution to the ERS for the fiscal year ended June 30, 2000 was \$281,000, which was equal to the required contributions for the year.

Post-Retirement Health Care and Life Insurance Benefits

In addition to providing pension benefits, the State of Hawaii Public Employees Health Fund provides certain health care (medical, prescription, vision and dental) and life insurance benefits for retired City employees. Contributions are based on negotiated collective bargaining agreements and are limited by State statute to the actual cost of benefit coverage. Prior to July 1, 1996, the City paid for 100% of these benefits for employees who have at least 10 years of service. According to Act 217, SLH 1995, employees hired after June 30, 1996 with 25 years or more of service receive 100% employer funding. The City's

share of the cost of these benefits is prorated for employees with less than 25 years of service. The City also reimburses 100% of Medicare expenses for retirees and qualified dependents (through the State) who are at least 65 years of age and have at least 10 years of service. Currently, approximately 8,767 retirees and qualified dependents are receiving post retirement health care and benefits paid for by the City. The City's contributions for post retirement benefits, which are funded as accrued, amounted to \$25.9 million for the fiscal year ended June 30, 2000. Separate information for the Sewer Fund is not available.

Early Retirement Incentive

Act 212 of the 1994 regular session of the State legislature authorized an early retirement incentive to state and county employees with at least 25 years of service as of December 31, 1994. Qualifying employees received two additional years of service credits for purposes of calculating their retirement benefits. 571 City employees received early retirement benefits, which cost the City \$7.5 million in payouts for accrued vacation during fiscal 1995. Act 216 of the 2000 regular session of the State legislature changed the funding period for the cost of the early retirement incentive bonus from five years to nineteen years retroactive to June 30, 1997. Based on the per-employee analysis of additional retirement contributions calculated by the ERS, the additional retirement contribution, including interest, to be paid by the City is \$20.3 million. Separate information for the Sewer Fund is not available.

9. Management Agreement

The City and County of Honolulu has an agreement with the Board of Water Supply (the "Board") to provide certain services through June 30, 2004 relating to the billing and collection of sewer service charges. Fees related to these services were negotiated at approximately \$100,000 in 2000. Fees will be renegotiated for the remaining years of the contract based on a study of the incremental costs incurred by the Board to provide these services.

10. Commitments and Contingencies

The Sewer Fund has contractual commitments of approximately \$113 million at June 30, 2000, primarily for construction contracts.

Litigation

The City is a party to various legal proceedings arising in the normal course of business. Some of these matters relate to the Sewer Fund as follows:

Clean Water Act

In 1991, the EPA filed an administrative action against the City alleging violations of the Clean Water Act and conditions and limitations of the National Pollutant Discharge Elimination System Permits by failing to develop and administer pretreatment programs for all of its treatment plants and for unauthorized discharges from the collection system. As a result of a settlement reached between the EPA and the City, a consent decree has been filed which requires certain compliance actions and penalties of \$1.2 million, which were paid in fiscal year 1995. The City has implemented certain compliance actions such as developing plans, providing additional positions and training and contracting various services for the rehabilitation and maintenance of the collection system and implementation of the plans. The City has committed to spend at least \$20 million for effluent reuse, for which planning and development is currently underway. The expected date of completion is July 2001. The City has also committed to spend at least \$10 million for sludge reuse which is currently undergoing deadline negotiations. The consent decree cites potential stipulated penalties of \$2,000 per day per violation for failure to comply.

The State and certain environmental groups (nonprofit organizations) also filed actions against the City for declaratory judgment, injunctive relief and civil penalties for violations of the Clean Water Act for the Honouliuli, Kailua and Kaneohe wastewater treatment plants for failing to meet the secondary treatment requirements and for operating the Wahiawa wastewater treatment plan without a permit.

Honouliuli - The City was cited for numerous bypass events from the Honouliuli plant in December 1989. Effluent limits are being met and the City is operating under an administrative extension of the old permit. The Environmental Services Department is working with the State Department of Health and has closed out the Consent Order as of February 1999.

The City was cited and fined \$174,000 for exceeding the limit on the ground water use permit at the Honouliuli plant in June 1997. On May 20, 1998, the State Commission on Water Resource Management withdrew its notice of violation without prejudice, subject to the City providing quarterly reports, which indicate the progress made on the effluent reuse project. If the reports are not submitted, the fine may be reinstated by the State.

Kailua and Kaneohe - As a result of a settlement reached between the parties, a consent decree has been filed for the Kailua and Kaneohe plants, which requires certain compliance actions such as developing a facilities plan, constructing a feasible ultraviolet disinfection facility and establishing and supporting an advisory council. The conceptual facilities plan and the environmental impact statement preparation notice were completed in September 1998. The design phase of the ultraviolet disinfection project was completed in October 1998. Responses to public comments were completed in June 1999. The City has contracted a construction company to complete the construction phase for approximately \$2.3 million, which was completed in November 2000. Approximately \$1.2 million has been paid as of June 30, 2000 related to these compliance actions. The Kailua Bay Advisory Council was established in October 1995. The City has established a \$2.1 million trust fund; hired a program administrator and a third party to provide watershed mapping services; awarded grant projects to four community groups; developed short-term implementation plans for erosion control initiatives, stream bank restoration and refuse control; and developed a web site for the Kailua Bay Advisory Council to disseminate information to the public.

The consent decree cites total costs of at least \$7.4 million for capital improvements, consulting and other fees. The consent decree cites stipulated penalties of \$500 per day per violation for failure to meet the specified obligations and deadlines. The City has not been assessed any penalties, as the specified obligations and deadlines were met during 1999. The Kaneohe treatment facility has been converted into a temporary treatment facility.

Wahiawa - A civil action was filed by the State for operating the Wahiawa plant without a permit. Settlement with the State was reached and a consent decree was approved on February 27, 1998. The consent decree requires the City to upgrade the existing treatment plant to produce water suitable for reuse and adjust the outfall. The estimated cost of the upgrades is approximately \$12.3 million. The consent decree cites stipulated damages of \$600,000 plus \$1,000 - \$5,000 per day if the upgrades are not completed by February 27, 2001.

Whitmore Village - The State issued a notice of violation and order for exceeding, biological oxygen demand and total suspended solid limits at various times from May to December 1992. The case is pending review and a ruling has not been made. The State may impose penalties not to exceed \$10,000 per day per violation. Potential fines could approximate \$1.5 million. The City has terminated the treatment and disposal of wastewater at this facility in March 1994.

Kahuku - The State issued a notice of apparent violation resulting from discharge of chlorinated secondary filtered effluent from an effluent pipe break at the Kahuku Wastewater Treatment Plant onto private property. The City has not been assessed any penalties, however, corrective action is estimated at \$750,000.

Although the outcome of individual matters is not predictable, no provision for any liability that may result from these lawsuits has been made in the Sewer Fund's financial statements since any such liabilities are normally paid from the City's General Fund. In the opinion of management, the final outcome of these matters is unknown at this time but should not have a material adverse effect on the Sewer Fund's financial statements.

Appendix B
Engineer's Report

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City and County of Honolulu

2001 WASTEWATER SYSTEM REVENUE BONDS

ENGINEER'S REPORT

June 29, 2001



City and County of Honolulu

2001 WASTEWATER SYSTEM REVENUE BONDS
ENGINEER'S REPORT

TABLE OF CONTENTS

	<u>Page No.</u>
CHAPTER 1 – EXECUTIVE SUMMARY	
1.1 INTRODUCTION AND BACKGROUND	1-1
Overview of Existing Wastewater Facilities	1-1
Compliance with Discharge Requirements	1-3
Organization of the City and County of Honolulu Wastewater Enterprise	1-3
Capital Program Planning and Future Direction.....	1-4
Wastewater Flow Projections	1-4
1.2 2001 - 2005 CIP PROJECTS	1-4
Need for the 2001-2005 Projects.....	1-4
Collection System Improvement Projects	1-4
Wastewater Treatment Plant Improvement Projects.....	1-5
Project Management	1-5
Summary of Estimated Project Costs	1-5
1.3 FUTURE PROJECTS.....	1-6
Long-Term Expansion and Rehabilitation Needs.....	1-6
Cost of CIP Projects	1-8
Timing of CIP Projects.....	1-8
Growth Rate Considerations	1-8
1.4 CURRENT AND FUTURE SEWER SERVICE AND SYSTEM FACILITY CHARGES	1-8
Sources and Uses of Funds	1-8
Existing Rates and Charges	1-8
Projected Rates and Charges	1-8
1.5 SUMMARY OF PROJECTED REVENUES AND EXPENSES	1-9
1.6 CONCLUSIONS.....	1-9
Compliance with Discharge Requirements	1-9
20-Year CIP ..	1-9
2001-2005 CIP Projects	1-10
Department Management.....	1-10
Financial Projections	1-10
CHAPTER 2 – INTRODUCTION AND BACKGROUND	
2.1 SCOPE OF REPORT	2-1
2.2 ENGINEER'S QUALIFICATIONS.....	2-1
2.3 OVERVIEW OF THE DEPARTMENT OF ENVIRONMENTAL SERVICES	2-2
2.4 OVERVIEW OF EXISTING WASTEWATER FACILITIES.....	2-5
General Description of Existing System	2-5
2.5 COMPLIANCE WITH DISCHARGE REQUIREMENTS AND CONSENT DECREES	2-9
2.6 CAPITAL PROGRAM PLANNING AND FUTURE DIRECTION	2-13
2.7 WASTEWATER FLOW PROJECTIONS.....	2-14

City and County of Honolulu

2001 WASTEWATER SYSTEM REVENUE BONDS
ENGINEER'S REPORT

TABLE OF CONTENTS
(Continued)

	<u>Page No.</u>
CHAPTER 3 – CIP PROJECTS FOR FISCAL YEARS ENDING 2001-2005	
3.1	NEED FOR THE PROJECTS..... 3-1
3.2	COLLECTION SYSTEM PROJECTS..... 3-2
3.3	WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECTS..... 3-2
3.4	ONGOING CAPITAL PROGRAM 3-2
3.5	PROJECT MANAGEMENT 3-2
	Waianae WWTP Secondary Treatment Upgrade 3-4
	Spill Prevention/Spill Containment Plan 3-4
	Wastewater Information Management System (WIMS) 3-4
3.6	SUMMARY OF ESTIMATED PROJECT COSTS 3-4
CHAPTER 4 – FUTURE PROJECTS	
4.1	LONG-TERM EXPANSION AND REHABILITATION NEEDS 4-1
	Collection System Improvements 4-1
	Wastewater Treatment Plants Improvements 4-2
4.2	COST OF FUTURE PROJECTS..... 4-5
4.3	TIMING OF FUTURE PROJECTS 4-10
4.4	GROWTH RATE CONSIDERATIONS 4-10
CHAPTER 5 – CURRENT AND FUTURE SEWER SERVICE AND SYSTEM FACILITY CHARGES	
5.1	SOURCES AND USES OF FUNDS..... 5-1
5.2	HISTORICAL REVENUES AND EXPENDITURES 5-3
5.3	EXISTING RATES AND CHARGES 5-3
5.4	COMPARISON WITH RATES CHARGED BY OTHER AGENCIES..... 5-5
5.5	PROJECTED RATES AND CHARGES 5-5
CHAPTER 6 – SUMMARY OF PROJECTED REVENUES AND EXPENSES	
CHAPTER 7 – CONCLUSIONS	
7.1	COMPLIANCE WITH DISCHARGE REQUIREMENTS 7-1
7.2	20-YEAR CIP..... 7-1
7.3	2001-2005 CIP PROJECTS 7-1
7.4	DEPARTMENT MANAGEMENT..... 7-2
7.5	FINANCIAL PROJECTIONS..... 7-2

GLOSSARY

REFERENCE

City and County of Honolulu

2001 WASTEWATER SYSTEM REVENUE BONDS
ENGINEER'S REPORT

LIST OF TABLES

	<u>Page No.</u>
Table ES-1	Wastewater Drainage Basins and Major Facilities 1-1
Table ES-2	Summary of Estimated CIP Project Expenditures, 2001-2005 1-6
Table ES-3	10-Year Projected Cash Flow Summary 1-12
Table 1	Listing of Divisions of the Department of Environmental Services 2-3
Table 2	Wastewater Drainage Basins and Major Facilities 2-5
Table 3	Wastewater Flows by Treatment Facility 2-8
Table 4	Summary of Consent Decree Objectives 2-11
Table 5	Discharge Requirements and Compliance History 2-12
Table 6	Historical and Projected Resident Population By Basin, Oahu, 1990-2020 2-17
Table 7	Prioritization Criteria 3-1
Table 8	Summary of Estimated CIP Project Expenditures 3-5
Table 9	Summary of 20-Year Expenditures 4-2
Table 10	User Revenues - Sources and Uses 5-1
Table 11	Historical Wastewater Revenues and Expenditures 5-2
Table 12	Summary of Current Sewer Rate Ordinance 5-4
Table 13	10 - Year Projected Cash Flow Summary 6-2

LIST OF FIGURES

Figure ES-1	Service Areas and Major Facilities 1-2
Figure ES-2	20-Year CIP by Project Category 1-7
Figure ES-3	20-Year CIP by Project Main Purpose 1-7
Figure 1	Service Areas and Major Facilities 2-6
Figure 2	Summary of Existing Wastewater Treatment Facilities and Flows 2-7
Figure 3	309 Consent Decree Milestones Summary 2-10
Figure 4	Historical and Projected Population 2-15
Figure 5	Wastewater Flow Projections 2-15
Figure 6	ESDU Growth Projections 2-16
Figure 7	Location of 2001-2003 CIP Projects 3-3
Figure 8	20 - Year CIP Plan Projects 4-3
Figure 9	20 - Year CIP by Project Category 4-4
Figure 10	20 - Year CIP by Project Main Purpose 4-4
Figure 11	Sand Island WWTP Facilities Layout 4-6
Figure 12	Honouliuli WWTP Facilities Layout 4-7
Figure 13	Kailua WWTP Facilities Layout 4-8
Figure 14	Historical and Projected Capital Project Expenditures 4-9
Figure 15	20-Year Project Implementation Schedule 4-11
Figure 16	Comparison of Residential Sewer Service Charges 5-6
Figure 17	Comparison of Residential System Facility Charges 5-6
Figure 18	Historical and Projected Sewer Service and System Facility Charges 5-7
Figure 19	Total Revenues from Sewer Service and System Facility Charges 5-7
Figure 20	Revenue Sources 6-3

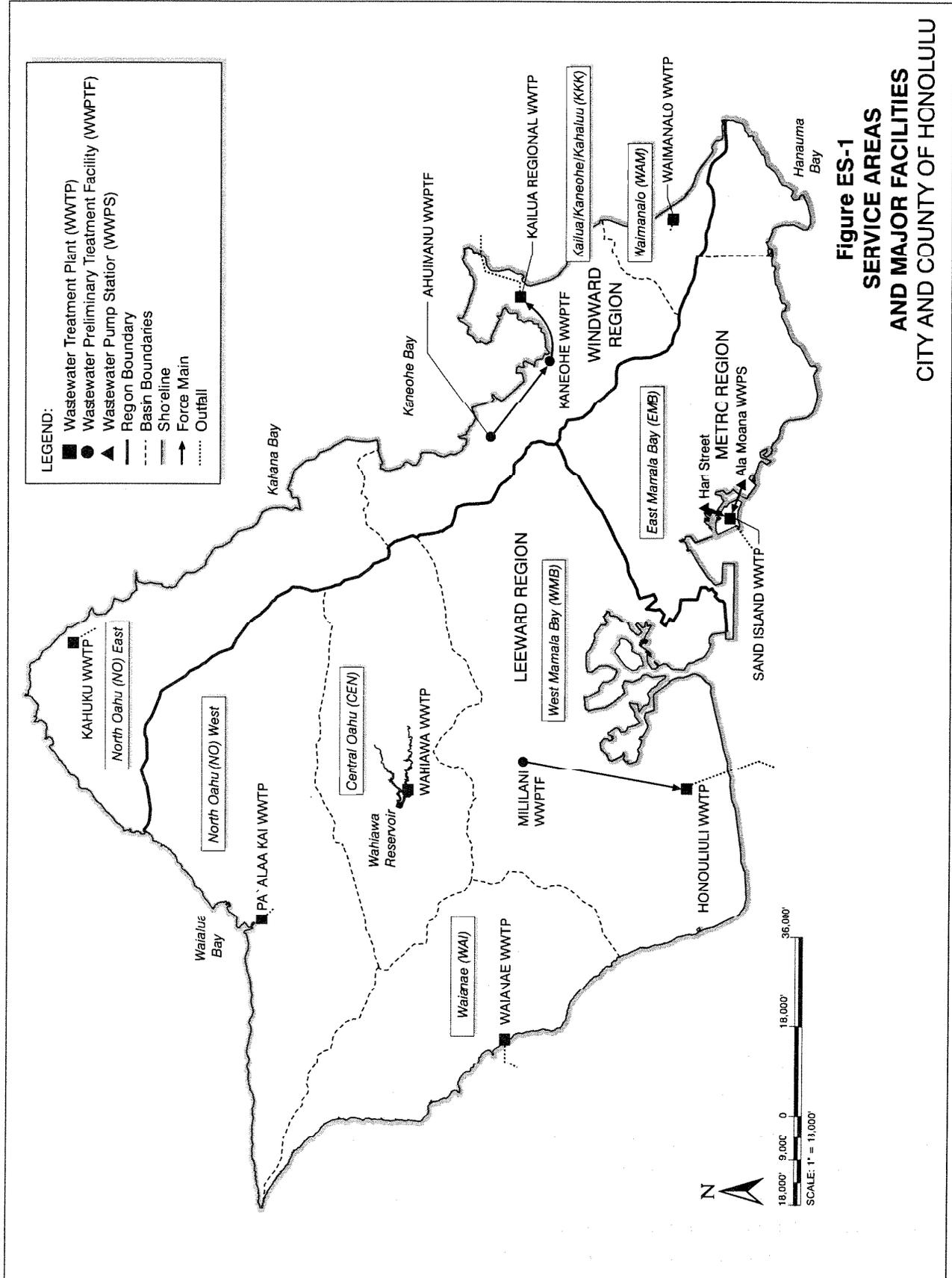
EXECUTIVE SUMMARY**1.1 INTRODUCTION AND BACKGROUND****Overview of Existing Wastewater Facilities**

The City and County of Honolulu's Department of Environmental Services ("Department") is responsible for the operation, maintenance, compliance monitoring, facility planning and programming, and fiscal planning and execution for the City's wastewater system.

The wastewater systems service approximately 130,000 separate accounts and a population of approximately 600,000 of the island of Oahu's total population of approximately 845,000. The customer base includes the residential population, businesses and industries, and other users located in the 500-square-mile service area. Out of 130,000 accounts, approximately 123,000 are residential and represent approximately 77.8 percent of the total revenue from sewer service charges. The remaining 7,000 are non-residential and represent approximately 22.2 percent of the total revenue from sewer service charges.

The island of Oahu, which constitutes the City and County of Honolulu, is divided into eight wastewater basins: 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 basins and the associated WWTP's are shown in Figure ES-1 and listed in Table ES-1.

Table ES-1 Wastewater Drainage Basins and Major Facilities City and County of Honolulu Department of Environmental Services			
Region	Basin	WWTP	Discharge Location
Metro	• East Mamala Bay	• Sand Island	• Ocean
Leeward	• West Mamala Bay	• Honouliuli	• Ocean/Reuse
	• North Oahu (West)	• Pa'alaa Kai	• Injection Wells
	• Waianae	• Waianae	• Ocean
	• Central Oahu	• Wahiawa	• Reservoir
Windward	• Kailua/Kaneohe/Kahaluu	• Kailua Regional ⁽¹⁾	• Ocean
	• North Oahu (East)	• Kahuku	• Injection Wells
	• Waimanalo	• Waimanalo	• Injection Wells
Notes: ⁽¹⁾ Includes Ahuimanu and Kaneohe Wastewater Preliminary Treatment Facilities WWTP = Wastewater Treatment Plant			



Over 90 percent of the wastewater flows are treated by the three largest facilities: the Sand Island WWTP, which treats 67.6 million gallons per day (mgd) of average dry weather flow (ADWF) from Honolulu, the Honouliuli WWTP, which treats 26.8 mgd ADWF from the Ewa, Mililani, and Pearl Harbor areas, and the Kailua Regional WWTP, which treats 13.0 mgd ADWF from the eastern populated areas of the island.

Compliance with Discharge Requirements

Seven out of the eight WWTPs are owned by the City and County of Honolulu, and operated by the Department. All City and County-owned WWTPs currently meet national and state discharge requirements except for the Sand Island WWTP. The Sand Island WWTP has recently experienced some difficulties in meeting the new 30 percent biological oxygen demand (BOD) removal limit set forth in the revised discharge permit. Many of the upcoming projects are designed to fix problems at this facility. The eighth WWTP, the Waimanalo WWTP, which accounted for only 0.5 percent of the total wastewater flows in the year 2000, is owned by the State of Hawaii and operated by the Department. The Waimanalo WWTP has not consistently met discharge requirements in the past. The plant exceeded monthly average permit concentrations for BOD in June of 1997 and for total suspended solids (TSS) in July of 1997.

The community of Honolulu highly values a clean environment. The Department has worked with the community, the EPA, and the State of Hawaii Department of Health to develop several consent decrees. The consent decrees reflect agreed upon actions to meet the objectives of the City and County of Honolulu, the EPA, and other major participants for improvements to the existing wastewater systems. The consent decrees confirm the overall direction and schedule for the wastewater management program.

Organization of the City and County of Honolulu Wastewater Enterprise

The City and County of Honolulu's Department of Environmental Services is responsible for the operation, maintenance, compliance monitoring, facility planning and programming, for the City's wastewater system.

The Department is composed of approximately 590 employees in support of the wastewater program. The Office of Administrative Support provides fiscal control, personnel support, and Capital Improvement Plan ("CIP") program development activities. The Division of Wastewater Treatment and Disposal and the Division of Collection System Maintenance provide operation and maintenance of the treatment plants, pump stations, and the collection system. The Division of Environmental Quality provides performance monitoring, source control, and laboratory services. An additional 400 employees support the solid waste collection and disposal program.

The Department of Environmental Services was created July 1, 1998 as part of a City-wide reorganization to streamline operations. Previously, the Department of Wastewater Management, created by a City Charter change effective July 1, 1993, provided operation, maintenance, planning, design and construction of City wastewater facilities. Prior to that time, wastewater management was a division under the Department of Public Works.

The City's Department of Design and Construction provides wastewater facility planning, design and construction in support of the Department. Wastewater permitting is consolidated in the City's Department of Planning and Permitting to provide one stop permitting service to customers and better relate approval of development plans with City-wide planning.

Capital Program Planning and Future Direction

The Department has developed a comprehensive long-term planning program for wastewater management which has led to the completion of facility plans and preliminary designs for most of the major wastewater facilities on the island. The facility plans for the individual WWTPs are incorporated in the 20-year CIP which covers the years ranging from FYE 1998 to FYE 2017.

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.

Wastewater Flow Projections

The wastewater flow and strength projections are based on the anticipated growth rates included in the City and County of Honolulu's Development Plans and Sustainable Community Plans. Growth is not a significant factor in driving the overall need for 20-year CIP projects. Only 14 percent of the 20-year CIP costs are associated with projects that are required to accommodate growth.

1.2 2001 - 2005 CIP PROJECTS

Need for the 2001-2005 Projects

The 2001-2005 CIP projects which are part of the overall 20-year program fall into two general categories: collection system, and wastewater treatment plant. The need for projects in each category is summarized below.

Collection System Improvement Projects

Collection system improvement projects are the highest priority projects due to deteriorated and corroded pipe conditions that have resulted in excessive infiltration, inflow, and overflows during wet weather conditions. Replacement of severely corroded pipe will reduce infiltration/inflow during wet weather events, will result in lower operation and maintenance costs for both the collection systems and associated WWTPs, and will significantly reduce the risk of Clean Water Act violations owing to system overflows resulting from infiltration/inflow.

The Department has planned for the design or construction of numerous collection system improvement projects between fiscal years ending 2001 and 2005. The large number of collection system improvement projects are largely a result of a comprehensive Infiltration/Inflow (I/I) plan completed in December 1999 and approved by EPA. The total expenditures (in inflated dollars) for these projects through the year 2005 are \$368.4 million, with an expected \$175.5 million to be expended within the first three years and \$192.9 million to be expended in the remaining two years.

Collection system projects between fiscal years ending 2001 and 2005 include the Wilhelmina Rise Sewer Rehabilitation, the Kalaheo Avenue Sewer Reconstruction, and many other projects including ones that stem from the I/I Plan.

Wastewater Treatment Plant Improvement Projects

The WWTP improvement projects are needed to upgrade existing facilities to satisfy regulatory requirements, to improve the ability of the facilities to handle peak wet weather flows, and in some cases to accommodate growth. The Department has planned for the design and/or construction of 11 WWTP improvement projects with all WWTP expenditures (in inflated dollars) totaling approximately \$403.6 million between fiscal years ending 2001-2005. Within the first three years, \$110.4 million is to be expended and approximately \$293.2 million is to be expended in the remaining two years. Projects between fiscal years ending 2001-2005 include the Sand Island WWTP Unit 1 Phase 2A Project, Sand Island WWTP Primary Treatment Expansion, Sand Island WWTP Disinfection and Effluent Pump Station Projects.

Project Management

The Department uses a combination of professional engineering staff and specialty subcontractors to provide construction management services. In-house permanent staff is leveraged by hiring outside project staff on an as-needed basis to support project activities.

Summary of Estimated Project Costs

The summary of costs for 2001-2005 CIP projects by project category is presented in Table ES-2. These costs include planning, design, and construction costs as well as all engineering, administrative, and legal expenses. The City and County of Honolulu 2001 Senior Lien Revenue Bonds (referred to herein as the "Series 2001 Bonds") with construction proceeds totaling approximately \$125 million will partially finance the 2001-2005 CIP projects, with the balance to be primarily met from existing funds of the Department, annual revenues, State Revolving Loan (SRF) proceeds, and from the proceeds of future revenue bond issues.

Table ES-2 Summary of Estimated CIP Project Expenditures, 2001-2005							
City and County of Honolulu Department of Environmental Services							
Project	(Thousands of Dollars) ⁽¹⁾					Total Expenditures	
	Fiscal Year					00/01-02/03	00/01-04/05
	00/01	01/02	02/03	03/04	04/05		
Collection System Projects							
Consent Decree Projects	\$20,011	\$25,912	\$40,105	\$41,477	\$46,333	\$86,028	\$173,839
Other Non-Discretionary Projects	18,056	24,294	23,497	28,860	28,096	65,847	122,803
Other Discretionary Projects	7,381	6,882	9,349	17,785	30,337	23,611	71,733
Subtotal: Collection System	\$45,448	\$57,088	\$72,951	\$88,122	\$104,767	\$175,486	\$368,376
Treatment Plant Projects							
Consent Decree Projects	\$9,303	\$4,135	\$2,861	\$1,014	\$428	\$16,298	\$17,740
Other Non-Discretionary Projects	5,013	19,881	66,642	135,647	149,430	91,536	376,613
Other Discretionary Projects	577	344	1,612	3,414	3,320	2,533	9,266
Subtotal: Treatment Plant	\$14,892	\$24,359	\$71,115	\$140,075	\$153,179	\$110,367	\$403,620
Total: CIP	\$60,340	\$81,447	\$144,067	\$228,197	\$257,945	\$285,854	\$771,996

Notes:
(1) All costs are presented in inflated dollars, assuming 3% inflation per year, beginning in Fiscal Year 02/03.

1.3 FUTURE PROJECTS

Long-Term Expansion and Rehabilitation Needs

A summary of the 20-year CIP total costs by project category is provided in Figure ES-2. Approximately 69 percent of the total project costs are associated with collection system improvements, and 31 percent with WWTP improvements. The 20-year expenditure total presented in figure ES-2 is in FY 2001 dollars.

A summary of the 20-year CIP total cost by primary project purpose is presented in Figure ES-3. As shown in Figure ES-3, approximately 81 percent of the total costs are associated with non-discretionary projects that must be completed in order to satisfy consent decree, permit/regulatory, expansion, and safety/public health requirements. The remaining 19 percent of the total costs are associated with discretionary projects that have been identified to improve wastewater treatment and collection systems. The Department has identified these discretionary projects in order to address reliability, improvement, and preventive maintenance concerns. The 20-year expenditure total presented in figure ES-3 is in FY 2001 dollars.

20-year expenditure total = \$2.1 Billion

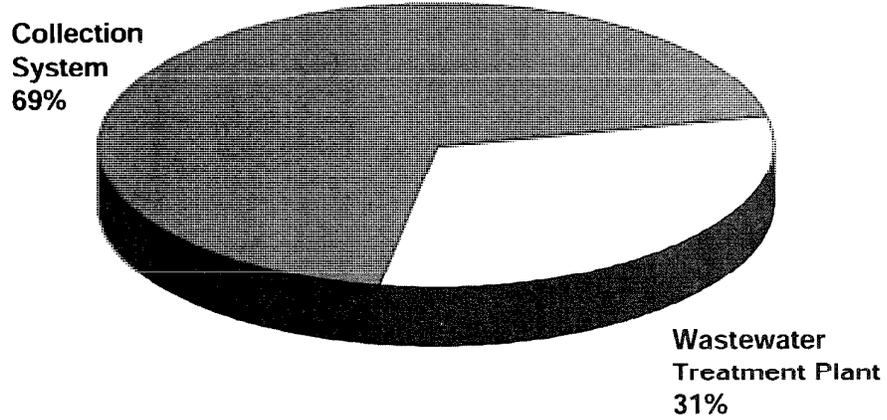


Figure ES-2
20-YEAR CIP BY PROJECT CATEGORY
CITY AND COUNTY OF HONOLULU

20-year expenditure total = \$2.1 Billion

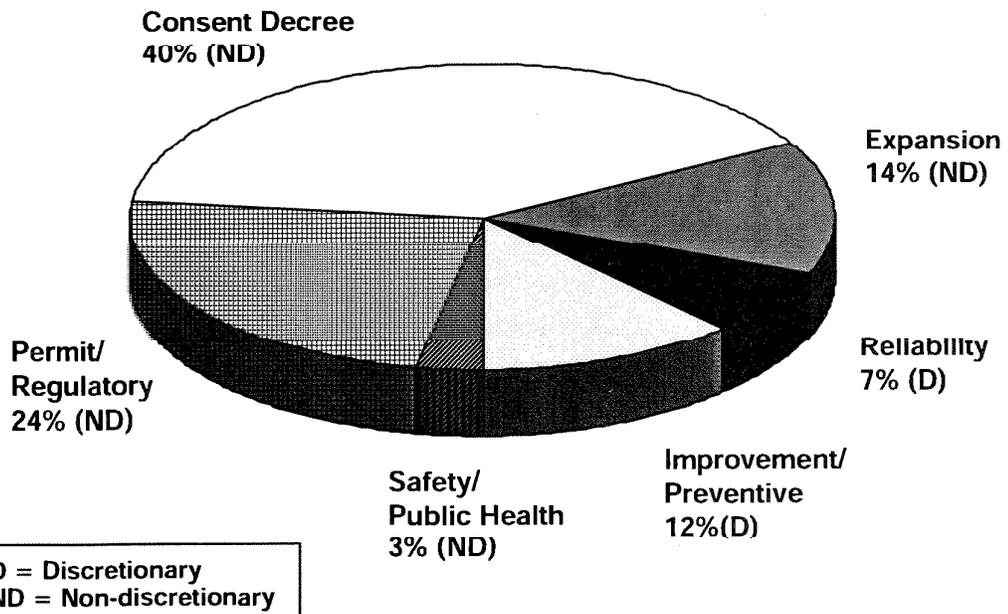


Figure ES-3
20-YEAR CIP BY PROJECT MAIN PURPOSE
CITY AND COUNTY OF HONOLULU

Cost of CIP Projects

Estimated capital project costs for future facilities have been developed for each of the eight wastewater basins. The capital cost estimates include land acquisition, planning, design, construction, construction management, and all other costs required to deliver a completed project.

Timing of CIP Projects

An implementation schedule for the 20-year CIP projects has been developed, which includes the timing of major CIP projects necessary to accommodate increased wastewater flows and loadings due to anticipated growth, to meet consent decree scheduled activities, and for replacement and rehabilitation needs. Some of the 2001 - 2005 CIP projects are already funded through planning and design and construction. Others will be funded from the proceeds of the Series 2001 Bonds, the existing capital reserves, annual revenues, SRF loan proceeds, and future bond issues.

Growth Rate Considerations

The cost of projects that are required to accommodate growth in population and from expansions into unsewered areas is projected to be only 13 percent of the 20-year CIP total costs. Most of the projects in the CIP are driven by factors other than growth such as consent decree requirements, rehabilitation and replacement of existing aging infrastructure, and public safety.

1.4 CURRENT AND FUTURE SEWER SERVICE AND SYSTEM FACILITY CHARGES

Sources and Uses of Funds

The Department's revenues are currently derived from three major sources: monthly sewer service charges, system facility charges (i.e., one time charges for new connections), and interest earned on fund balances. Of these sources, sewer service charges are the major source of revenue.

Existing Rates and Charges

The current sewer service charge for single-family residences is approximately \$33.35 per month. Sewer service charges have been held constant since July 1, 1993. New connections have averaged approximately 2,400 equivalent single-family dwelling units (ESDUs) per year over the past ten years, although over the past five years the average has decreased to approximately 1,700 ESDUs per year. System facility charges have been held constant at \$1,116 per ESDU since 1991-1992.

Projected Rates and Charges

Sewer service charges and system facility charges are projected to increase beginning in fiscal year ending 2004 to accommodate the needs of the capital improvement program and operation and maintenance requirements.

1.5 SUMMARY OF PROJECTED REVENUES AND EXPENSES

A ten-year financial projection through fiscal year ending 2010 for the Department's operations has been prepared and is presented in Table ES-3. As shown in Table ES-3, sewer service charges are projected to continue to be the major source of revenues.

The City Council has adopted a set of Debt and Financial Policies for its wastewater system that target, among other things, the City and County to maintain a 1.60 times coverage for its Senior Revenue Bonds and 1.25 times coverage for all Revenue Bonds (Senior and Junior). The City and County has adhered to the Debt and Financial policies in the previous years and has met all stated goals. It is expected that the City and County will adopt increases in sewer services charges necessary to meet the debt service coverages prescribed in its Debt and Financial Policies. Current projections show that the debt service coverages will be achieved by: 1) increasing sewer service charges between 6.0 and 12.0 percent annually beginning in fiscal year ending 2004, and 2) increasing system facility charges 3 percent annually beginning in fiscal year ending 2004. The City and County's historical rates are reasonable and have not increased since 1993. The City and County's past practice of periodic larger increases followed by extended periods of stable rates as compared to gradual yearly increases is common to other wastewater agencies.

1.6 CONCLUSIONS

Based upon our studies, the assumptions discussed in this report and our review of the data and analysis provided by the City and County of Honolulu and its consultants, we conclude the following:

Compliance with Discharge Requirements

All City and County owned WWTPs are currently meeting national and state discharge requirements except for the Sand Island WWTP. Recently, the Sand Island WWTP plant has experienced difficulties in meeting the 30 percent BOD reduction requirement. The 2001-2005 CIP Projects implement the modifications required to fix other existing deficiencies, and to accommodate planned growth, as well as projects required by and identified in the new discharge permit.

The City and County of Honolulu's Wastewater System collection and pumping facilities do not meet all the current and anticipated federal and state regulatory requirements, and will require additional capacity necessary to serve the projected growth in the service area. The programs are outlined in the I/I plan as well as other collection system projects and are included in the CIP.

20-Year CIP

An estimated \$1.71 billion of non-discretionary CIP project expenditures for various treatment, collection and other facilities are required to be constructed during the 20-year CIP program. This is to eliminate the current and projected critical deficiencies, to meet consent decree milestones, and to provide a wastewater system in a satisfactory operating condition based on projected wastewater usage and environmental and other regulatory requirements. The remaining

approximately \$0.39 billion of CIP projects are discretionary, and have been identified primarily to improve wastewater treatment and collection systems efficiency. These CIP project expenditures are to be funded from proceeds of bonds, including the Wastewater Revenue Bonds, Series 2001 Bonds, and from net revenues and other charges

The \$2.1 billion of CIP expenditure is technically sound and conforms with good engineering practice and the estimated total costs of the CIP have been realistically assessed.

2001-2005 CIP Projects

The 2001-2005 CIP projects fall into two general categories: collection system and wastewater treatment plant. The majority of the projects scheduled for this 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 infiltration/ inflow, and to extend service to unsewered areas. Replacement of severely corroded pipe will reduce infiltration/inflow during wet weather events, and will result in lower operation and maintenance costs for both the collection systems and associated WWTPs. The collection system projects are described in Section 3.2.

Treatment plant improvement project expenditures anticipated during FYE 2001-2005 are needed to upgrade existing facilities, to satisfy regulatory requirements, and to improve the reliability of the facilities in handling peak wet weather flows. WWTP improvement projects are described in Section 3.3.

Department Management

The operations of the wastewater system are directed by a professional staff for the disciplines of operations specialists, maintenance (including electrical, instrumentation and mechanical), laboratory personnel and other technical support personnel.

Financial Projections

The financial projections with respect to the wastewater system are based on reasonable and conservative assumptions and should fairly reflect the financial performance of the wastewater system. The projected 10-year cash flow is shown in ES-3.

Current customer rates and charges for the City and County of Honolulu compare favorably to other similar wastewater agencies. In the past, projected customer rates and charges were based on periodic larger increases followed by extended periods of stable rates. Given the capital intensive period the City and County is entering, the future sewer service charges will be increasing over this period to accommodate these capital expenditures. The past and current rate setting philosophy results in projected rates and charges which are reasonable when compared on an equivalent annual basis.

In the opinion of Carollo Engineers, projected sewer service and system facility charges will provide revenue sufficient to:

- Meet all 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 2001 Bonds and future bond issues.
- Provide sufficient revenue to pay the costs of the City and County of Honolulu's CIP through the end of the forecast period.
- Meet reserve requirements of bond resolution.

The funds obtained from the sale of the Series 2001 Bonds, current cash reserves, fees collected over the next few years, and future bond issues will be adequate to fund the current projects.

The rate at which growth occurs will not affect the ability of the City and County of Honolulu to meet its debt obligations because the growth is a small component of the overall costs and revenues associated with the financial projections. In general, many of the CIP projects are necessary and must proceed based on consent decree requirements and public safety and health concerns with or without any additional connections.

This report has been prepared at the request of the City and County of Honolulu for appending to the Official Statements relating to the issuance of the Series 2001 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 City and County of Honolulu, its employees, and other consultants have been relied upon as being accurate in the performance of these analyses. However, no assurances are given nor warranties implied by Carollo as to the accuracy of such information. Carollo makes no certification and gives no assurances except as explicitly set forth in this report.

Table ES-3 10-Year Projected Cash Flow Summary
City and County of Honolulu Department of Environmental Services

(Revenue and Expense Numbers in Millions)

(Fiscal Year Ending June 30)

Fiscal Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Growth Assumptions											
Total ESDUs at Start of Year	279,963	281,272	282,729	284,186	285,643	287,100	288,558	290,015	291,472	292,929	
Total New ESDUs Added	1,309	1,457	1,457	1,457	1,457	1,457	1,457	1,457	1,457	1,457	14,424
Revenues											
Sewer Service Charges ⁽¹⁾	\$111.3	\$111.2	\$112.6	\$125.6	\$141.4	\$159.2	\$177.6	\$195.4	\$212.1	\$226.0	\$1,572.4
System Facility Charges ⁽¹⁾	1.5	1.7	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.1	18.0
Interest on Sewer Reserve Fund and Unreserved Fund ⁽¹⁾	1.9	5.7	4.2	4.6	5.0	5.4	5.5	5.8	6.1	6.7	50.9
Other Revenues ⁽²⁾	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.1	0.1	0.1	6.7
TOTAL REVENUES	\$115.7	\$119.5	\$119.3	\$132.8	\$149.0	\$167.3	\$185.9	\$203.3	\$220.3	\$234.8	\$1,647.9
Operating Expenses											
O&M Costs ⁽³⁾	\$66.4	\$71.3	\$69.7	\$77.4	\$77.4	\$80.2	\$83.2	\$86.6	\$89.6	\$92.7	\$794.6
TOTAL EXPENSES	\$66.4	\$71.3	\$69.7	\$77.4	\$77.4	\$80.2	\$83.2	\$86.6	\$89.6	\$92.7	\$794.6
TOTAL NET REVENUES	\$49.2	\$48.2	\$49.7	\$55.5	\$71.6	\$87.1	\$102.7	\$116.6	\$130.7	\$142.1	\$853.4
Debt Service											
2001 Sr. Bonds and Future Sr. Revenue Bond Debt Service	\$0.0	\$3.8	\$9.3	\$16.5	\$27.9	\$47.4	\$57.6	\$67.4	\$76.2	\$83.4	\$389.6
Previous Sr. Revenue Bond Debt Service	2.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	34.6
Future Jr. Revenue Bond Debt Service	0.0	0.0	0.3	1.0	1.9	3.3	4.3	5.2	6.0	6.7	28.7
Previous Jr. Revenue Bond Debt Service	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	12.3	14.1	110.2
Reimbursable G.O. Debt Service	13.2	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.8
SRF Loans (Existing and Future)	7.6	7.9	8.6	9.3	10.0	10.7	11.4	12.0	12.7	13.4	103.6
Total Debt Service	\$34.8	\$31.4	\$33.3	\$41.9	\$54.8	\$76.4	\$88.3	\$99.6	\$110.8	\$121.3	\$692.6
TOTAL NET REVENUES AVAILABLE FOR OTHER REQUIREMENTS	\$14.4	\$16.8	\$16.4	\$13.6	\$16.8	\$10.6	\$14.4	\$17.0	\$19.9	\$20.9	\$160.8
Sr. Revenue Bond Coverage Ratio ⁽⁴⁾	18.55	6.35	3.72	2.67	2.22	1.67	1.65	1.62	1.61	1.61	
Total Revenue Bond Coverage Ratio ⁽⁴⁾	3.40	2.47	1.95	1.65	1.56	1.30	1.31	1.31	1.31	1.30	
Total Debt Coverage Ratio ⁽⁴⁾	1.37	1.48	1.44	1.28	1.27	1.12	1.14	1.15	1.16	1.16	
Capital Project Financing											
Transfer to CIP from sewer fund	\$12.7	\$9.6	\$9.9	\$10.0	\$11.0	\$12.0	\$11.8	\$14.9	\$13.0	\$12.2	\$117.0
SRF Loan Proceeds	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	\$100.0
Net Revenue Bond Proceeds	0.0	185.0	180.0	200.0	140.0	130.0	130.0	100.0	90.0	95.0	\$1,250.0
Interest on CIP Project Fund	2.1	0.3	6.5	9.6	9.6	5.3	4.4	4.7	4.0	2.9	\$49.4
Net CIP Financing	\$24.8	\$204.9	\$206.4	\$229.6	\$170.6	\$167.3	\$156.2	\$129.0	\$117.0	\$120.1	\$1,516.4
Capital Expenditures											
Capital Expenditures	\$60.3	\$81.4	\$144.1	\$228.2	\$257.9	\$175.0	\$149.1	\$143.4	\$139.6	\$129.1	\$1,508.3
Purchase of existing assets ⁽⁵⁾		\$41.0									
Major Reserves & Funds (end of year)											
Unrestricted Reserve Balance	\$97.1	\$66.1	\$75.3	\$79.8	\$88.6	\$90.0	\$95.5	\$100.5	\$110.6	\$122.9	
Sewer Fund Reserve ⁽⁶⁾	\$16.6	\$17.8	\$17.4	\$19.3	\$19.4	\$20.1	\$20.8	\$21.7	\$22.4	\$23.2	
CIP Project Fund	\$5.6	\$129.1	\$191.5	\$192.8	\$105.5	\$87.8	\$94.0	\$81.0	\$58.4	\$49.4	
Projected Charges Required											
Monthly Sewer Service Charge ⁽⁷⁾⁽⁸⁾	\$33.27	\$33.18	\$33.18	\$36.83	\$41.25	\$46.20	\$51.29	\$56.16	\$60.65	\$64.29	
Increase Over Prior Year	-0.24%	-0.26%	0.0%	11.0%	12.0%	12.0%	11.0%	9.5%	8.0%	6.0%	
System Facility Charge	\$1,146	\$1,146	\$1,146	\$1,180	\$1,215	\$1,251	\$1,289	\$1,328	\$1,368	\$1,409	
Increase Over Prior Year	0%	0%	0%	3%	3%	3%	3%	3%	3%	3%	

Notes:

- (1) Revenues from Sewer Service Charges, Facility Charges and Interest are as budgeted for 2001 - 2002. For 2003 and beyond revenues are calculated values.
- (2) Includes cesspool pumping, connection services, lateral installation, misc. state funding, and other revenues.
- (3) Includes all operating expenses: salaries, non-salary personnel costs, administrative support, equipment, general fund rental and other expenses.
- (4) Revenues for coverage calculations do not include system facility charges.
- (5) Purchase treated as a capital expenditure - paid for out of the unrestricted reserve.
- (6) Sewer fund reserve based upon maintaining 3 months of operating expenses. Excess/(shortfall) applied to unrestricted reserve.
- (7) Sewer service charges based on budgeted revenues in 2001 and 2002. For 2003 and beyond charges are calculated based upon projected rate increases.
- (8) Decrease in rates for 2001 and 2002 due to anticipated water conservation effects.

INTRODUCTION AND BACKGROUND

This report has been prepared in support of the Official Statements prepared for the issuance of approximately \$135,750,000 in principal amount of 2001 Senior Lien Revenue Bonds (referred to herein as the "Series 2001 Bonds"). Proceeds from the Series 2001 Bonds, will be used to fund portions of the design and construction of a number of capital improvement projects throughout the City and County of Honolulu's wastewater system. Net funding available for projects is anticipated to be approximately \$125 million. The capital improvement projects are part of an overall, comprehensive Capital Improvement Plan (CIP) initiated in 1998 and spanning approximately 20 years through the year 2017.

2.1 SCOPE OF REPORT

The scope of this report includes:

- A brief history of the City and County of Honolulu's Wastewater Facilities, the adequacy and condition of the existing facilities, and a summary of the major planning activities that have recently been completed.
- A description of the program and projects to be funded with the Series 2001 Bonds, and the associated costs and implementation schedules.
- A summary of the timing and costs of ongoing and future projects as developed for the City and County of Honolulu's wastewater system.
- A description of the sewer service charges and system facility charges over the forecast period.
- A summary of projected revenues and expenditures over the forecast period.
- The opinions of Carollo Engineers as to 1) the adequacy and condition of the existing facilities and the need for the 2001-2005 CIP Projects; 2) the reasonableness of the capital improvement program project cost estimates and schedules; 3) the reasonableness of the assumptions for the financial projections; 4) the adequacy and competitiveness of the City and County of Honolulu's wastewater rate structure, and the adequacy of future revenues to cover operation and maintenance costs, expenses, debt service, coverage, future capital costs, and contingencies.

2.2 ENGINEER'S 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 Engineers is a professional services engineering firm specializing in water and wastewater environmental engineering with 19 main offices and several project offices throughout the west. These

offices are located in Walnut Creek, Sacramento, Fresno, Bakersfield, Santa Ana, San Diego, San Jose, and San Bernardino, California; Denver, Colorado; Phoenix, Arizona; Salt Lake City, Utah; Reno and Las Vegas, Nevada; Portland, Oregon; Austin, Texas; Boise, Idaho; Seattle, Washington; and Milwaukee, Wisconsin. Since its founding in 1933, Carollo has successfully completed more than 6,500 water, wastewater, energy, solid waste, storm drain, and other related infrastructure projects for public agencies, governmental agencies, and industries. Carollo is currently ranked number 103 in the top 500 engineering firms in the United States by Engineering News Record.

Carollo has a total staff of over 450 professional employees including registered engineers in such disciplines as civil, structural, environmental, mechanical, chemical, sanitary, and corrosion engineering along with architects, planners, hydrologists and specialists in other areas. Subconsultants are retained as needed in specialized fields.

Carollo is familiar with the City and County of Honolulu's wastewater facilities through previous studies and evaluations. Carollo Engineers recently completed an Operations and Maintenance Evaluation of the Sand Island WWTP to assess overall effectiveness and efficiency. Carollo has also completed several projects for the City and County of Honolulu in conjunction with R.M. Towill Corporation, including the independent evaluation of ORM of Sand Island WWTP, 1998 Wastewater System Revenue Bonds Engineer's Report, Sand Island Wastewater Treatment Plant Modifications, Sand Island Wastewater Treatment Plant Predesign, Honolulu Spill Prevention Plan, Department of Defense (DOD) Central Oahu Water Quality Study, and the Central Oahu Wastewater Planning Study.

Carollo Engineers has developed award-winning master plans for major wastewater facilities in the west in recent years, including the development of the Sacramento Regional Wastewater Treatment Plant (SRWTP) Master Plan. This Master Plan was awarded the American Academy of Environmental Engineers (AAEE) Excellence Honor Award, and the California Water Environment Association (CWEA) Engineering Achievement Award. Carollo has also completed master planning for over \$6 billion in new wastewater facilities in the last five years for major wastewater agencies including Clark County, and Reno-Sparks-Washoe County (NV); the Sacramento Regional County Sanitation District (CA); the City of Fresno (CA); and several other wastewater agencies.

2.3 OVERVIEW OF THE DEPARTMENT OF ENVIRONMENTAL SERVICES

The City and County of Honolulu's Department of Environmental Services is responsible for the operation, maintenance, compliance monitoring, facility planning and programming, and fiscal planning and execution for the City's wastewater system.

The Department is composed of approximately 590 employees in support of the wastewater program. The Office of Administrative Support provides fiscal control, personnel support and Capital Improvement Plan (CIP) program development activities. The Division of Wastewater Treatment and Disposal and the Division of Collection System Maintenance provide operation and maintenance of the treatment plants, pump stations and the collection system. The Division of Environmental Quality provides performance monitoring, source control and laboratory services. An additional 400 employees support the solid waste collection and disposal program. The Department consists of four divisions and an Office of Administrative Support as presented in Table 1.

Table 1 Listing of Divisions of the Department of Environmental Services City and County of Honolulu Department of Environmental Services	
Division	Responsibility
Wastewater Treatment and Disposal	Operation of Wastewater Treatment Plants and Pump Stations
Collection System Maintenance	Maintenance of Collection System Sewer Lines
Environmental Quality	Pretreatment Program, WWTP Permit Compliance, Storm Water Permit Compliance, Reuse Programs
Refuse Collection and Disposal	Collection and Disposal of Solid Waste
Office of Administrative Support	Fiscal Control, Personnel Support, and Capital Improvement Plan (CIP) Program Development

The Department of Environmental Services was created July 1, 1998 as part of a City wide reorganization to streamline operations. Previously, the Department of Wastewater Management created by a City Charter change effective July 1, 1993, provided operation, maintenance, planning, design and construction of City wastewater facilities. Prior to that time, wastewater management was a division under the Department of Public Works.

The City's Department of Design and Construction provides wastewater facility planning, design and construction in support of the Department. Wastewater permitting is consolidated in the City's Department of Planning and Permitting to provide one-stop permitting service to customers and better relate approval of development plans with City-wide planning.

In recent years, the Department (and its predecessor agencies) has received national recognition for excellence, including the following awards:

- 1986 Operation and Maintenance Excellence Award – USEPA
 - Maunawili Park WWTP (plant no longer in existence)
 - Pa'alaa Kai WWTP
- 1993 Gold Award – Association of Metropolitan Sewerage Agencies
 - Wahiawa WWTP
 - NPDES Permit Compliance for Honouliuli WWTP
- 1995 Gold Award – Association of Metropolitan Sewerage Agencies
 - Wahiawa WWTP
- AMSA Gold Award for 1993, 1994, 1995, 1996
 - Kahuku WWTP
- 1996 Gold Award – Association of Metropolitan Sewerage Agencies
 - Waianae WWTP

- 1997 Gold Award – Association of Metropolitan Sewerage Agencies
 - Waianae WWTP
 - Wahiawa WWTP
 - Kailua Regional WWTP
 - Honouliuli WWTP
- 1997 Platinum Award – Association of Metropolitan Sewerage Agencies
 - Kahuku WWTP
- 1998 Gold Award – Association of Metropolitan Sewerage Agencies
 - Honouliuli WWTP
 - Wahiawa WWTP
 - Waianae WWTP
- 1998 Silver Award - Metropolitan Sewerage Agencies
 - Kailua WWTP
- EPA 1998 First-Place Award for exceptional operations and maintenance, Small Non-Discharging Facility
 - Kahuku WWTP
- 1999 Gold Award - Metropolitan Sewerage Agencies
 - Kailua WWTP
 - Waianae WWTP
- 1999 Silver Award - Metropolitan Sewerage Agencies
 - Honouliuli WWTP
 - Wahiawa WWTP
- 2000 Gold Award – Metropolitan Sewerage Agencies
 - Kailua WWTP
- 2000 Platinum Award - Metropolitan Sewerage Agencies
 - Waianae WWTP
- 2001 Grand Award – American Consulting Engineers Council
 - Nimitz Highway Reconstructed Sewer
- 2001 Grand Conceptor – Consulting Engineers Council of Hawaii
 - Nimitz Highway Reconstructed Sewer

The Department, through the Department of Design and Construction, uses a combination of professional engineering staff and specialty subcontractors to provide project and construction management services. In-house permanent staff is supplemented by hiring outside consultants to work with project staff on an as-needed basis to support project activities. During construction, detailed up-to-date critical path method (CPM) project schedules are maintained. The professional staff provides overall project management and onsite construction inspection.

The City and County of Honolulu has provided project management training sessions for staff engineers who are involved in construction management. The purpose of these sessions is to enhance project management skills for engineers and managers administering capital projects.

2.4 OVERVIEW OF EXISTING WASTEWATER FACILITIES

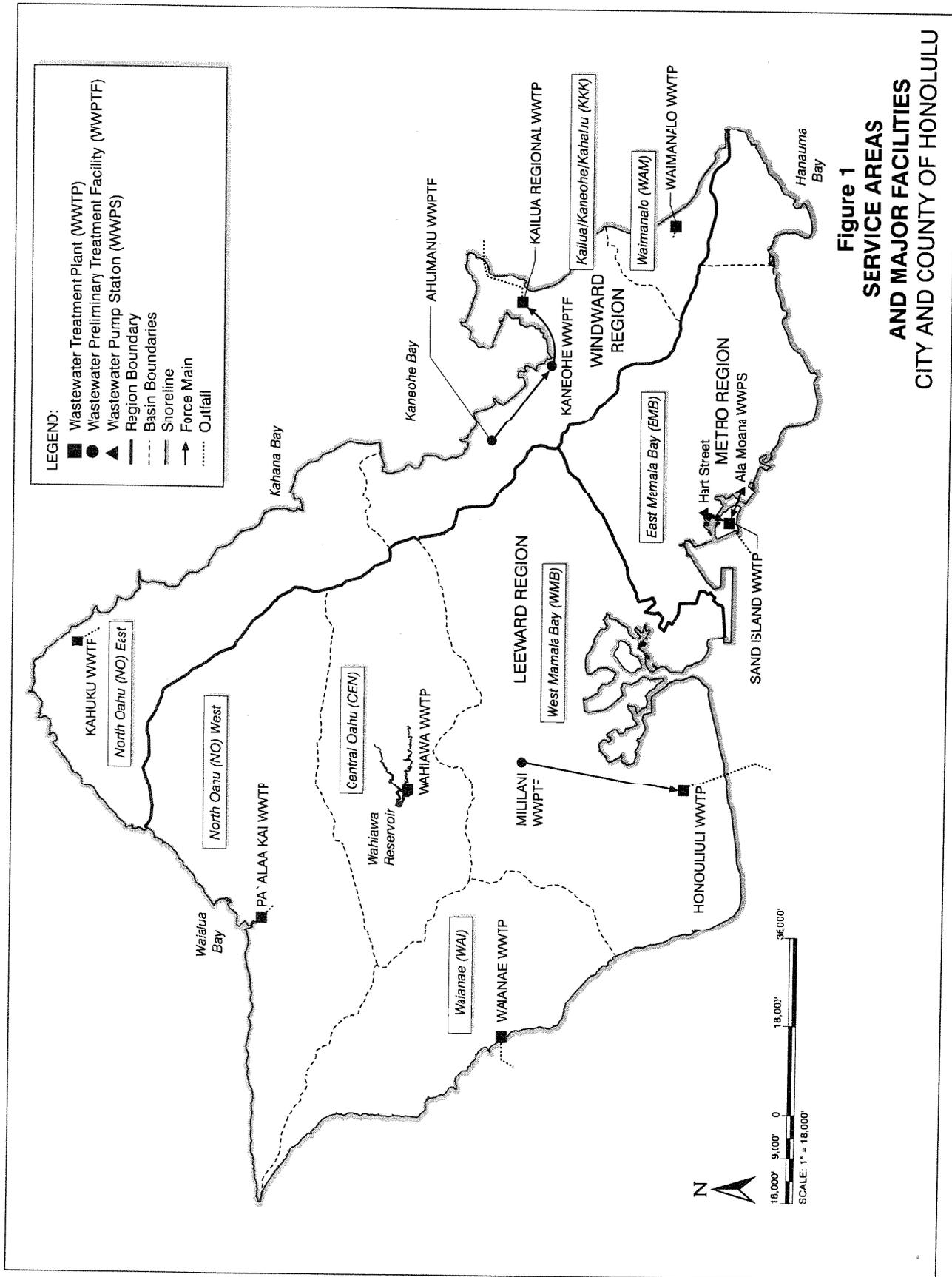
The wastewater systems service approximately 130,000 separate accounts and a population of approximately 600,000 of the Island's total population of 845,000. The customer base includes the residential population, businesses and industries, and other users located in the 500-square-mile service area. Out of 130,000 accounts, 123,000 are residential and represent approximately 77.8 percent of the total revenue from sewer service charges. The remaining 7,000 are non-residential and represent approximately 22.2 percent of the total revenue from sewer service charges.

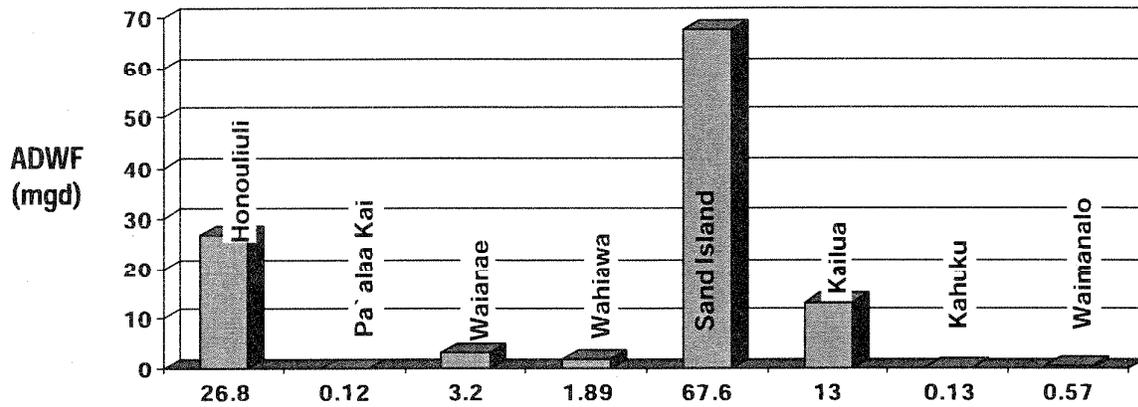
General Description of Existing System

The island of Oahu, which constitutes the City and County of Honolulu, is divided into eight wastewater basins: 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 WWTP. The basins and the associated WWTPs are shown in Figure 1 and listed in Table 2.

Table 2 Wastewater Drainage Basins and Major Facilities City and County of Honolulu Department of Environmental Services			
Region	Basin	WWTP	Discharge Location
Metro	• East Mamala Bay	• Sand Island	• Ocean
Leeward	• West Mamala Bay	• Honouliuli	• Ocean/Reuse
	• North Oahu (West)	• Pa'alaa Kai	• Injection Wells
	• Waianae	• Waianae	• Ocean
	• Central Oahu	• Wahiawa	• Reservoir
Windward	• Kailua/Kaneohe/Kahuluu	• Kailua Regional ⁽¹⁾	• Ocean
	• North Oahu (East)	• Kahuku	• Injection Wells
	• Waimanalo	• Waimanalo	• Injection Wells
Notes: (1) Includes Ahuimanu and Kaneohe Wastewater Preliminary Treatment Facilities.			

Almost 95 percent of the wastewater flows are treated by the three largest facilities: the Sand Island WWTP, which treats 67.6 million gallons per day (mgd) of average dry weather flow (ADWF) from Honolulu, the Honouliuli WWTP, which treats 26.8 mgd ADWF from the Ewa, Mililani, and Pearl Harbor areas, and the Kailua Regional WWTP, which treats 13.0 mgd ADWF from the eastern populated areas of the island. Flows for each wastewater facility are presented in Figure 2 and summarized in Table 3. Descriptions of the wastewater basins and major facilities are provided below.





Total = 113 mgd

ADWF = Average Dry Weather Flow

Figure 2
SUMMARY OF EXISTING WASTEWATER
TREATMENT FACILITIES AND FLOWS
CITY AND COUNTY OF HONOLULU

Table 3 Wastewater Flows by Treatment Facility⁽¹⁾ City and County of Honolulu Department of Environmental Services			
Treatment Facility	Design Capacity (mgd)	2000 Flow (mgd)	Projected 2020 Flow (mgd)
Sand Island WWTP	82.0	67.6	92.6
Honouliuli WWTP	38.0	26.8	32.8
Pa'alaa Kai WWTP	0.14	0.12	0.14
Waianae WWTP	5.2	3.2	3.5
Wahiawa WWTP	2.5	1.89	1.89
Kailua Regional WWTP	15.25	13.0	13.4
Kahuku WWTP	0.4	0.13	0.15
Waimanalo WWTP	0.7	0.57	0.62
Total	144.19	113.3	145.1
Notes:			
(1) Average dry weather flow, millions of gallons per day.			
(2) Does not include 0.3 mgd of flow from the City's Kuliouou WWPS which is treated by the Hawaii Kai WWTP, a private treatment facility.			

East Mamala Bay

The largest and most densely-populated wastewater basin has a population of approximately 374,400 and is served by the Sand Island WWTP. Built in the 1970s, the Sand Island WWTP currently treats 67.6 mgd of wastewater flow and has a primary treatment capacity of 82 mgd. The wastewater facility serves the City of Honolulu and surrounding areas.

West Mamala Bay

The second largest basin has a population of approximately 239,700 and is served by the Honouliuli WWTP. Built in 1981, the Honouliuli WWTP currently treats 26.8 mgd of wastewater flow and has a primary treatment capacity of 38 mgd. A secondary treatment capacity of 13 mgd was added in 1997. The wastewater facility serves Ewa, Central Oahu as far north as Mililani, and the Halawa to Pearl City area of the Primary Urban Center. Secondary treated effluent is provided to a recycled water facility.

Kailua/Kaneohe/Kahaluu

The third largest basin has a population of approximately 106,300 and is served by the Kailua Regional WWTP, which serves the communities of Kailua, Kaneohe, Kahaluu, and surrounding areas. The Kailua Regional WWTP was built in the 1950s and was upgraded to secondary treatment in 1995. It currently treats 13.0 mgd of wastewater flow and has a secondary treatment capacity of 15.25 mgd.

North Oahu (East)

The North Oahu (East) basin is largely unsewered and is served by the Kahuku WWTP. Built in the early 1980s, the Kahuku WWTP currently treats 0.13 mgd of wastewater flow and has a secondary treatment capacity of 0.4 mgd.

North Oahu (West)

The North Oahu (West) basin is also largely unsewered and is served by the Pa'ālaa Kai WWTP. Built in the mid-1980s, the Pa'ālaa Kai WWTP currently treats 0.12 mgd of wastewater flow and has a secondary treatment capacity of 0.14 mgd.

The North Oahu (East) and North Oahu (West) basins have a combined population of approximately 31,100, including military bases.

Waianae

The Waianae basin has a population of approximately 39,300 and is served by the Waianae WWTP. The Waianae WWTP was built in the 1960s and was upgraded to secondary treatment in 1995. It currently treats 3.2 mgd of wastewater flow and has a secondary capacity of 5.2 mgd.

Central Oahu

The Central Oahu basin has a population of approximately 45,300 (including military bases), and is served by the Wahiawa WWTP. Built in the 1950s, the Wahiawa WWTP currently treats 1.89 mgd of wastewater flow and has a secondary treatment capacity of 2.5 mgd. It serves the communities of Wahiawa and Whitmore Village.

Waimanalo

The Waimanalo basin has a population of approximately 9,200 and is served by the Waimanalo WWTP. Built in the 1970s, the Waimanalo WWTP currently treats 0.57 mgd of wastewater flow and has a secondary treatment capacity of 0.70 mgd.

Although the Central Oahu, North Oahu (East), North Oahu (West), Waianae, and Waimanalo basins 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/Kanōhoē/Kahaluu basin areas. The combined population of these five basin areas is approximately 124,800, which is approximately 15 percent of the total population of Oahu. The total design capacity of the WWTPs in these five basin areas is approximately 8.9 mgd and the current wastewater flow is approximately 5.9 mgd.

2.5 COMPLIANCE WITH DISCHARGE REQUIREMENTS AND CONSENT DECREES

The City and County of Honolulu highly values a clean environment. The Department has worked with the community, the EPA, and the State of Hawaii Department of Health to develop several consent decrees. The consent decrees reflect agreed upon actions to meet the objectives of the City and County of Honolulu, the EPA, and other major participants for improvements to the existing wastewater systems. The consent decrees confirm the overall direction and schedule for the wastewater management program and are supported by the specific activities and actions developed through the facility planning efforts in recent years. A summary of the 309 consent decree milestones and associated due dates is presented in Figure 3. A summary of the four outstanding consent decrees and major objectives is presented in Table 4.

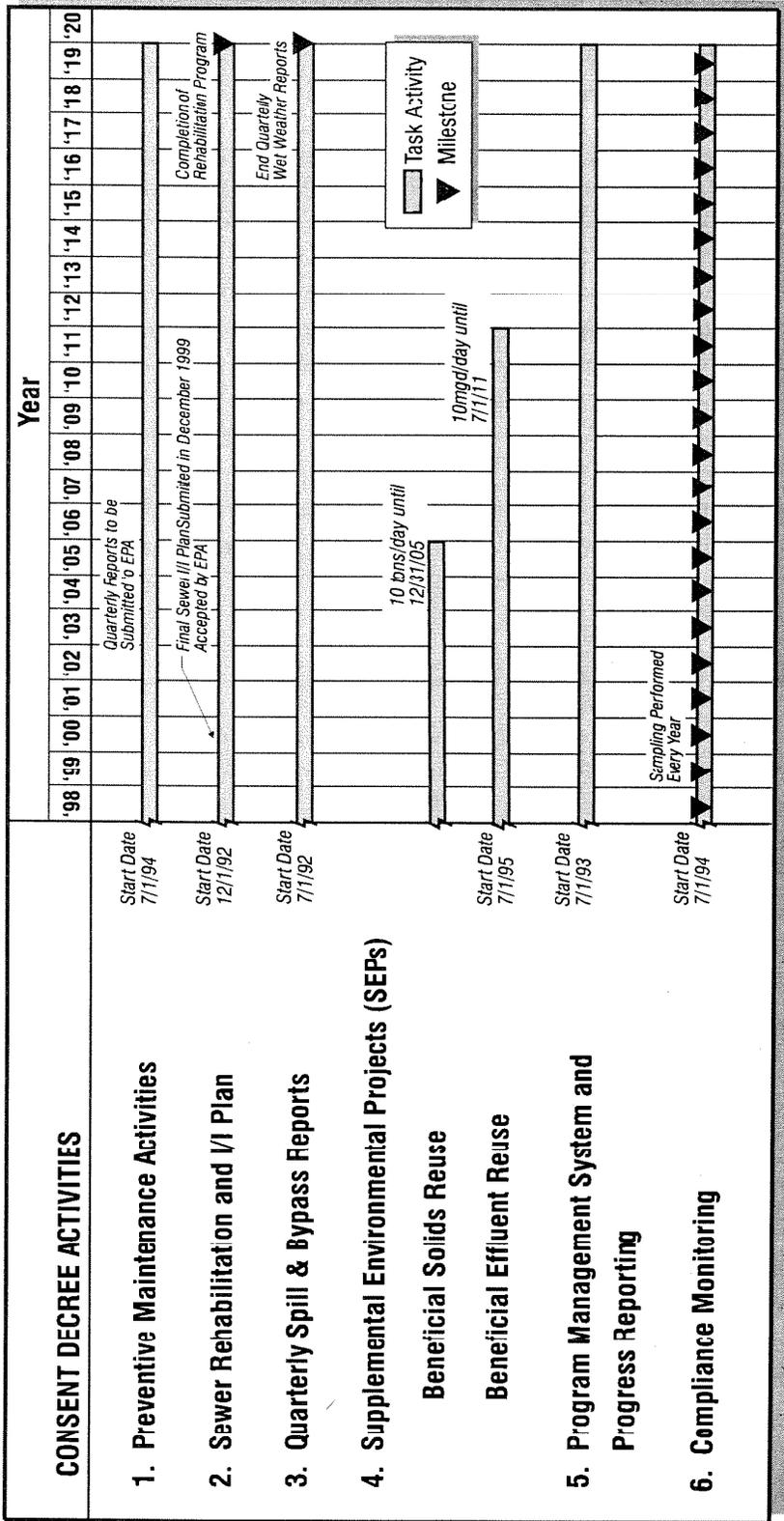


Figure 3
309 CONSENT DECREE
MILESTONES SCHEDULE
CITY AND COUNTY OF HONOLULU

Table 4 Summary of Consent Decree Objectives City and County of Honolulu Department of Environmental Services
<p>Honouliuli Consent Agreement (June 1993) – Completed</p> <ul style="list-style-type: none"> • Provide construction of secondary treatment facilities for flows that will be reused.
<p>309 Consent Decree (May 1995)</p> <ul style="list-style-type: none"> • Revise and implement the City and County of Honolulu’s pretreatment program – Completed • Establish a maintenance and sewer replacement/rehabilitation schedule to reduce and prevent sanitary sewer overflows (SSOs) • Develop beneficial reuse program for both wastewater and biosolids
<p>Kailua/Kaneohe Consent Decree (August 1995)</p> <ul style="list-style-type: none"> • Allow participation of stakeholders in joint development Facilities Plan for Kailua Regional WWTP and Kaneohe WWPTF • Construct and operate pilot UV disinfection facility at Kailua Regional WWTP – Completed • Monitor water quality of the Kailua/Kaneohe watersheds in cooperation with the Kailua Bay Advisory Council
<p>Wahiawa Consent Decree (March 1998)</p> <ul style="list-style-type: none"> • Provide a long-term solution for effluent disposal from Wahiawa WWTP - Completed • Improve reservoir water quality • Provide resource conservation through wastewater reclamation

Each of the WWTPs operated by City and County of Honolulu are governed by a National Pollutant Discharge Elimination System (NPDES) Permit, a State Department of Health - Underground Injection Control Permit, or by Consent Decree.

Seven out of eight WWTPs are owned by the City and County of Honolulu and operated by the Department. All City and County-owned WWTPs are currently meeting national and state discharge requirements except for the Sand Island WWTP. The eighth WWTP, the Waimanalo WWTP, is owned by the State of Hawaii and operated by the Department, and has not consistently met permit requirements as discussed later in this section. A summary of the wastewater treatment facilities permit requirements, compliance history, and potential changes in permit conditions are presented in Table 5.

Facility	Permit Type	Average Design Flow (mgd)	Approx. Current Flow (mgd)	Discharge Limit (mg/L)		Existing Treatment Level	Potential Changes in Discharge Requirements	Consistently Meets Requirements?
				BOD	TSS			
Sand Island WWTP	NPDES	82	67.6	116	69	Primary	---	Not Consistent ⁽²⁾
Honouliuli WWTP	NPDES	38	26.8					Yes
Up to 13 mgd				30	30	Secondary	---	
13 to 36 mgd				160	95	Primary	---	
Pa'alaa Kai WWTP	UIC EPA	0.14	0.12	30	30	Secondary	---	Yes
Waianae WWTP	NPDES	5.2	3.2	30	30	Secondary	---	Yes
Wahiawa WWTP	EPA Consent Decree	2.5	1.89	30	30	Secondary	Pending project direction	Yes
Kailua Regional WWTP	NPDES	15.25	13.0	30	30	Secondary	---	Yes
Kahuku WWTP	UIC EPA	0.4	0.13	30	30	Secondary	---	Yes
Waimanalo WWTP ⁽¹⁾	UIC EPA	0.7	0.57	30	30	Secondary	---	Not Consistent ⁽³⁾

Notes:

(1) Owned by State of Hawaii, operated by the City and County of Honolulu.

(2) In 1999/2000, the Sand Island WWTP did not consistently meet the 30 percent BOD reduction requirement.

(3) The effluent concentration of BOD for the Waimanalo WWTP has slightly exceeded 30 milligrams per liter (mg/L) in the past.

The Sand Island WWTP is the largest of the facilities owned and operated by the City and County of Honolulu. The original 1990 NPDES permit for Sand Island WWTP was a waiver permit which allowed discharge of less than secondary treated effluent into the deep ocean. The permit had effluent discharge limits for biological oxygen demand (BOD) and total suspended solids (TSS) which were met. Although the 1987 Clean Water Act specified a minimum 30% removal of BOD and TSS for waiver dischargers, these limits were not included in the 1990 permit because of a grandfathering provision. A number of operating and process modifications were made throughout the last few years to accomplish this level of treatment. These optimizations resulted initially in achieving compliance with the informal BOD removal standard of 30 percent in 1995. In addition, a new chemical treatment facility was installed in 1995 to assist in meeting the 30 percent BOD removal requirement.

The NPDES waiver permit was reissued in September 1998 with 30% removal limits for BOD and TSS in addition to effluent discharge limits. Recently, the Sand Island WWTP plant has experienced difficulties in meeting the 30 percent BOD reduction requirement. This is partially due to the aging condition of the primary treatment and solids dewatering unit operations. Changes in influent waste characteristics have also contributed to the challenge of meeting the 30% BOD reduction. These unit operations are scheduled for upgrade and improvement in the first few years of the 2001-2005 CIP. The 2001-2005 CIP

projects also implement the modifications required to fix other existing deficiencies, and to accommodate planned growth, as well as projects required by and identified in the permit.

The Waimanalo WWTP is a State-owned facility that is operated by the Department under agreement. It accounted for only 0.5 percent of the total 1997 wastewater flow. The plant exceeded monthly average permit concentrations for BOD in June of 1997 and for total suspended solids (TSS) in July of 1997. Periodically, high influent BOD and TSS concentrations have been attributed to high infiltration/inflows (I/I) in the collection system, the absence of flow equalization facilities, and highly concentrated industrial discharges. Consequently, the original 1.1 mgd design capacity has been re-rated to 0.7 mgd. Planning has been completed for modification and expansion of the facility to correct these minor problems. Initial construction funding is in the current State budget for 2003.

The Honouliuli WWTP NPDES Permit provides for up to 38 mgd of primary treatment and up to 13 mgd of secondary treatment. A privately owned 13 mgd tertiary plant was built on site in 2000 for providing recycled water for irrigation and industry. The City and County of Honolulu has entered into a consent decree with the EPA and is on schedule for implementing the required reuse supplemental environmental project. The state Department of Health has issued an additional permit for the Honouliuli WWTP for private operation of the recycled water facility.

The Wahiawa WWTP currently does not have a State Permit to discharge secondary effluent to the Wahiawa Reservoir. The plant is covered in the interim by a Consent Decree to increase the quality of water discharge from Wahiawa WWTP. The increased level of treatment of effluent discharged to the reservoir is to allow for beneficial use of the effluent both in the reservoir and by downstream agricultural users. Projects are under construction which will provide for a higher level of treatment of effluent from the Wahiawa WWTP, and thereby improve the water quality of the reservoir. On completion of construction, a new discharge permit is expected.

The Mililani WWTP was abandoned in the 1980s and raw wastewater is now diverted to the Honouliuli WWTP. Currently, raw wastewater passes through the abandoned plant site and flows by gravity and force main to the Honouliuli WWTP approximately 10 miles away. This diversion was made as a part of the regionalization by the City and County of Honolulu to reduce the number of wastewater treatment facilities.

2.6 CAPITAL PROGRAM PLANNING AND FUTURE DIRECTION

The Department has prepared a 20-year CIP, which incorporates the results of several facility plans and preliminary designs for various wastewater facilities. The CIP was developed with a number of financial and engineering objectives in mind, including minimizing life cycle costs versus capital costs, improving project delivery cycles, increasing organizational effectiveness, and targeting staff reductions through attrition. It includes facility plans and preliminary designs

for most of the major wastewater treatment facilities, and identifies collection system and piping improvements, which represent a majority of the capital improvement projects.

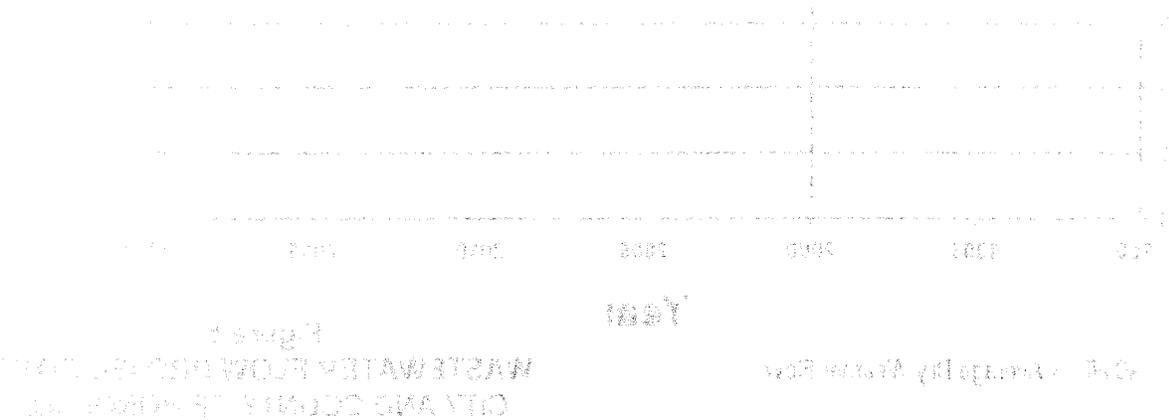
The City and County of Honolulu has identified several capital improvement projects to meet consent decree requirements. The 2001-2005 CIP projects are recognized as the highest priority projects for meeting consent decree requirements, replacing severely corroded pipe, and for satisfying regulatory requirements. Information on the need for the 2001-2005 CIP projects, descriptions and estimated costs, and implementation schedules follow in Chapter 3. The long-term facilities needs, project descriptions, costs and implementation schedules are summarized in Chapter 4.

2.7 WASTEWATER FLOW PROJECTIONS

The wastewater flow and strength projections are based on the anticipated growth rates included in the City and County of Honolulu's General Plan. Growth is not a significant factor in driving the overall need for 20-year CIP projects. Only 14 percent of the 20-year CIP costs are associated with projects required to accommodate growth. Growth for the total population of the City and County of Honolulu is presented in Figure 4 and is summarized by basin in Table 6. Wastewater flow projections through the year 2017 are presented in Figure 5.

As shown in Figures 4 and 5, the projected increase in population and associated wastewater flows are not significant over the 20-year planning period. Population growth is projected to average approximately 1 percent per year and associated wastewater flows are projected to increase by a similar percentage. The slight difference between projected population growth and wastewater flows is due to the planned reduction in unsewered areas with the conversion of cesspools to connect to the public sewage system. Also, for financial planning purposes, and to project revenues from new equivalent-single-family dwelling units (ESDUs) paying wastewater system facility charges, new connections, as shown in Figure 6, are conservatively projected to increase at a slower rate than General Plan population projections.

The majority of the population growth is expected to occur in the East and West Mamala Bay urbanized areas. In the next ten years, the Sand Island WWTP will require additional capacity in order to accommodate growth in the East Mamala Bay basin.



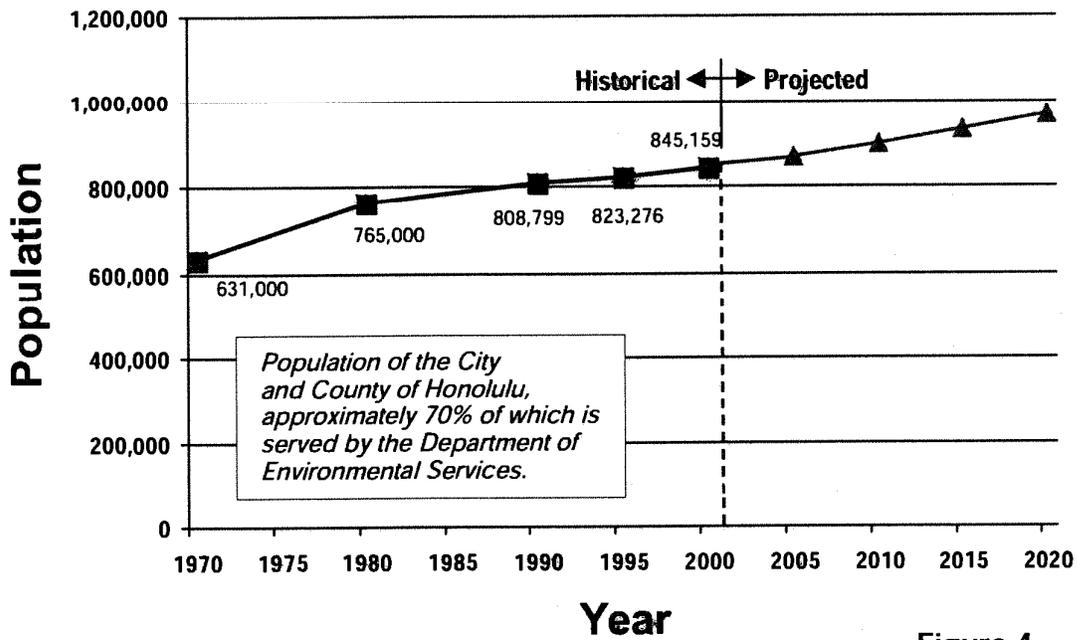
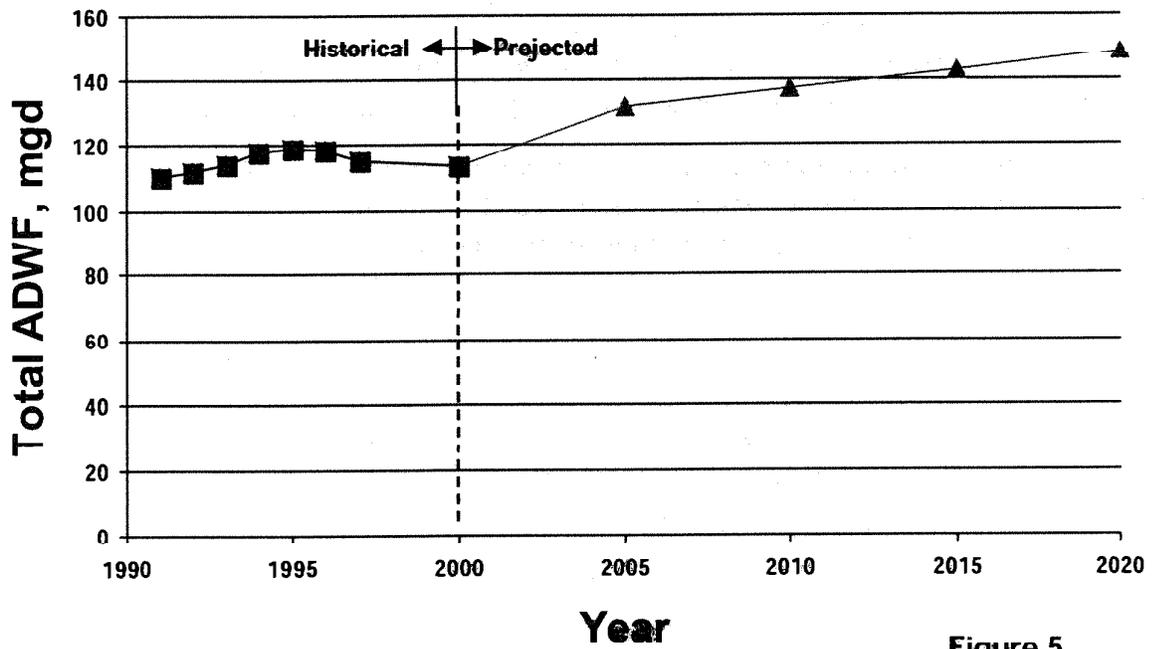
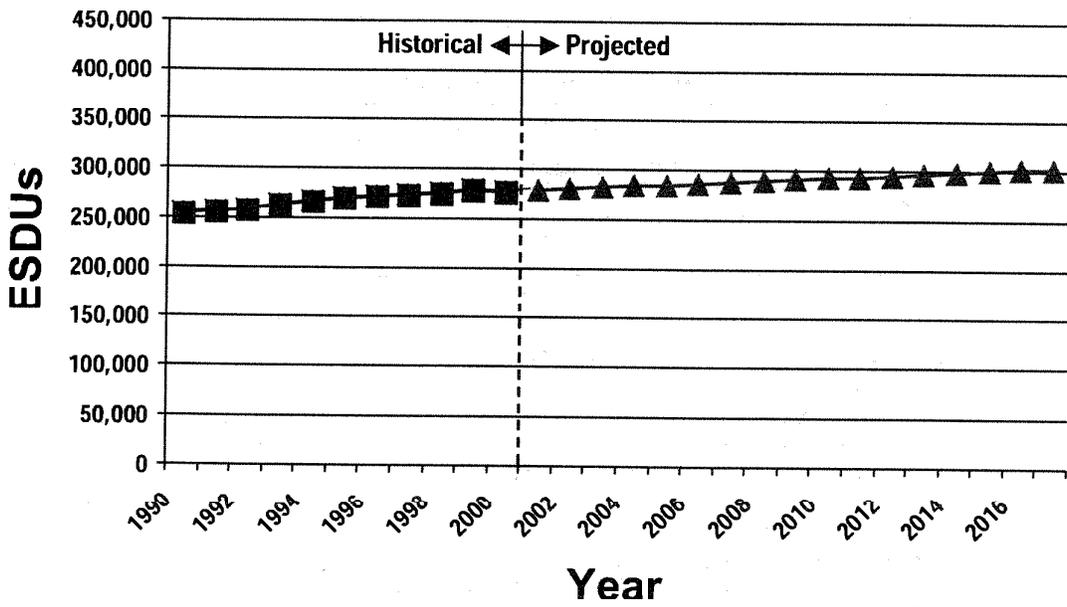


Figure 4
**HISTORICAL AND PROJECTED
 POPULATION
 CITY AND COUNTY OF HONOLULU**



ADWF = Average Dry Weather Flow

Figure 5
**WASTEWATER FLOW PROJECTIONS
 CITY AND COUNTY OF HONOLULU**



ESDU = Equivalent Single-Family Dwelling Unit

Figure 6
ESDU GROWTH PROJECTIONS
 CITY AND COUNTY OF HONOLULU

Table 6 Historical and Projected Resident Population By Basin⁽¹⁾ Oahu, 1990-2020 City and County of Honolulu Department of Environmental Services						
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	34,924
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	900,955	934,230	967,587
Notes:						
(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 served by a private sewer system operator, but which will be served by the City and County of Honolulu beginning in 2003.						

CIP PROJECTS FOR FISCAL YEARS ENDING 2001 - 2005

This chapter addresses the CIP projects planned for the Fiscal Years Ending (FYE) 2001-2005, with particular emphasis on the major capital facility expenditures for wastewater management projects anticipated through FYE 2003. Other projects beyond FYE 2005 are addressed in Chapter 4.

3.1 NEED FOR THE PROJECTS

The 2001-2005 CIP projects were developed through a comprehensive planning process involving a review of facility needs throughout the island. During this review, prioritization criteria were developed and major projects were ranked. The prioritization criteria are summarized in Table 7. Non-discretionary prioritization criteria include safety and public health, permit and regulatory compliance, consent decree activities, and expansion-related needs, while discretionary criteria include reliability and preventative-maintenance related needs.

Table 7 Prioritization Criteria City and County of Honolulu Department of Environmental Services	
Non-Discretionary	<ul style="list-style-type: none"> • Safety and Public Health • Permit Requirements and Regulatory Compliance • Consent Decree • Expansion
Discretionary	<ul style="list-style-type: none"> • Reliability • Improvement/Preventative Maintenance

The 2001-2005 CIP projects fall into two general categories: collection system, and wastewater treatment plant. The majority of the projects scheduled for this 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 infiltration/inflow, and to extend service to unsewered areas. Replacement of severely corroded pipe will reduce infiltration/inflow during wet weather events, and will result in lower operation and maintenance costs for both the collection systems and associated WWTPs. The collection system projects are described below in Section 3.2.

Treatment plant improvement project expenditures anticipated during FYE 2001-2005 are needed to upgrade existing facilities, to satisfy regulatory requirements, and to improve the reliability of the facilities in handling peak wet weather flows. WWTP improvement projects are described in Section 3.3.

The general locations of the major CIP projects to be constructed in the first three years, from July 2001 to June 2003, are shown in Figure 7.

3.2 COLLECTION SYSTEM PROJECTS

The City and County of Honolulu plans on beginning numerous collection system design and construction projects as well as continuing existing projects between fiscal years ending 2001-2005. The City and County of Honolulu has provided an allotment for smaller replacement projects which can be approved quickly. The total expenditures for these projects through the year 2005 are \$368.4 million, with an expected \$175.5 million to be expended within the first three years and \$192.9 million to be spent in the remaining two years.

Collection system projects between fiscal years ending 2001 and 2005 include the Wilhelmina Rise Sewer Rehabilitation, the Kalaheo Avenue Sewer Reconstruction, and many other projects including ones that stem from the I/I Plan.

3.3 WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECTS

The Department has planned for the design and/or construction of 11 major WWTP improvement projects, with all WWTP projects totaling \$403.6 million between fiscal years ending 2001-2005. Within the first three years, \$110.4 million is to be expended and \$293.2 million is to be expended in the remaining two years. The most significant of these projects are the Sand Island WWTP Unit 1 Phase 2A Project, Sand Island WWTP Primary Treatment Expansion, and Sand Island WWTP Disinfection and Effluent Pump Station Projects.

3.4 ONGOING CAPITAL PROGRAM

The Department's CIP in fiscal years ending 2001-2005 includes the new projects mentioned and numerous projects initiated in prior years.

Major ongoing projects include a number of the City's largest pump facilities, including:

- Ala Moana Wastewater Pump Station - Modification and expansion of the facility to accommodate future increases in peak flows to nearly 200 mgd.
- Hart Street Wastewater Pump Station and Sewer Force Main - Reliability and capacity upgrades of the City's second largest pump station and the addition of a new force main to parallel the existing aging force main.

Examples of other major ongoing projects include:

- Sand Island WWTP - Upgrade of the interiors of the clarifiers of Hawaii's largest wastewater treatment plant.

3.5 PROJECT MANAGEMENT

The Department has proven its capability in delivering projects on time and within budget. The Department's project delivery team has received several awards, including those awarded for the Nimitz Highway Relief Sewer Project:

- American Society of Civil Engineers, Hawaii Section, 1996 Outstanding Achievement Award.
- American Public Works Association, Hawaii Chapter, 1997 Project of the Year (Large Environmental).
- American Consulting Engineers Council, National Honor Award.

Examples of the Department's proven capabilities in meeting project milestones are listed below.

Waianae WWTP Secondary Treatment Upgrade

The Waianae WWTP was originally a 5.2 ADWF primary treatment plant which discharged its wastewater through an ocean outfall. During reapplication for the permit for the plant in the early 90s, the waiver of secondary treatment was denied and the plant was required to upgrade to secondary treatment. Design was completed in 1993 and construction was completed on time in 1995 and within the programmed budget of \$25 million. In 1996 and 1997, the facility received the Gold Award from the AMSA.

Spill Prevention/Spill Containment Plan

As part of the original 309 consent decree, the City and County of Honolulu was required to develop a long-term strategy for the reduction of dry and wet weather spills. The spill prevention plan was to focus its effort on the pump stations and treatment plants and on proposed enhancements to the Wastewater Information Management System to more efficiently develop schedules for the maintenance of gravity sewer lines. The plan was submitted to the EPA in early 1995 and accepted in April 1995.

Wastewater Information Management System (WIMS)

The base hardware and software installation for WIMS was completed in 1994 and is linked to the City's geographical information system for mapping of the sewer lines. This requirement was part of the 309 consent decree. Despite being installed, the system still required implementation from taking appropriate field data to optimizing the scheduling system. Internally developed procedures and correlation studies have progressed to reflect the following improvements: Field data efficiency (usable data) has improved from 43 percent in 1992 to 97 percent in 1997 and correlation studies on pipe conditions to pipe characteristics have led to a more optimized maintenance and replacement schedule. The WIMS system for optimizing sewer line maintenance and replacement schedules continues to improve. The maintenance management software component was replaced in the this year.

3.6 SUMMARY OF ESTIMATED PROJECT COSTS

The summary of costs for 2001-2005 CIP projects by project category is presented in Table 8. These costs include planning, design, and construction costs as well as all engineering, administrative, and legal expenses. Proceeds of the Series 2001 Bonds will fund \$125 million of the 2001-2005 CIP projects, with the balance to be primarily met from existing funds of the Department, new SRF loans, annual revenues, and from the proceeds of future revenue bond issues.

**Table 8 Summary of Estimated CIP Project Expenditures, 2001-2005
City and County of Honolulu Department of Environmental Services**

Project	(Thousands of Dollars) ⁽¹⁾						
	00/01	Fiscal Year				Total Expenditures	
		01/02	02/03	03/04	04/05	00/01-02/03	00/01-04/05
Collection System Projects							
Consent Decree Projects	\$20,011	\$25,912	\$40,105	\$41,477	\$46,333	\$86,028	\$173,839
Other Non-Discretionary Projects	\$18,056	\$24,294	\$23,497	\$28,860	\$28,096	65,847	122,803
Other Discretionary Projects	\$7,381	\$6,882	\$9,349	\$17,785	\$30,337	23,611	71,733
Subtotal: Collection System	\$45,448	\$57,088	\$72,951	\$88,122	\$104,767	\$175,486	\$368,376
Treatment Plant Projects							
Consent Decree Projects	\$9,303	\$4,135	\$2,861	\$1,014	\$428	\$16,298	\$17,740
Other Non-Discretionary Projects	\$5,013	\$19,881	\$66,642	\$135,647	\$149,430	91,536	376,613
Other Discretionary Projects	\$577	\$344	\$1,612	\$3,414	\$3,320	2,533	9,266
Subtotal: Treatment Plant	\$14,892	\$24,359	\$71,115	\$140,075	\$153,179	\$110,367	\$403,620
Total CIP	\$60,340	\$81,447	\$144,067	\$228,197	\$257,945	\$285,854	\$771,996

Notes:

(1) All costs are presented in inflated dollars, assuming 3% inflation per year, beginning in Fiscal Year 02/03.

The City and County of Honolulu Department of Environmental Services has identified facility needs through the year 2017 for the eight major WWTPs and associated collection system facilities. Cost estimates and implementation schedules for the projects have been developed for the planning period. This chapter provides an overview of the 20-year capital improvement needs of the Department.

4.1 LONG-TERM EXPANSION AND REHABILITATION NEEDS

A summary of the estimated project costs for each of the wastewater basins for the 20-year period is presented in Table 9. These include the 2001-2005 CIP projects as well as all other projects identified for the 20-year planning period. Table 9 also lists the distribution of costs among project categories. The two major project categories are collection system improvements, and WWTP improvements. Figure 8 shows the 20-year CIP breakdown by project category for each basin.

A summary of the 20-year CIP total costs (in 2001 dollars) by project category is shown in Figure 9. Approximately 69 percent of the total project costs are associated with collection system improvements, and 31 percent with WWTP improvements.

A summary of the 20-year CIP total cost (in 2001 dollars) by primary project purpose is presented in Figure 10. As shown in Figure 10, approximately 81 percent of the total costs are associated with non-discretionary projects that must be completed in order to satisfy consent decree, permit/regulatory, expansion, and safety/public health requirements. The remaining 19 percent of the total costs are associated with discretionary projects that have been identified to improve wastewater treatment and collection systems. The Department has identified these discretionary projects in order to address reliability, improvement, and preventive maintenance concerns before they become non-discretionary projects.

Collection System Improvements

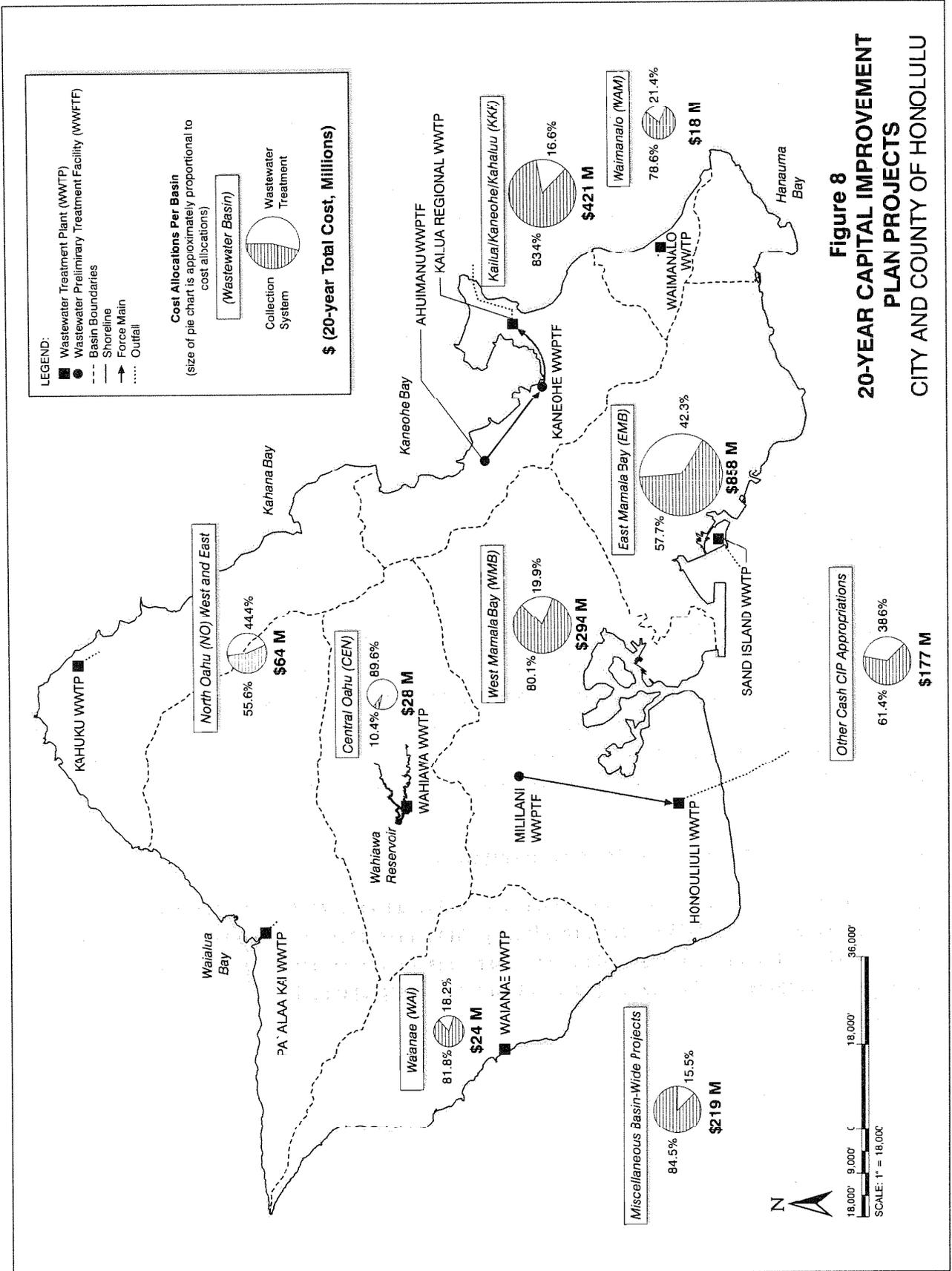
As shown in Table 9, \$1.45 billion (approximately 69 percent) of the 20-year CIP total costs are associated with improvements to the collection system. Some pipelines in the existing collection system are approaching the end of their useful lives. This is due to the fact that the major pipeline facilities were installed 40 to 100 years ago, and the piping system is in a harsh underground environment. The harsh environment exists because of the saline content of the high groundwater table, and because of the relatively flat slopes and tropical temperatures which accelerate sulfide generation and corrosion rates.

Table 9 Summary of 20-Year Expenditures (FYE 1998 – FYE 2017)			
City and County of Honolulu Department of Environmental Services			
(Thousands of Dollars)			
Basin	Project Category		20-Year Total
	Collection System	Treatment Plant	
East Mamala Bay	\$494,865	\$363,233	\$858,098
West Mamala Bay	235,840	58,446	294,286
North Oahu (East & West)	35,847	28,615	64,461
Kailua/Kaneohe/Kahaluu	350,834	69,872	420,706
Waianae	19,717	4,379	24,096
Central Oahu	2,924	25,134	28,059
Waimanalo	13,792	3,750	17,541
Miscellaneous Projects	186,157	32,948	219,105
Other CIP Cash Appropriations	108,590	68,329	176,919
Total: CIP	\$1,448,566	\$654,706	\$2,103,271
Notes:			
FYE = Fiscal Year End			
All costs are presented in 2001 dollars.			

The deteriorated condition of the collection system has resulted in excessive infiltration, inflow, and collection system overflows during wet weather events. This results in increased operation and maintenance costs for both the collection system and treatment plant facilities. The consent decree action items address these issues through a comprehensive rehabilitation program beginning with the high priority projects. The 2001-2005 CIP projects include most of the highest priority collection system projects.

Wastewater Treatment Plants Improvements

The three major wastewater treatment plants are the Sand Island WWTP, the Honouliuli WWTP, and the Kailua Regional WWTP. Separate facility plans have been completed for each of these major facilities. The facilities plans identify future needs for system improvements and to accommodate growth. Other facility plans are currently being updated.



20-year expenditure total = \$2.1 Billion

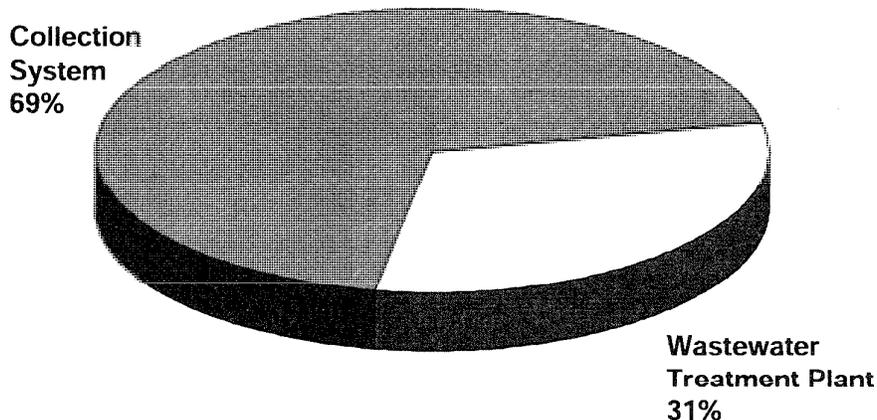


Figure 9
20-YEAR CIP BY PROJECT CATEGORY
CITY AND COUNTY OF HONOLULU

20-year expenditure total = \$2.1 Billion

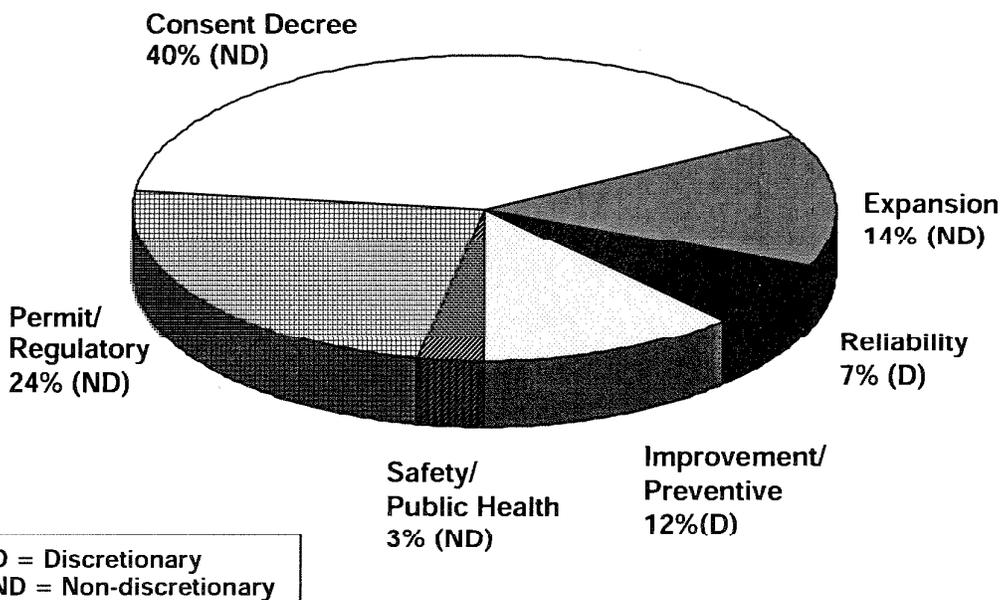


Figure 10
20-YEAR CIP BY PROJECT MAIN PURPOSE
CITY AND COUNTY OF HONOLULU

A facilities plan layout for the Sand Island WWTP is shown in Figure 11. The major projects to be completed within the 20-year planning horizon for the plant include:

- Construction of higher capacity headworks to replace the existing headworks.
- Modifications to existing primary clarifiers, and addition of new primary clarifiers.
- Expansion of the existing sludge conditioning system, or replacement of the system with new anaerobic digesters and power generation facilities, or implementation of "in-vessel" composting.
- New disinfection facilities.

A facilities plan layout for the Honouliuli WWTP is shown in Figure 12. The major projects identified for the plant include:

- Process upgrades to allow for beneficial reuse of wastewater.
- Expansion of the solids handling facilities to accommodate the recently completed plant expansion.

A facilities plan layout for the Kailua Regional WWTP is shown in Figure 13. The major facility project requirements identified for the planning horizon for the Kailua Regional WWTP include:

- Pump station facility improvements.
- Wet weather handling facility improvements.

4.2 COST OF FUTURE PROJECTS

Estimated capital project costs for future facilities have been developed for each of the eight wastewater basins. The capital cost estimates include land acquisition, planning, design, construction, construction management, and all other costs required to deliver a completed project.

A summary of the historical and projected annual capital expenditures is shown in Figure 14. As shown in Figure 14, there has been an increasing trend in annual capital project expenditures from 1998 through 2000. Capital project expenditures are anticipated to increase more significantly through 2017. This increasing trend is the result of several considerations. The first is a greater proportion of project expenditures in the past were for planning and design as shown in Figure 14. In the future, projected capital expenditures are anticipated to be primarily attributable to construction, because planning and design have already been completed for a substantial number of the 20-year CIP projects. There is a large increase in capital expenditures in 2004 and 2005. This is due in part to the rehabilitation and improvement requirements set forth in the new Sand Island WWTP Permit.

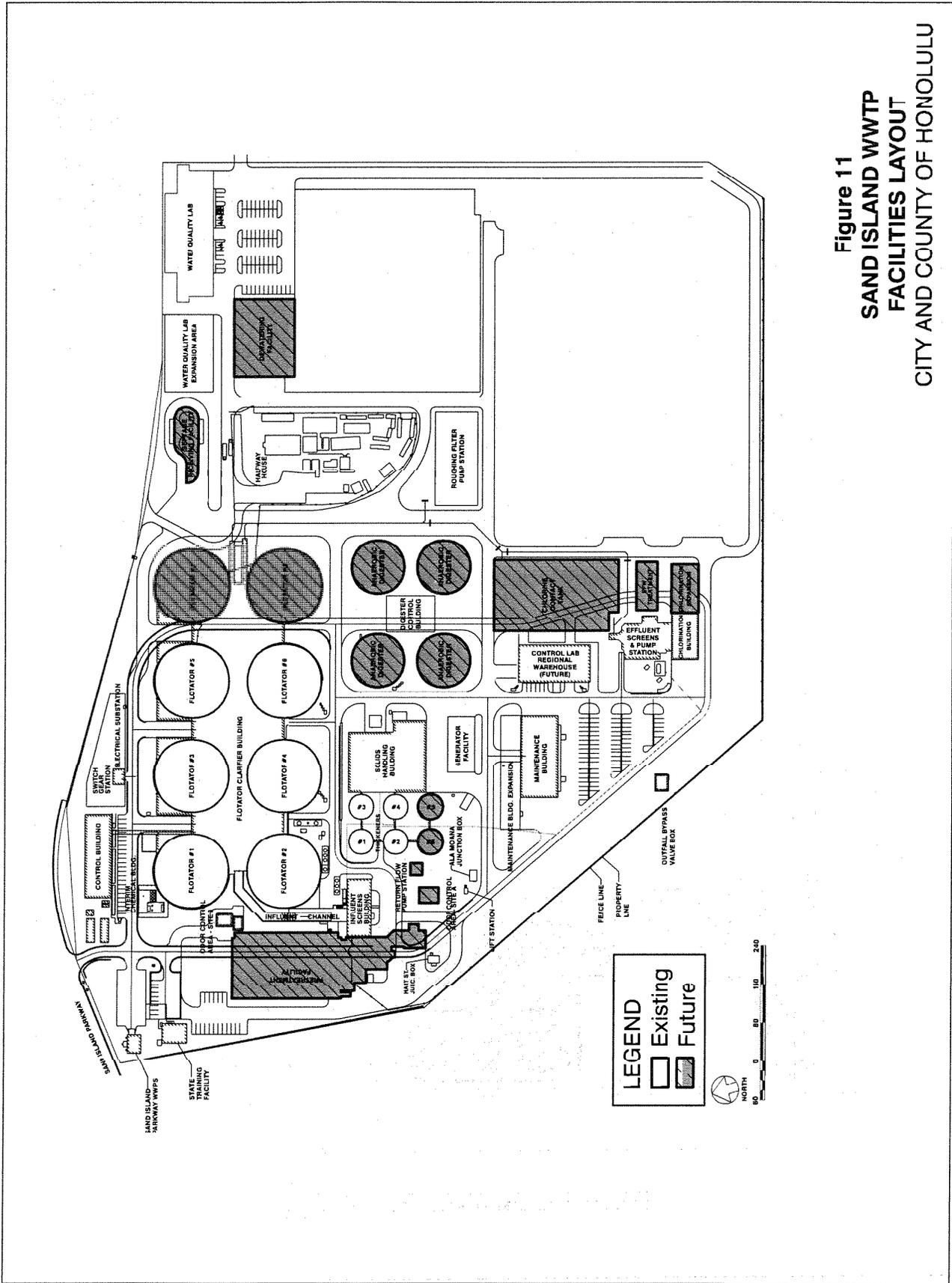


Figure 11
SAND ISLAND WWTP
FACILITIES LAYOUT
 CITY AND COUNTY OF HONOLULU

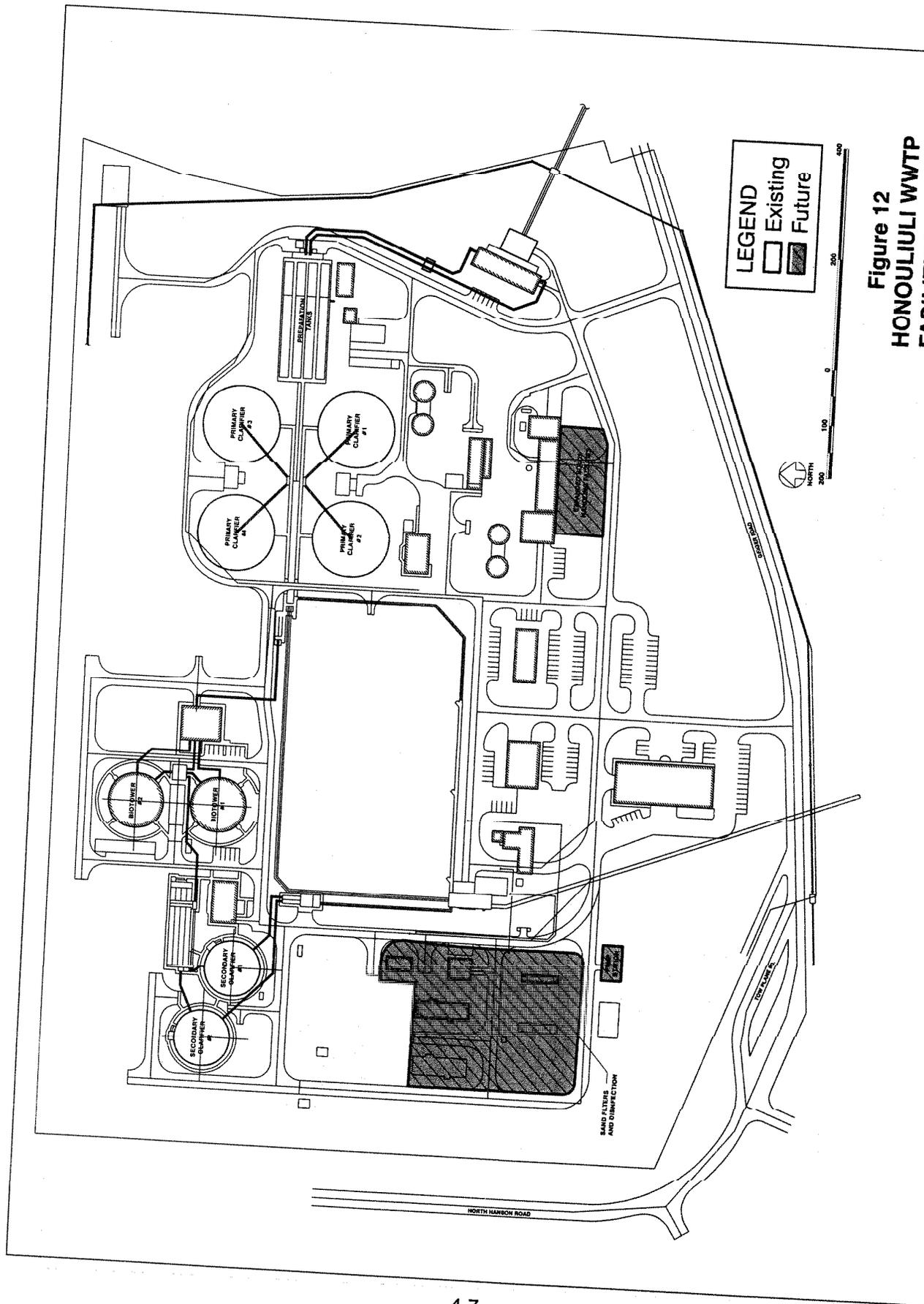
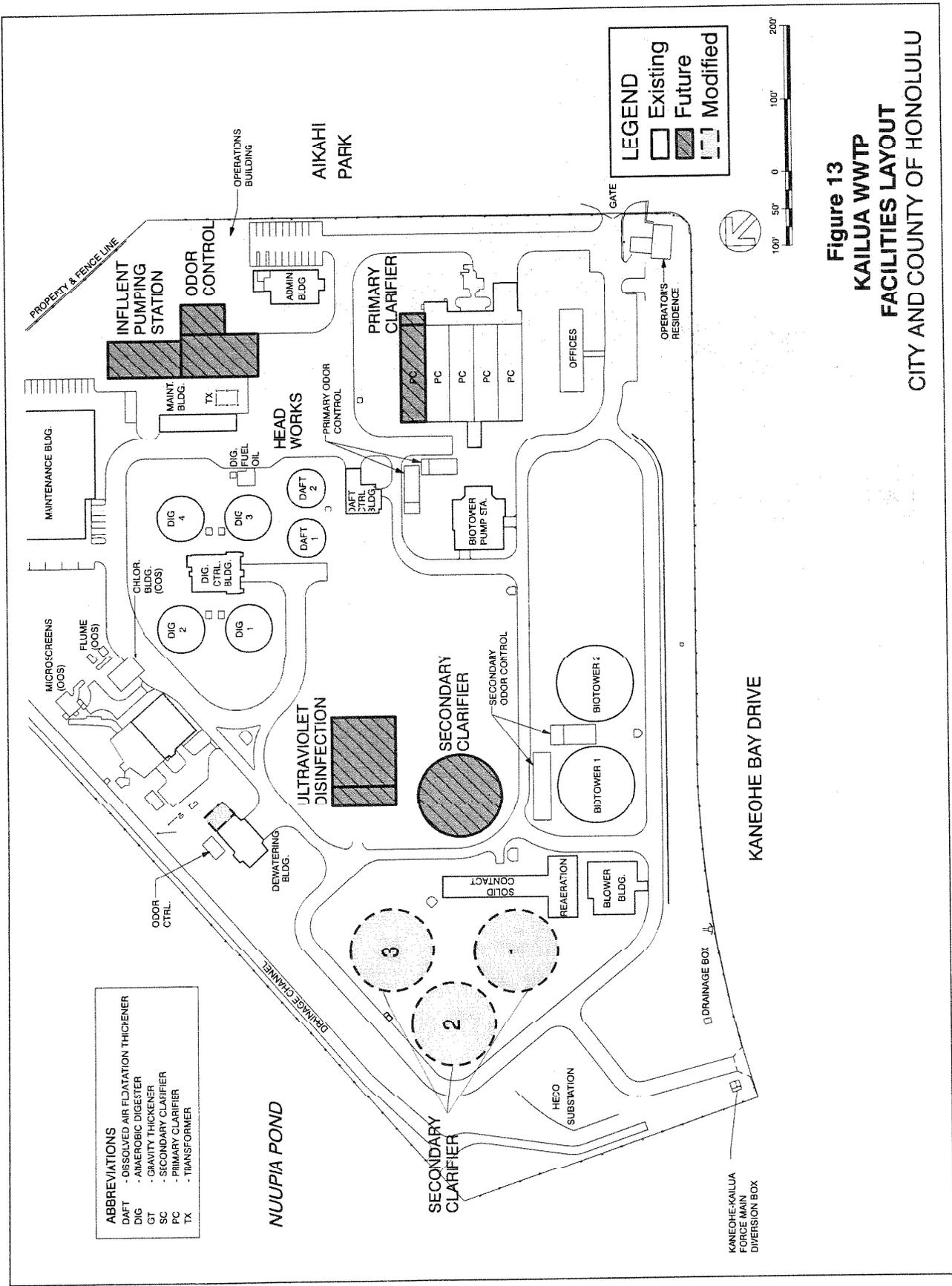
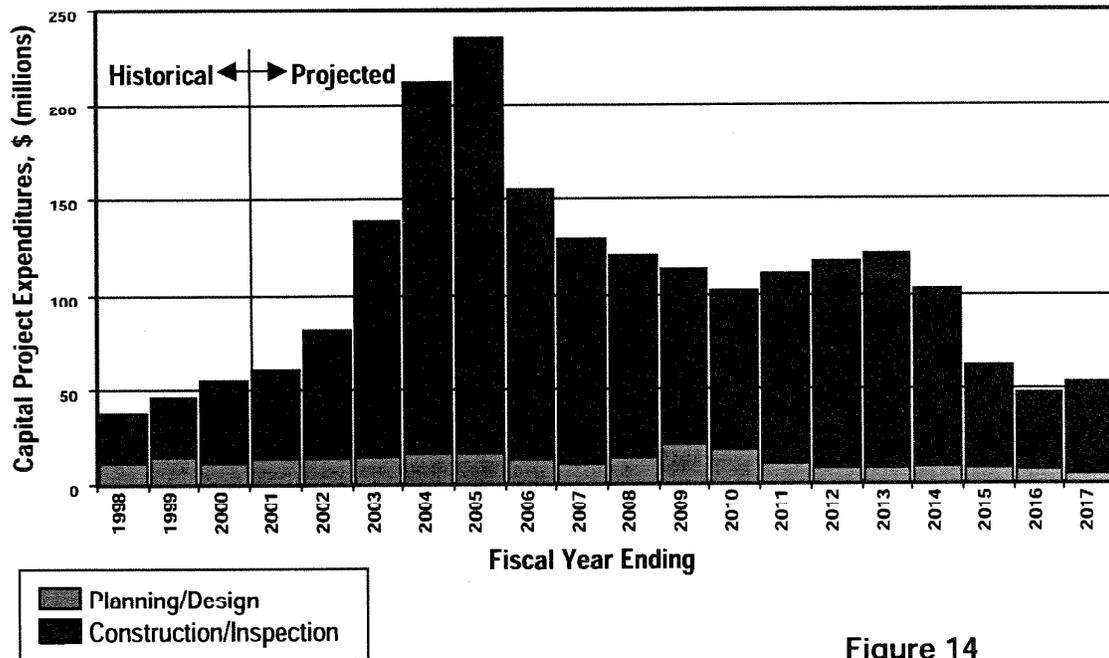


Figure 12
HONOULIULI WWTP
FACILITIES LAYOUT
CITY AND COUNTY OF HONOLULU





All future costs are shown in 2001 dollars.

Figure 14
HISTORICAL AND PROJECTED
CAPITAL PROJECT EXPENDITURES
CITY AND COUNTY OF HONOLULU

4.3 TIMING OF FUTURE PROJECTS

The implementation schedule for the 20-year CIP projects is presented in Figure 15. This implementation schedule shows the timing of major projects necessary to replace and rehabilitate deteriorated pipes, to accommodate increased wastewater flows and loadings due to anticipated growth, and to meet consent decree scheduled activities. As shown, some of the current CIP projects are already funded through planning and design. Others will be funded from the proceeds of the Series 2001 bonds, the existing capital reserves, and future bond issues. Funding for the projects is discussed in Chapters 5 and 6.

4.4 GROWTH RATE CONSIDERATIONS

Projects associated with population growth and service expansion account for only 14 percent of the 20-year CIP total costs. Most of the 20-year CIP projects are driven by other factors such as consent decree requirements, rehabilitation and replacement of existing aging infrastructure, and public safety.

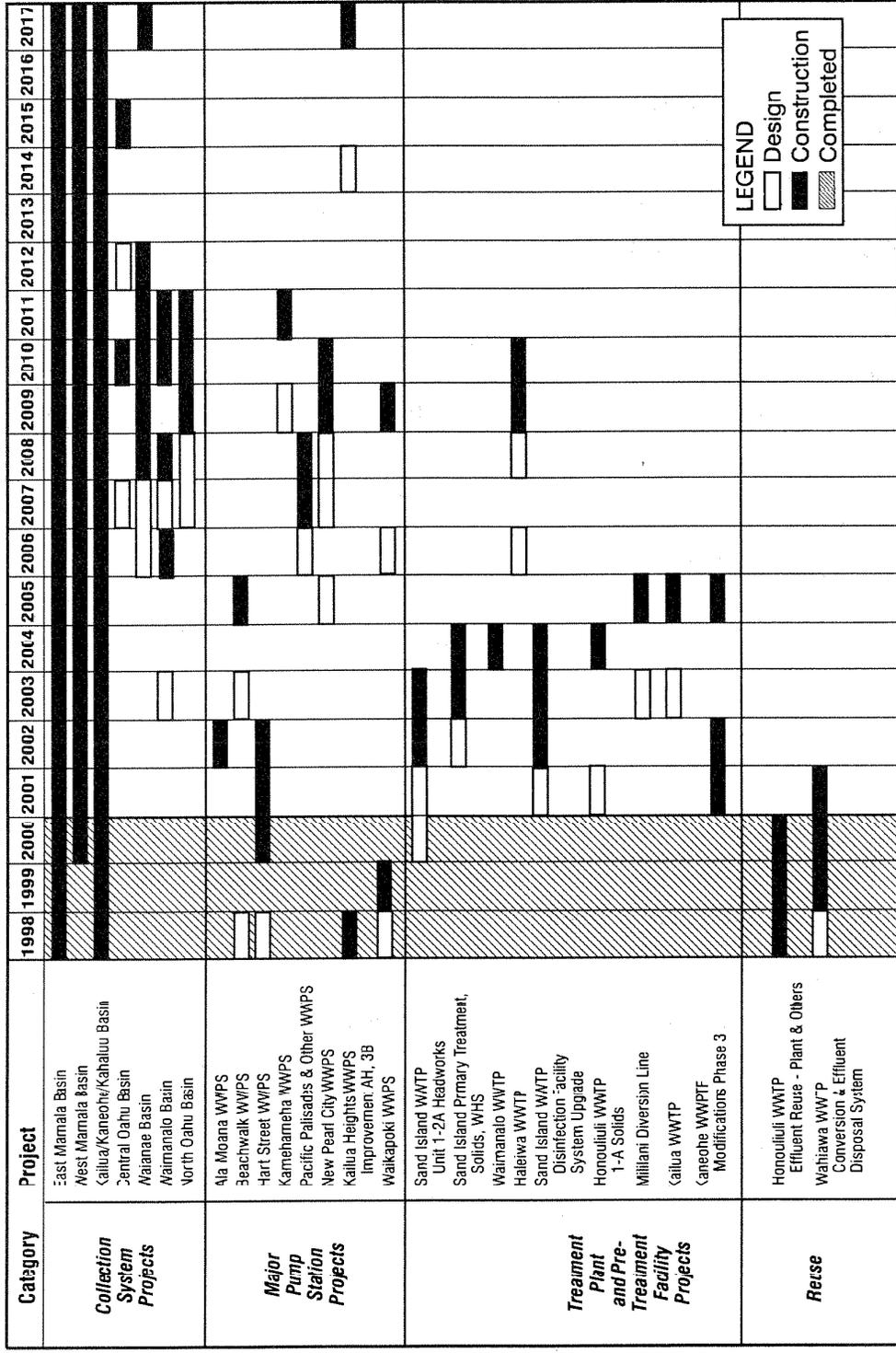


Figure 15
20-YEAR PROJECT IMPLEMENTATION SCHEDULE
CITY AND COUNTY OF HONOLULU

CURRENT AND FUTURE SEWER SERVICE AND SYSTEM FACILITY CHARGES

Sewer service charges and system facility charges are levied by the City and County of Honolulu to fund the major costs associated with capital improvements and operation and maintenance of the wastewater system. This chapter addresses the current and future charges.

5.1 SOURCES AND USES OF FUNDS

The City and County of Honolulu's Department of Environmental Services revenues are currently derived from three major sources: monthly sewer service charges, system facility charges, and interest earned on fund balances. Of these, sewer service charges are the major source of revenue. The summary of the two sources of funding from system users and uses of these funds is shown in Table 10.

Table 10 User Revenues - Sources and Uses City and County of Honolulu Department of Environmental Services		
Source of Funds	Who Pays	Use of Funds
Sewer Service Charges	Existing Users	<ul style="list-style-type: none"> • O&M Costs for Existing Facilities • Replacement of Existing Facilities • Construction to Improve Treatment
System Facility Charges	New Users	<ul style="list-style-type: none"> • Construction to Accommodate Growth • Construction to Improve Treatment

In the past, property taxes have been used to cover annual debt service on general obligation bonds incurred for capital construction costs of wastewater facilities. However, the City and County made the decision in 1993 to recover all wastewater debt costs through user charges. Wastewater revenues currently fund all annual debt service on previously issued reimbursable General Obligation Bonds allocated to wastewater, and the City Council's policy is to not fund any new wastewater capital improvements directly through property taxes or with general obligation bonds.

State Revolving Fund (SRF) proceeds have been a reliable source of funding for wastewater projects, ranging from \$11 to over \$20 million per year, as shown in Table 11. The SRF proceeds are anticipated to continue at \$ 10.0 million annually through FYE 2017 as shown in Table 13 in Chapter 6.

Table 11 Historical Wastewater Revenues and Expenditures⁽¹⁾				
City and County of Honolulu Department of Environmental Services				
Fiscal Year	(Amount in \$ Millions)			
	96/97	97/98	98/99	99/00
<u>ESDUs Served</u>				
Residential ESDUs at Start of Year	196,717	198,130	199,286	200,759
Non-Residential ESDUs, Start of Year	77,359	77,561	77,679	77,704
Total ESDUs at Start of Year	274,076	275,691	276,965	278,463
Residential New ESDUs Added	1,413	1,156	1,472	1,575
Non-Residential New ESDUs Added	202	118	25	36
Total New ESDUs Added ⁽²⁾	1,615	1,274	1,497	1,611
<u>Charges</u>				
Average Monthly Sewer Service Charge ⁽³⁾	\$33.65	\$33.65	\$33.65	\$33.35
% Increase Over Prior Year	0.0%	0.0%	0.0%	-0.9%
System Facility Charge	\$1,146	\$1,146	\$1,146	\$1,146
% Increase Over Prior Year	0.0%	0.0%	0.0%	0.0%
<u>Estimated Cashflow and Coverage</u>				
Revenue				
Service Charges ⁽⁴⁾	\$110.6	\$111.8	\$111.4	\$121.7
System Facility Charges	1.2	1.0	1.7	2.3
Other Revenues ⁽⁵⁾	1.5	0.7	3.1	3.9
Total Revenues	\$113.3	\$113.5	\$116.1	\$127.8
O&M Expenses				
Direct Expenses	\$55.4	\$48.2	\$44.1	\$43.1
Indirect Expenses	32.7	23.7	21.5	24.6
Total O&M Expenses	\$88.1	\$71.9	\$65.7	\$67.7
Net Revenues	\$25.2	\$41.6	\$50.5	\$60.1
Total Debt Service (Revenue & G.O. Bonds and SRF Loans)	\$35.6	\$39.1	\$24.5	\$38.5
<u>Capital Project Financing</u>				
Capital Expenditures	\$34.2	\$37.0	\$45.8	\$54.8
Reimbursable G.O. Bond Proceeds	34.2	0.0	0.0	0.0
SRF Loan Proceeds	0.0	15.3	20.6	11.1
GAAP Fund Balances (beginning of fiscal year)				
Sewer Fund ⁽⁶⁾	\$63.6	\$43.0	\$45.5	\$68.9
System Facility Charge Fund ⁽⁷⁾	0.3	0.0	0.0	0.0
Total Beginning Balance	\$63.9	\$43.0	\$45.5	\$68.9
Notes:				
(1) Does not include Hawaii Kai, a privately owned and operated facility.				
(2) Does not reflect ESDUs changed or removed.				
(3) Decrease in Average monthly Sewer Service charge in FY 99/00 due to water conservation measures.				
(4) Increase in Sewer Service Charges for FY99/00 due to change to accrual accounting.				
(5) Includes cesspool pumping, connection, lateral installation charges, other, state, and interest.				
(6) Includes reserves for encumbrances.				
(7) System facility charge fund discontinued in 97/98.				

Sewer service charges and system facility charges fund the major portion of costs incurred by the Department. The major cost components funded by sewer service charges and system facility charges are as follows:

- Operation and maintenance of WWTP's and collection system facilities including pumping and cesspools.
- Planning, design and construction of capital projects for rehabilitation, improvement and expansion.
- Annual debt service for obligations incurred for construction of existing facilities.
- Maintenance of appropriate reserves.

System facility charge revenues are used to partially fund capital projects. The City and County of Honolulu currently maintains Sewer Fund (#170), which, as of July 1, 2000, had a balance of \$133,625,466. This fund is available for operations and wastewater capital costs.

Interest earned on reserves is available to pay debt service and is retained in the respective reserve or used as appropriate.

Monthly sewer service charges fund operation and maintenance costs and debt service on non-growth related CIP costs.

5.2 HISTORICAL REVENUES AND EXPENDITURES

A four-year summary of historical revenues and expenditures is shown in Table 11. Sewer service charges have been held constant since July 1, 1993. New connections have averaged approximately 2,400 equivalent single-family dwelling units (ESDU) per year between 1991 and 2000, although the average over the past five years has decreased to approximately 1,700 ESDUs per year. System facility charges have been held constant since fiscal year 1991-1992.

5.3 EXISTING RATES AND CHARGES

Summaries of current sewer service charges are presented in Table 12. As discussed, sewer service charges have been held constant since July 1, 1993. The current City and County of Honolulu sewer service charge established in the current sewer service ordinance for single-family residences averages approximately \$33.35 per month. New connections have averaged approximately 1,700 equivalent single-family dwelling units (ESDU) per year over the past five years. Wastewater system facility charges have been held constant at \$1,146 per (ESDU) since 1991-1992.

**Table 12 Summary of Current Sewer Rate Ordinance
City and County of Honolulu Department of Environmental Services**

**Effective July 1, 1993
Standard**

Residential Sewer Service Charges

Single family and duplex dwellings served by City Water system per dwelling unit per month:

Monthly Base Charge	\$24.85
Monthly Usage Charge	-
First 2,000 Gallons of Metered Water Consumed	No Charge
Charge per 1,000 Gallons Over 2,000 Gallons ⁽¹⁾	\$1.05

Single family and duplex dwellings not served by City Water system per dwelling unit per month:

Monthly Base Charge	\$33.65
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Multiple-unit dwellings served by City Water system per dwelling unit per month:

Monthly Base Charge	\$17.40
Monthly Usage Charge	-
First 2,000 Gallons of Metered Water Consumed	No Charge
Charge per 1,000 Gallons Over 2,000 Gallons ⁽¹⁾	\$1.05

Multiple-unit dwellings not served by City Water system per dwelling unit per month:

Monthly Base Charge	\$23.55
---------------------	---------

Nonresidential Sewer Service Charges

Domestic Strength Wastewater

1. Metered Water Usage

a. If usage is 9,000 gallons or less per month:

Monthly Base Charge	\$22.35
Charge per 1,000 Gallons	\$0.13

b. If usage is greater than 9,000 gallons per month:

Monthly Base Charge	\$22.35
Charge per 1,000 Gallons	\$2.49

2. Metered Wastewater Discharge

a. If usage is 7,000 gallons or less per month:

Monthly Base Charge	\$22.35
Charge per 1,000 Gallons	\$0.16

b. If usage is greater than 7,000 gallons per month:

Monthly Base Charge	\$22.35
Charge per 1,000 Gallons	\$3.12

Wastewater System Facility Charges

Effective 1991/92

Wastewater System Facility Charge per ESDU ⁽²⁾	\$1,146
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Notes:

(1) Water consumed reduced by the irrigation factor of 18%

(2) ESDU = Equivalent Single Family Dwelling Unit

5.4 COMPARISON WITH RATES CHARGED BY OTHER AGENCIES

Several considerations are important when making sewer service charge and system facility charge comparisons for the City and County of Honolulu with other agencies. These considerations include the following:

- Economies of scale are difficult to achieve due to small service areas.
- Historically, system facility charges have been low.
- Equipment costs are high due to the remote location of the island from major suppliers.
- Electricity costs on the island are high.
- Remote facilities and rough terrain add to system complexity and cost.

The harsh salt water environment increases ongoing maintenance costs, reduces useful life of facilities and leads to excessive infiltration and inflow conditions due to the accelerated deterioration of collection systems.

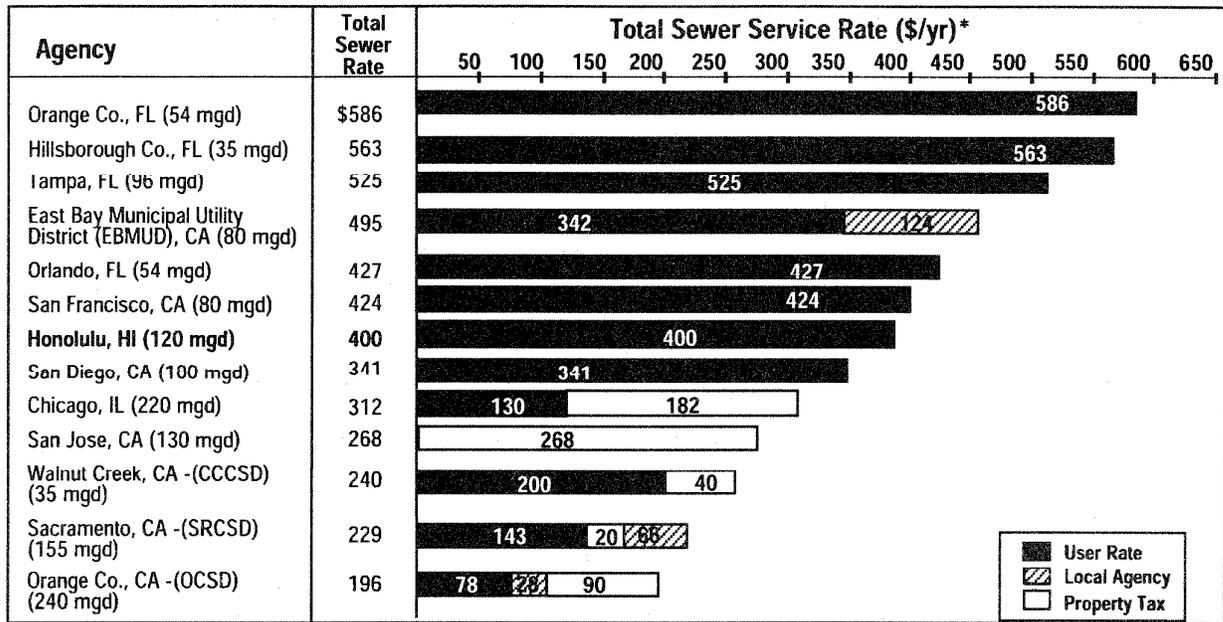
A comparison of the single family monthly sewer service charge and system facility charge of the City and County of Honolulu to those charges and fees of other similar agencies throughout the United States is presented in Figures 16 and 17. These comparisons are made on an equivalent cost basis and take into consideration local agency charges for collection systems as well as property tax revenues in addition to the monthly user rate. As shown in Figure 17, the current system facility charge for the City and County of Honolulu is among the lowest of the agencies surveyed.

5.5 PROJECTED RATES AND CHARGES

Historical and projected sewer service and system facility charges are presented in Figure 18. It is anticipated that both sewer service and system facility charges will increase beginning in fiscal year 2003/2004.

Sewer service charges have been the subject of considerable public discussion since the last increase in 1993. Of particular concern has been the unlimited inclusion of water use in the volume component of the charge. The Department has undertaken an evaluation of the rate structure, including a consultant study and a series of public meetings, and has recommended a revenue neutral revision to the rate structure to address the irrigation water issue and increase fairness. Throughout this process, and in numerous other public outreach settings, the Department has identified the need for future rate increases to support necessary measures to provide appropriate service and ensure public health.

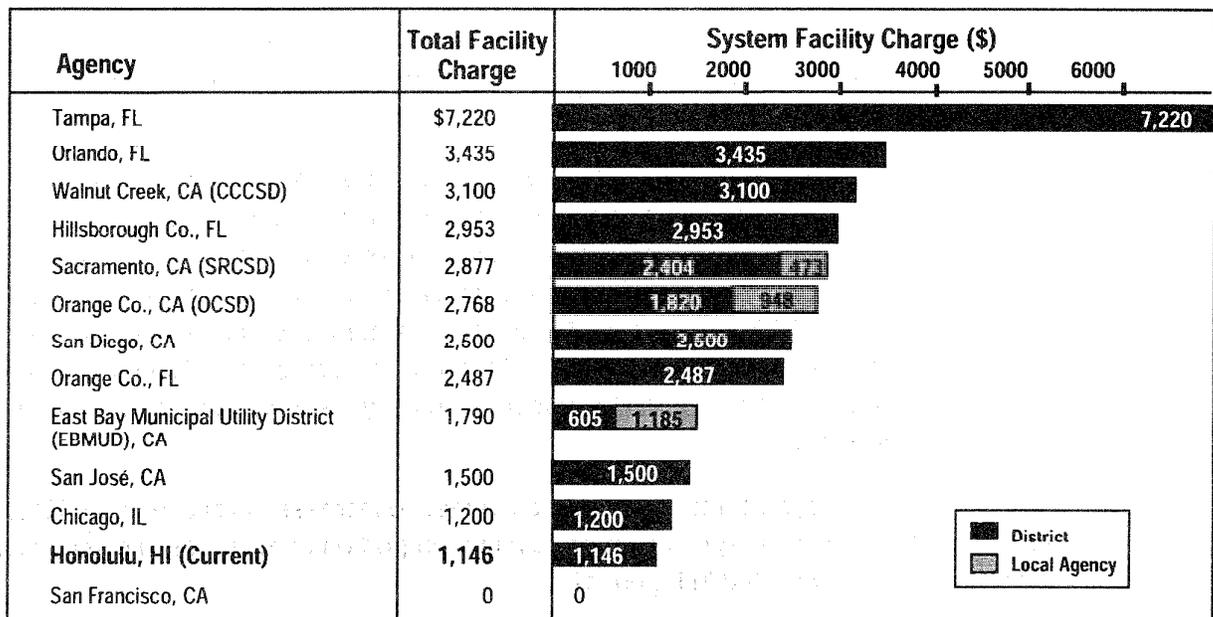
As shown in Figure 18, the system facility charge is planned to increase in fiscal year 2003/2004. Revenues from system facility charges represent a minor proportion of revenues in comparison to sewer service charges, as reflected in Figure 19.



* Total of user rate (treatment / disposal), local agency and property taxes

Figure 16
COMPARISON OF RESIDENTIAL SEWER SERVICE CHARGES
CITY AND COUNTY OF HONOLULU

All rates shown based on current (2001) ordinances.



All charges shown based on current (2001) ordinances.

Figure 17
COMPARISON OF RESIDENTIAL SYSTEM FACILITY CHARGES
CITY AND COUNTY OF HONOLULU

Average Single-Family Residential

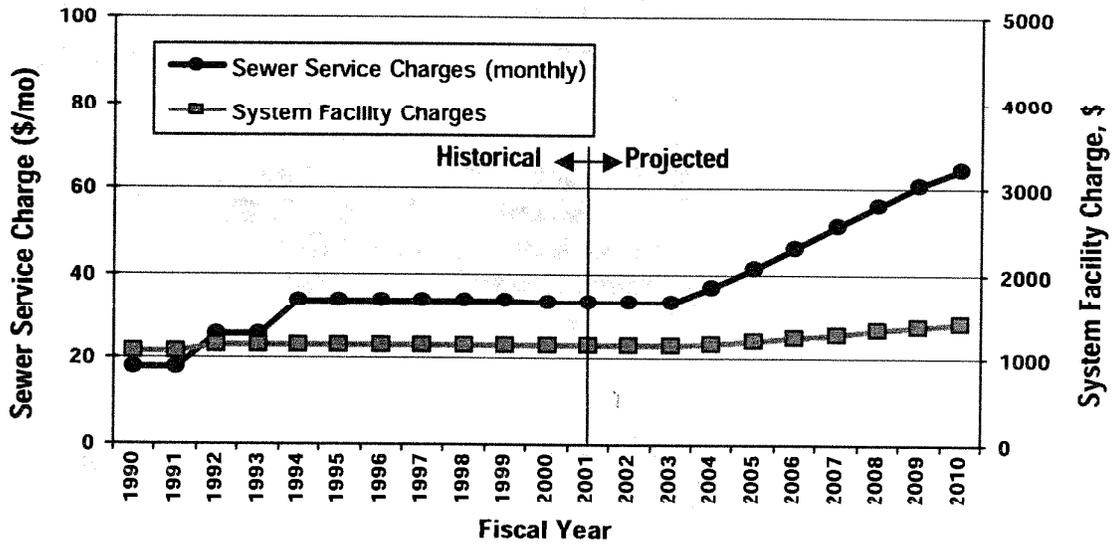


Figure 18
 HISTORICAL AND PROJECTED
 SEWER SERVICE AND
 SYSTEM FACILITY CHARGES
 CITY AND COUNTY OF HONOLULU

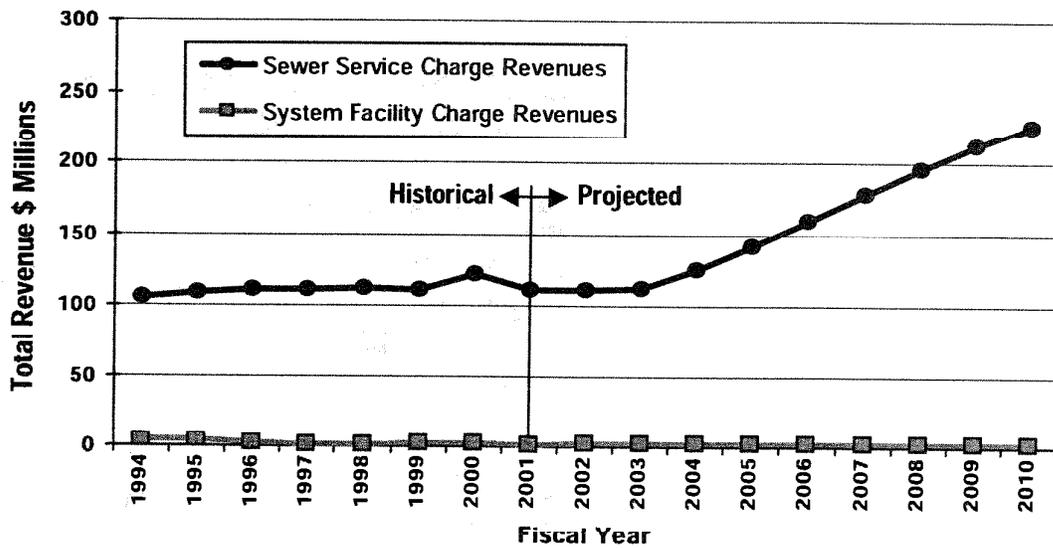


Figure 19
 TOTAL REVENUES FROM
 SEWER SERVICE AND
 SYSTEM FACILITY CHARGES
 CITY AND COUNTY OF HONOLULU

The City Council has not yet approved the adoption of sewer service and system facility charges beyond fiscal year 2000/2001. The City Council has adopted a set of Debt and Financial Policies for its wastewater system that require, among other things, the City to maintain a 1.60 times coverage for its Senior Revenue bonds. It is expected that the City will adopt annual increases in sewer service and system facility charges necessary to meet the debt service coverages prescribed in its Debt and Financial Policies. The City has adhered to the Debt and Financial policies in the previous years and met all stated goals.

THE CITY OF
COLUMBIA, MISSISSIPPI
DEPARTMENT OF
PUBLIC WORKS AND
COMMUNITY DEVELOPMENT

SUMMARY OF PROJECTED REVENUES AND EXPENSES

A ten year projection through FYE 2010 for the City and County of Honolulu Department of Environmental Service's operations has been prepared and is presented in Table 13. As shown in Table 13, sewer service charges are projected to be the major source of revenues to cover debt service, as has been the case in the past (see Figure 20).

The principal assumptions underlying these projections follow:

- Growth in ESDUs is 1,457 per year through FYE 2010. The majority of the growth in ESDUs is projected to be residential, as is the current customer base.
- Capital expenditures are assumed to be required and made as reflected in Table 13 to meet consent decree milestones and accommodate forecasted population growth as projected in the City and County of Honolulu 1992 General Plan.
- Interest earnings on fund balances are assumed at 5.0 percent.
- Debt service reserve fund requirements are cash funded from bond proceeds.
- Debt service on the Series 2001 Bonds is assumed at an all-in interest cost of 5.5 percent, and the bond payment period is assumed at 30 years. Debt service on all future revenue bonds issues is assumed at an all-in interest cost of 5.5 percent, and the bond repayment period for all future issues is assumed to be 30 years. All future revenue bond issues to fund the CIP are assumed to be issued on parity with the Series 2001 Bonds.
- Bond issuance costs are estimated at 1.0 percent of net bond proceeds.
- Unrestricted reserve balances are maintained at levels indicated in the projections.
- "Required Rate Increases" as identified in Table 14 are assumed to be made by the City Council on a timely basis to produce the incremental revenues projected herein.
- Inflation of capital expenditures and operations and maintenance (O&M) costs is assumed at 3.0 percent per annum for all categories including labor.
- No increases above inflation of operation and maintenance costs are expected. Any additional facilities will be served at existing or lower staffing levels as discussed in Chapter 2, while maintaining effective facility performance.
- Discharge characteristics from existing customers will not vary significantly from the values identified on 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 City and County of Honolulu's wastewater facilities or the activities of their customers.
- Payment of existing reimbursable general obligation bond debt to be accomplished through the issuance of commercial paper which will be taken out with long term Junior Lien Revenue Bonds.

Table 13 10-Year Projected Cash Flow Summary
City and County of Honolulu Department of Environmental Services

(Revenue and Expense Numbers in Millions)		Fiscal Year Ending June 30									
Fiscal Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TOTAL
Growth Assumptions											
Total ESDUs at Start of Year	279,963	281,272	282,729	284,186	285,643	287,100	288,558	290,015	291,472	292,929	
Total New ESDUs Added	1,309	1,457	1,457	1,457	1,457	1,457	1,457	1,457	1,457	1,457	14,424
Revenues											
Sewer Service Charges ⁽¹⁾	\$111.3	\$111.2	\$112.6	\$125.6	\$141.4	\$159.2	\$177.6	\$195.4	\$212.1	\$226.0	\$1,572.4
System Facility Charges ⁽¹⁾	1.5	1.7	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.1	18.0
Interest on Sewer Reserve Fund and Unreserved Fund ⁽¹⁾	1.9	5.7	4.2	4.6	5.0	5.4	5.5	5.8	6.1	6.7	50.9
Other Revenues ⁽²⁾	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.1	0.1	0.1	6.7
TOTAL REVENUES	\$115.7	\$119.5	\$119.3	\$132.8	\$149.0	\$167.3	\$185.9	\$203.3	\$220.3	\$234.8	\$1,647.9
Operating Expenses											
O&M Costs ⁽³⁾	\$66.4	\$71.3	\$69.7	\$77.4	\$77.4	\$80.2	\$83.2	\$86.6	\$89.6	\$92.7	\$794.6
TOTAL EXPENSES	\$66.4	\$71.3	\$69.7	\$77.4	\$77.4	\$80.2	\$83.2	\$86.6	\$89.6	\$92.7	\$794.6
TOTAL NET REVENUES	\$49.2	\$48.2	\$49.7	\$55.5	\$71.6	\$87.1	\$102.7	\$116.6	\$130.7	\$142.1	\$853.4
Debt Service											
2001 Sr. Bonds and Future Sr. Revenue Bond Debt Service	\$0.0	\$3.8	\$9.3	\$16.5	\$27.9	\$47.4	\$57.6	\$67.4	\$76.2	\$83.4	\$389.6
Previous Sr. Revenue Bond Debt Service	2.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	34.6
Future Jr. Revenue Bond Debt Service	0.0	0.0	0.3	1.0	1.9	3.3	4.3	5.2	6.0	6.7	28.7
Previous Jr. Revenue Bond Debt Service	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	12.3	14.1	118.2
Reimbursable G.O. Debt Service	13.2	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.8
SRF Loans (Existing and Future)	7.6	7.9	8.6	9.3	10.0	10.7	11.4	12.0	12.7	13.4	103.6
Total Debt Service	\$34.8	\$31.4	\$33.3	\$41.9	\$54.8	\$76.4	\$88.3	\$99.6	\$110.8	\$121.3	\$692.6
TOTAL NET REVENUES AVAILABLE FOR OTHER REQUIREMENTS	\$14.4	\$16.8	\$16.4	\$13.6	\$16.8	\$10.6	\$14.4	\$17.0	\$19.9	\$20.9	\$160.8
Sr. Revenue Bond Coverage Ratio ⁽⁴⁾	18.55	6.35	3.72	2.67	2.22	1.67	1.65	1.62	1.61	1.61	
Total Revenue Bond Coverage Ratio ⁽⁴⁾	3.40	2.47	1.95	1.65	1.56	1.30	1.31	1.31	1.31	1.30	
Total Debt Coverage Ratio ⁽⁴⁾	1.37	1.48	1.44	1.28	1.27	1.12	1.14	1.15	1.16	1.16	
Capital Project Financing											
Transfer to CIP from sewer fund	\$12.7	\$9.6	\$9.9	\$10.0	\$11.0	\$12.0	\$11.8	\$14.9	\$13.0	\$12.2	\$117.0
SRF Loan Proceeds	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	\$100.0
Net Revenue Bond Proceeds	0.0	185.0	180.0	200.0	140.0	130.0	130.0	100.0	90.0	95.0	\$1,250.0
Interest on CIP Project Fund	2.1	0.3	6.5	9.6	9.6	5.3	4.4	4.7	4.0	2.9	\$49.4
Net CIP Financing	\$24.8	\$204.9	\$206.4	\$229.6	\$170.6	\$157.3	\$156.2	\$129.6	\$117.0	\$120.1	\$1,516.4
Capital Expenditures											
Capital Expenditures	\$60.3	\$81.4	\$144.1	\$228.2	\$257.9	\$175.0	\$149.1	\$143.4	\$139.6	\$129.1	\$1,508.3
Purchase of existing assets ⁽⁵⁾		\$41.0									
Major Reserves & Funds (end of year)											
Unrestricted Reserve Balance	\$97.1	\$66.1	\$75.3	\$79.8	\$88.6	\$90.0	\$95.5	\$100.5	\$110.6	\$122.9	
Sewer Fund Reserve ⁽⁶⁾	\$16.6	\$17.0	\$17.4	\$19.3	\$19.4	\$20.1	\$20.8	\$21.7	\$22.4	\$23.2	
CIP Project Fund	\$5.6	\$129.1	\$191.5	\$192.8	\$105.5	\$87.8	\$94.8	\$81.0	\$58.4	\$49.4	
Projected Charges Required											
Monthly Sewer Service Charge ⁽⁷⁾⁽⁸⁾	\$33.27	\$33.18	\$33.18	\$36.83	\$41.25	\$46.20	\$51.29	\$56.16	\$60.65	\$64.29	
Increase Over Prior Year	-0.24%	-0.26%	0.0%	11.0%	12.0%	12.0%	11.0%	9.5%	8.0%	6.0%	
System Facility Charge	\$1,146	\$1,146	\$1,146	\$1,180	\$1,215	\$1,251	\$1,289	\$1,328	\$1,368	\$1,409	
Increase Over Prior Year	0%	0%	0%	3%	3%	3%	3%	3%	3%	3%	

Notes:
(1) Revenues from Sewer Service Charges, Facility Charges and Interest are as budgeted for 2001 - 2002. For 2003 and beyond revenues are calculated values.
(2) Includes cesspool pumping, connection services, lateral installation, misc. state funding, and other revenues.
(3) Includes all operating expenses: salaries, non-salary personnel costs, administrative support, equipment, general fund rental and other expenses.
(4) Revenues for coverage calculations do not include system facility charges.
(5) Purchase treated as a capital expenditure - paid for out of the unrestricted reserve.
(6) Sewer fund reserve based upon maintaining 3 months of operating expenses. Excess/(shortfall) applied to unrestricted reserve.
(7) Sewer service charges based on budgeted revenues in 2001 and 2002. For 2003 and beyond charges are calculated based upon projected rate increases.
(8) Decrease in rates for 2001 and 2002 due to anticipated water conservation effects.

Total = \$128 Million

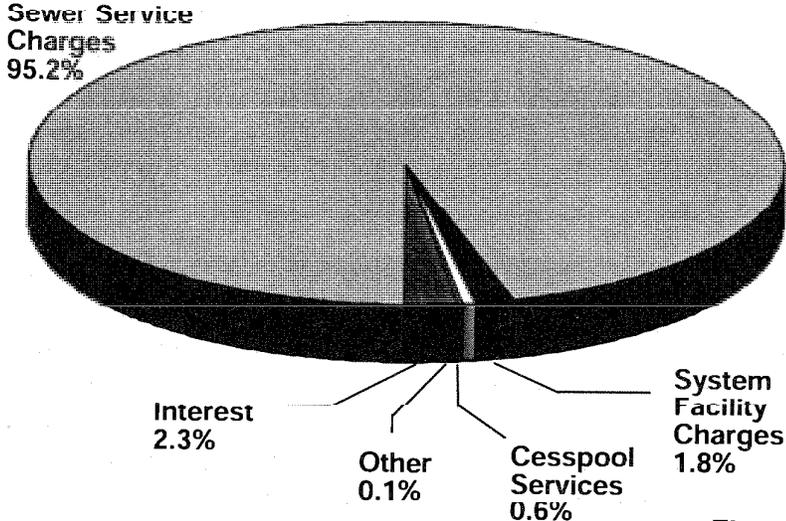


Figure 20
REVENUE SOURCES
FISCAL YEAR 1999-2000
CITY AND COUNTY OF HONOLULU

The City Council has adopted a set of Debt and Financial Policies for its wastewater system that target, among other things, the City to maintain a 1.60 times coverage for its Senior Revenue Bonds and 1.25 times coverage for all Revenue Bonds (Senior and Junior). It is expected that the City will adopt annually increases in sewer services charges necessary to meet the debt service coverages prescribed in its Debt and Financial Policies. Current projections show that the debt service coverages will be achieved by: 1) increasing sewer service charges between 6.0 and 12.0 percent annual beginning in FYE 2004, and 2) increasing system facility charges 3.0 percent annually beginning in FYE 2004.

In addition, a sensitivity analysis was performed to determine the impact of low and high growth projections on the required monthly service charges and coverage ratios. The conservative growth rate assumption of 1,457 ESDUs per year (through FYE 2007) is less than historical recorded connection rates, particularly when compared to the most recent ten-year average of 2,400 ESDUs per year. Should growth increase, several projects may have to be accelerated in the implementation schedule. Because the CIP program will accommodate an additional 20 percent of flow above current levels, while projected ESDU growth assumed for purposes of estimating annual revenues is only 40,000 ESDUs, or 15 percent of the existing number of ESDUs, any additional growth, up to 55,000 ESDUs over the 20-year period, will be accommodated by the planned projects and would only add to estimated revenues. Based on this analysis, the City and County of Honolulu will comply with maintaining its Debt and Financial Policies.

CONCLUSIONS

Based upon our studies, the assumptions discussed in this report, and our review of the data and analysis provided by the City and County of Honolulu and its consultants, we conclude the following:

7.1 COMPLIANCE WITH DISCHARGE REQUIREMENTS

The City and County of Honolulu's Wastewater System collection and pumping facilities do not meet all of the current and anticipated federal and state regulatory requirements, and will require additional capacity necessary to serve the projected growth in the service area. These collection and pumping facilities constitute much of the need for capital facility improvements.

Completion of the CIP projects described in this report will permit the City and County of Honolulu to attain and to remain in compliance with all federal, state, and local regulations regarding treatment and discharge as described in the current NPDES permit and consent decrees.

7.2 20-YEAR CIP

An estimated \$1.71 billion of non-discretionary CIP project expenditures for various treatment, collection and other facilities are required to be constructed during the 20-year CIP program. This is to eliminate the current and projected critical deficiencies, to meet consent decree milestones, and to provide a wastewater system in a satisfactory operating condition based on projected wastewater usage and environmental and other regulatory requirements. The remaining approximately \$0.39 billion of CIP projects are discretionary, and have been identified primarily to improve wastewater treatment and collection systems efficiency. These CIP project expenditures are to be funded from proceeds of bonds, including the Series 2001 Bonds, and from net revenues and other charges.

The \$2.1 billion of CIP expenditure is technically sound and conforms with good engineering practice and the estimated total costs of the CIP have been realistically assessed.

7.3 2001-2005 CIP PROJECTS

The projects to be financed by the Series 2001 Bonds are the highest priority projects required to meet consent decree requirements and protect public health. They are included in recently completed facility plans, which identify the need for projects through the year 2017, and provide the most cost effective facilities evaluated in those plans.

The estimated project costs and construction schedules that have been developed for the 2001-2005 projects are reasonable and achievable.

7.4 DEPARTMENT MANAGEMENT

The operations of the wastewater system are directed by a professional staff for the disciplines of operations specialists, maintenance (including electrical, instrumentation and mechanical), laboratory personnel and other technical support personnel.

7.5 FINANCIAL PROJECTIONS

The financial projections with respect to the wastewater system are based on reasonable and conservative assumptions and fairly reflect the financial performance of the wastewater system.

Current customer rates and charges for the City and County of Honolulu compare favorably to other similar wastewater agencies. Projected customer rates and charges are based on periodic larger increases followed by extended periods of stable rates. This rate setting philosophy results in projected rates and charges which are reasonable when compared on an equivalent annual basis.

In the opinion of Carollo Engineers, projected sewer service and system facility charges will provide revenue sufficient to:

- Meet all 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 2001 Bonds, and future bond issues.
- Provide sufficient revenue to pay the costs of the City and County of Honolulu's CIP through the end of the forecast period.
- Meet reserve requirements of the bond resolution.

The funds obtained from the sale of the Series 2001 Bonds, current cash reserves, fees collected over the next few years, and future bond issues will be adequate to fund the current projects.

The rate at which growth occurs will not affect the ability of the City and County of Honolulu to meet its debt obligations because the growth is a small component of the overall costs and revenues associated with the financial projections. In general, many of the CIP projects are necessary and must proceed based on consent decree requirements and public safety and health concerns with or without any additional connections.

This report has been prepared at the request of the City and County of Honolulu for appending to the Official Statements relating to the issuance of the Series 2001 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 City and County of Honolulu, its employees, and other consultants have been relied upon as being accurate in the performance of these analyses. However, no assurances are given nor warranties implied by Carollo as to the accuracy of such information. Carollo makes no certification and gives no assurances except as explicitly set forth in this report.

GLOSSARY

ADAF	average day annual flow
ADWF	average day dry weather flow
BOD ₅	five-day biochemical oxygen demand
CIP	Capital Improvement Plan
DOH	Department of Health
DWR	Department of Water Resources
ENRCCI	ENR Construction Cost Index
EPA	Environmental Protection Agency
ESDU	equivalent single-family dwelling unit
ft	feet
FY	fiscal year
FYE	fiscal year ending
gal	gallons
GO Bonds	General Obligation Bonds
gpd	gallons per day
gpm	gallons per minute
mgd	million gallons per day
mg/l	milligrams per liter
NPDES	National Pollutant Discharge Elimination System
O&M	operations and maintenance
PHWWF	peak hour wet weather flow
PWWF	peak wet weather flow
SEP	supplemental environmental projects
SFR	single-family residence
TSS	total suspended solids
WWTP	wastewater treatment plant
WWPTF	wastewater pre-treatment facility

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Appendix C

Summary of Certain Provisions of the First Resolution

The First 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 First Resolution, to which reference is hereby made. Copies of the First Resolution are available from the City and County.

Certain Definitions

Certain definitions contained in the First Resolution are summarized below. This summary does not purport to be comprehensive or definitive, and is subject to all provisions of the First Resolution, to which reference is hereby made. Copies of the First 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 First 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 First 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 First Resolution to perform the acts and carry out the duties provided for such Consulting Engineer in the First 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 First Resolution as a depositary of moneys and Investment Securities held under the provisions of the First 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 First 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 First 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 ("FNMA's"); 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, GNMA's, FNMA's or FHLMC's 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 unsecured, 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 Depository or an independent third party acting solely as agent ("Agent") for the Depository, 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 Depository has received written confirmation from such third party that it holds such securities, free and clear of any lien, as agent for the Depository; 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 Depository; and

- (d) the repurchase agreement has a term of 3 years or less, and the Depository 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.

"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 First 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 First Resolution; (c) Bonds deemed to be no longer outstanding under the First Resolution as provided in the First 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 First 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 First 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 First 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 First Resolution.

“Sinking Fund Installment” means an amount so designated which is established pursuant to the First Resolution. The portion of any such Sinking Fund Installment remaining after the deduction of any such amounts credited pursuant to the First 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 First 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 First Resolution, indenture or other instruments of the City and County adopted by or entered into by the City and County in accordance with the First 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 First Resolution which amends or supplements the provisions of the First 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 First 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 First 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 First 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 First 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 First 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 First Resolution

The Bonds are payable solely from and secured by the funds pledged therefor under the First 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 First Resolution, subject only to the provisions of the First Resolution permitting the application thereof for the purposes and on the terms and conditions set forth in the First Resolution: (i) the proceeds of sale of the Bonds pending application thereof in accordance with the provisions of the First Resolution or of a Series Resolution or a Series Certificate; (ii) the Net Revenues; and (iii) all Funds and Accounts held under the First 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 First 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 First Resolution provides that each of the obligations, duties, limitations and restraints imposed upon the City and County by the First Resolution is deemed to be a covenant between the City and County and every Holder of the Bonds, and the First Resolution and every provision and covenant set forth in the First 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 First 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 First Resolution. The covenants and agreements set forth in the First 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 First 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 First 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 Separate Series Reserve Account created, if any, to provide additional security for the Bonds of such Series after issuance of the 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 the greater of: (x) the sum of (1) the maximum Aggregate Debt Service on all Bonds then Outstanding and on the proposed Series of Bonds in any Fiscal Year and the 12-month period selected and (2) the Required Deposits for such Fiscal Year or the 12-month period selected; and (y) 1.20 times the maximum Aggregate Debt Service on all Bonds then Outstanding and on the proposed Series of Bonds in any Fiscal Year and the 12-month period selected, 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 the greater of: (x) the sum of (1) the maximum Aggregate Debt Service on all Bonds then Outstanding and on the proposed Series of Bonds in any such Fiscal Year, and (2) the Required Deposits for any such Fiscal Year; and (y) 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.

The provisions of the First Resolution described in item 3 above do not apply to the Series 2001 Bonds.

Certain Adjustments. The First 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 highest average interest rate borne by such Variable Rate Bonds for any 30-day period or if no such Variable Rate Bonds are then Outstanding, the Revenue Bond Index 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 judgement 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 First 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 First 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 First Resolution are complied with, including all of the conditions of the *Basic Test* described above.

Bond Anticipation Notes

Bond Anticipation 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 First 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 First 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 First 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 First Resolution. Bond Anticipation Notes issued under the First Resolution are to be treated as Bonds for all purposes of the First 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 First 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 First 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 First 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 First Resolution consisting of the Net Revenues and funds held under the First 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 First 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 First 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 First 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 First 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 First 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 First 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 First 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 First Resolution permits the creation and establishment of one or more Separate Series Reserve Accounts in the Sewer Fund. The First 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 First Resolution. In addition, all other amounts required by the City Charter and the First 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 First 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 First Resolution which the City and County has applied as a credit against such Sinking Fund Installment as provided in the First Resolution.

Upon any purchase or redemption pursuant to the First 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 First 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 First 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 First 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 First 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 First 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 First Resolution, or (ii) the Wastewater General Account as provided in the First 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 First Resolution and from the Wastewater General Account as provided for in the First 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 First 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 First 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 First 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 First 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 First 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 First 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 First 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 First 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 First 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, FNMA's or FHLMC's (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, FNMA's or FHLMC's (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 First Resolution, all income received from the investment or reinvestment of moneys in the Funds and Accounts established under the First 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 First 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 First Resolution are to be held in trust and applied only in accordance with the provisions of the First Resolution, and each of the Funds and Accounts established by the First 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 First 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 First 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 First 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 First 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 First 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 First 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 First Resolution with the Holders of all Bonds issued pursuant to the First 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 First 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 First 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 First 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 First 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 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 First 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 First 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 First 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 First 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 First 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 First 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 First Resolution, to the benefit of the First 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 First 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 First 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 First 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 First 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 First 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 First 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 First 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 2001 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 First 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 First 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 First 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 First 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 First 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 First Resolution, and all Revenues shall thereafter be applied as provided for in the First Resolution. No such payment over to the Department by the receiver or resumption of this application of Revenues as provided in the First Resolution, shall extend to or affect any subsequent default under the First 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 First 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 First 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 First Resolution, or in aid of the exercise of any power granted in the First Resolution, or to enforce any other legal or equitable right vested in the Holders of Bonds by the First 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 First 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 First 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 2001 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 First 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 First 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 First Resolution shall have proceeded to enforce any right under the First 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 First 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 First Resolution; (ii) to make any changes, modifications, amendments or deletions to the First Resolution which may be required to permit the First 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 First 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 First Resolution, or to insert in the First Resolution such provisions clarifying matters or questions arising under the First 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 First 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 First 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 First Resolution.

Except for Series Resolutions authorizing the issuance of Bonds pursuant to the First Resolution, the City and County shall not adopt any Supplemental Resolution authorized by the foregoing provisions of the First Resolution unless in the Opinion of Counsel the adoption of such Supplemental Resolution is permitted by the First 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, the City and County from time to time and at any time may adopt a resolution amendatory of or supplemental to the First Resolution for the purpose of adding any provisions to,

or changing in any manner or eliminating any of the provisions of, the First 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; provided, however, that 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 First 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 First Resolution; or (3) give to any Bond or Bonds any preference over any other Bond or Bonds secured by the First Resolution; or (4) authorize the creation of any pledge of the Revenues and other moneys pledged under the First Resolution, prior, superior or equal to the pledge of and lien and charge thereon created in the First Resolution for the payment of the Bonds except to the extent provided in the First Resolution; or (5) deprive any Holder of the Bonds in any material respect of the security afforded by the First 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 First 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 2001 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 required and of the holding of Bonds for the purpose of giving consents shall be made in accordance with the First 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. After the Holders of the required percentage of Bonds shall have filed their consents to the amending or supplementing of the First Resolution pursuant to the First Resolution, the City and County shall publish at least once a notice of such amending or supplementing of the First Resolution, in *The Bond Buyer*, published in New York, New York, or in lieu of publication in *The Bond Buyer*, in some other newspaper specializing in financial matters as provided for in the First Resolution and shall mail a copy of such notice, postage prepaid to each registered Holder of Bonds then Outstanding, at his address, if any, appearing upon the registry books, but failure to mail copies of said notice to any of said Holders shall not affect the validity of the Supplemental Resolution effecting such amendments or supplements or the consent thereto. A record, consisting of the papers required by the First 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 First 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 which has rated the Bonds 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 First Resolution with regard to Option Bonds, the obligations of the City and County under the First Resolution and the liens, pledges, charges, trusts, covenants and agreements of the

City and County made or provided for in the First Resolution, shall be fully discharged and satisfied as to any Bond and such Bond shall no longer be deemed to be Outstanding under the First 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 First 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 First 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 First 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 First 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 First 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 First 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 First 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 First Resolution.

All moneys, Refunded Municipal Obligations or Investment Securities set aside and held in trust pursuant to the provisions of the First 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 First 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 First Resolution as provided in the defeasance provisions of the First Resolution, but such Bond has not in fact been actually paid in full, no amendment to the defeasance provisions of the First 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 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 First Resolution.

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Appendix D

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.

Appendix D

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.

“*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, HAWAII, PROVIDING FOR CONTINUING DISCLOSURE

I, the undersigned, Carroll Takahashi, 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 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) Salomon Smith Barney and UBS PaineWebber Inc., as the Underwriters of the \$_____ Wastewater System Revenue Bonds (First Bond Resolution), Senior Series 2001 of the City and County, dated July 15, 2001 (the "Series 2001 Bonds"), shall be beneficiaries of the Master Certificate; (iii) the Holders of the Series 2001 Bonds shall also be beneficiaries of the Master Certificate; (iv) the Beneficial Owners of Series 2001 Bonds shall be 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/municipal/nrmsir.htm.

Dated this July __, 2001

Carroll Takahashi
Director of Budget and Fiscal Services
City and County of Honolulu, Hawaii

The above and foregoing certificate
is hereby approved as to form and legality
this July __, 2001.

Corporation Counsel
City and County of Honolulu, Hawaii

Appendix E

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 2001
(Final Opinion)

Ladies and Gentlemen:

We have acted as bond counsel in connection with the issuance by the City and County of Honolulu (the "City and County") of \$136,020,000 aggregate principal amount of Wastewater System Revenue Bonds (First Bond Resolution) Senior Series 2001 (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.

Certain agreements, requirements and procedures contained or referred to in the Resolution, the Certificate, the Tax Certificate and other relevant documents may be changed and certain actions may be taken or omitted under the circumstances and subject to the terms and conditions set forth in such documents (including, without limitation, refunding of the Bonds). No opinion is expressed herein as to any Bond or the interest thereon if any such change occurs or action is taken or omitted upon the advice or approval of counsel other than ourselves.

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. 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 or waiver provisions contained in the foregoing documents. Finally, we undertake no responsibility for the accuracy, completeness or fairness of any 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.

Respectfully submitted,

ORRICK, HERRINGTON & SUTCLIFFE LLP

per

Appendix F

Specimen Financial Guaranty Insurance Policy

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Ambac

Financial Guaranty Insurance Policy

Ambac Assurance Corporation
One State Street Plaza, 15th Fl.
New York, New York 10004
Telephone: (212) 668-0340

Obligor:

Policy Number:

Obligations:

Premium:

Ambac Assurance Corporation (Ambac), a Wisconsin stock insurance corporation, in consideration of the payment of the premium and subject to the terms of this Policy, hereby agrees to pay to The Bank of New York, as trustee, or its successor (the "Insurance Trustee"), for the benefit of the Holders, that portion of the principal of and interest on the above-described obligations (the "Obligations") which shall become Due for Payment but shall be unpaid by reason of Nonpayment by the Obligor.

Ambac will make such payments to the Insurance Trustee within one (1) business day following written notification to Ambac of Nonpayment. Upon a Holder's presentation and surrender to the Insurance Trustee of such unpaid Obligations or related coupons, uncanceled and in bearer form and free of any adverse claim, the Insurance Trustee will disburse to the Holder the amount of principal and interest which is then Due for Payment but is unpaid. Upon such disbursement, Ambac shall become the owner of the surrendered Obligations and/or coupons and shall be fully subrogated to all of the Holder's rights to payment thereon.

In cases where the Obligations are issued in registered form, the Insurance Trustee shall disburse principal to a Holder only upon presentation and surrender to the Insurance Trustee of the unpaid Obligation, uncanceled and free of any adverse claim, together with an instrument of assignment, in form satisfactory to Ambac and the Insurance Trustee duly executed by the Holder or such Holder's duly authorized representative, so as to permit ownership of such Obligation to be registered in the name of Ambac or its nominee. The Insurance Trustee shall disburse interest to a Holder of a registered Obligation only upon presentation to the Insurance Trustee of proof that the claimant is the person entitled to the payment of interest on the Obligation and delivery to the Insurance Trustee of an instrument of assignment, in form satisfactory to Ambac and the Insurance Trustee, duly executed by the Holder or such Holder's duly authorized representative, transferring to Ambac all rights under such Obligation to receive the interest in respect of which the insurance disbursement was made. Ambac shall be subrogated to all of the Holders' rights to payment on registered Obligations to the extent of any insurance disbursements so made.

In the event that a trustee or paying agent for the Obligations has notice that any payment of principal of or interest on an Obligation which has become Due for Payment and which is made to a Holder by or on behalf of the Obligor has been deemed a preferential transfer and theretofore recovered from the Holder pursuant to the United States Bankruptcy Code in accordance with a final, nonappealable order of a court of competent jurisdiction, such Holder will be entitled to payment from Ambac to the extent of such recovery if sufficient funds are not otherwise available.

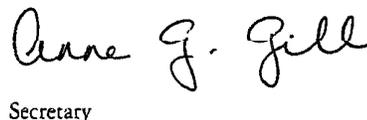
As used herein, the term "Holder" means any person other than (i) the Obligor or (ii) any person whose obligations constitute the underlying security or source of payment for the Obligations who, at the time of Nonpayment, is the owner of an Obligation or of a coupon relating to an Obligation. As used herein, "Due for Payment", when referring to the principal of Obligations, is when the scheduled maturity date or mandatory redemption date for the application of a required sinking fund installment has been reached and does not refer to any earlier date on which payment is due by reason of call for redemption (other than by application of required sinking fund installments), acceleration or other advancement of maturity; and, when referring to interest on the Obligations, is when the scheduled date for payment of interest has been reached. As used herein, "Nonpayment" means the failure of the Obligor to have provided sufficient funds to the trustee or paying agent for payment in full of all principal of and interest on the Obligations which are Due for Payment.

This Policy is noncancelable. The premium on this Policy is not refundable for any reason, including payment of the Obligations prior to maturity. This Policy does not insure against loss of any prepayment or other acceleration payment which at any time may become due in respect of any Obligation, other than at the sole option of Ambac, nor against any risk other than Nonpayment.

In witness whereof, Ambac has caused this Policy to be affixed with a facsimile of its corporate seal and to be signed by its duly authorized officers in facsimile to become effective as its original seal and signatures and binding upon Ambac by virtue of the countersignature of its duly authorized representative.


President



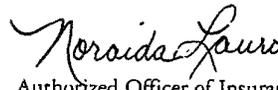

Secretary

Effective Date:

Authorized Representative

THE BANK OF NEW YORK acknowledges that it has agreed to perform the duties of Insurance Trustee under this Policy.

Form No.: 2B-0012 (1/01)


Authorized Officer of Insurance Trustee

