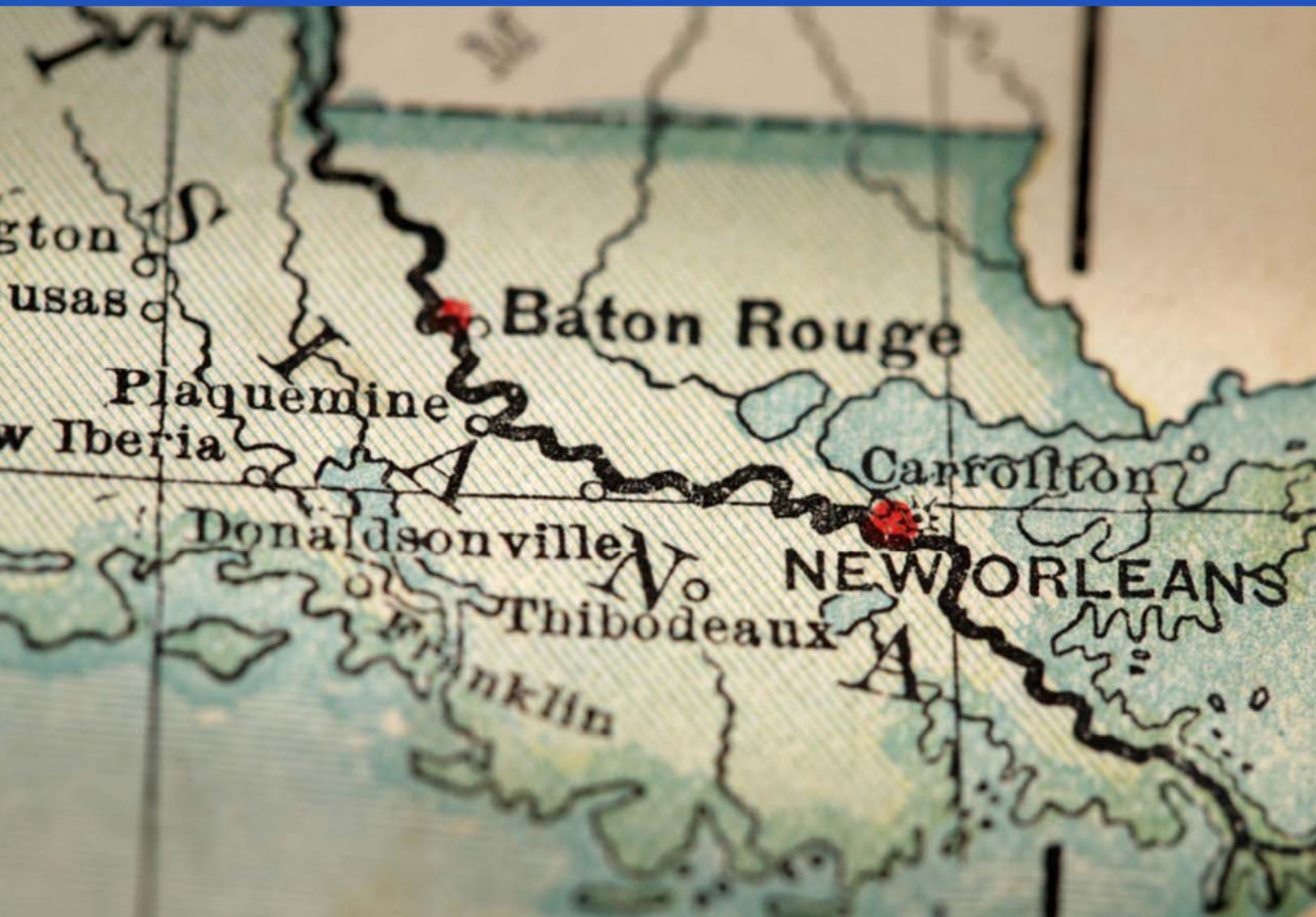


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SEWERAGE & WATER BOARD OF NEW ORLEANS, LOUISIANA

Report on Operations for 2008

BRUNO & TERVALON
JULIEN ENGINEERING AND CONSULTING

 **BLACK & VEATCH**
Building a world of difference.®

MISSION STATEMENT

To be one of the best and most respected suppliers of sewer, water, and drainage services in the south-central United States by providing quality, reliable, and cost effective services to our Customers while maintaining fair and ethical treatment of our well-trained and highly motivated employees.

OUR VALUES

Open, honest communication

Trust and respect for each other

Offering and encouraging education and opportunity to employees

Fostering enthusiasm among employees through example of the managers/supervisors

Providing direction and planning and encouraging interdepartmental team work

Assuring reliability in providing services to customers

KEY RESULT AREAS

Customer Satisfaction

Cost Effectiveness

Employee Satisfaction

Capabilities Improvement through Training

October 30, 2009

Sewerage & Water Board of New Orleans
625 St. Joseph Street
New Orleans, LA 70165

Dear Board Members:

In accordance with our agreement, we are submitting this Report on Operations of the Water, Sewerage, and Drainage Departments for the year 2008. The report presents the findings of analyses to confirm compliance with covenants of the General Water Revenue Bond Resolution and the General Sewerage Revenue Bond Resolution.

The report also contains projections of expected future financial activity for the three departments for the period 2009 through 2013. These projections are based upon historical trends and the Board's operating and capital budgets. Projected costs provide for changes in operating procedures resulting from completion of major plant facilities, and include an allowance for anticipated future price inflation.

Bound separately is the Executive Summary for the Report on Operations for 2008.

We wish to acknowledge the cooperation and assistance of utility staff in providing guidance and information for the study.

We appreciate the opportunity to be of service to the Sewerage and Water Board.

Very truly yours,

BLACK & VEATCH CORPORATION



Peggy Howe
Vice-President

Enclosure

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**Report on Operations
for 2008
Sewerage and Water Board
of New Orleans**

Introduction

Purpose and Scope

This report covers operations of the Sewerage and Water Board of New Orleans for the year ended December 31, 2008. The report presents findings of studies made in compliance with covenants of the 1998 and Supplemental Water Revenue Bond Resolutions and the 1997 and Supplemental Sewerage Revenue Bond Resolutions. The report includes recommendations designed to assist the Sewerage and Water Board of New Orleans and its staff in planning future operational policies. Subjects covered include the following:

1. Adherence to covenants of the Water Revenue Bond Resolutions and the Sewerage Revenue Bond Resolutions.
2. Ability to finance projected revenue requirements including proposed capital improvements.
3. Operations of the water, sewerage, and drainage systems.

Definitions

In this report, "Sewerage and Water Board of New Orleans," "Sewerage and Water Board," and "Board" are used synonymously. "General Resolution" refers to either the 1998 and Supplemental Water Revenue Bond Resolution or the 1997 and Supplemental Sewerage Revenue Bond Resolutions.

"Water Department" is the Sewerage and Water Board organization providing domestic water service to residents of the City of New Orleans. "Sewerage Department" is the organization providing wastewater service, and "Drainage Department" is the organization providing stormwater conveyance and pumping. The Board organization includes some groups who participate in two or more operational activities.

History

The Sewerage and Water Board of New Orleans was created by Act No. 6 of the Louisiana Legislature in 1899 as a special board independent of City government to develop, operate, and maintain the water and sewerage systems in the City of New Orleans. In 1903, the

Louisiana Legislature gave control of the City's drainage system to the Board. Since that time growth of the service area and increased service requirements have expanded the magnitude and complexity of operations.

Available sources of funds prior to 1958 for financing utility operations and improvements included ad valorem taxes, contributions-in-aid-of-construction, general obligation bonds of the City of New Orleans, and water revenues.

In 1974, the American Institute of Certified Public Accountants expanded their reporting guidelines for government operated utilities to include depreciation accounting. As a result, the Board initiated a preliminary system of accounting recognizing estimated historical investment as a basis for annual depreciation accruals. Implementation of the detailed plant accounting and record keeping required was started in 1979.

The Board's computer based budget code system provides a method of identification of operation and maintenance expenses for the Water, Sewerage, and Drainage Departments. Allocation of expenses is based upon actual or direct expenses of each Department together with an apportionment of joint expenses. The procedures permit utility plant accounting with annual costs charged to the appropriate property account instead of being charged to current Department income. In accounting for debt service, interest is charged to current year's income and principal and debt service reserve payments are charged to the respective account balances. Historical operating costs, discussed later in this report, reflect the functional classifications.

Water Department

Act No. 541 increased the Board's ability to finance needed water system improvements by authorizing the Board to issue water revenue bonds. Subsequently, water revenue bonds in the amounts of \$6,200,000 in 1960, \$1,500,000 in 1961, \$2,500,000 in 1964, \$4,000,000 in 1971, \$6,000,000 in 1978, \$17,000,000 in 1980, \$3,000,000 in 1981, and \$5,000,000 in 1982 were issued. All water system revenue bonds outstanding in 1986 were defeased by the \$31,350,000 Series 1986 Water Revenue Refunding bond issue. Additional revenue bonds in the amount of \$16,000,000 were issued in 1998 and \$34,000,000 were issued in 2002. As of December 31, 2008, \$38,770,000 remains outstanding on the 1998 and 2002 issues.

Act No. 566 reauthorized the Board to fix and administer a schedule of water rates to meet the operational and capital costs of the public water system, to issue water revenue bonds, and discontinue the free water allowance for sewerage purposes effective November 9, 1966.

Sewerage Department

Act No. 567 gave the Board authority to set and collect sewerage service charges, to be used for operational and capital costs of the Sewerage Department, and to issue sewerage service

revenue bonds. This Act permitted the Board, for the first time in its history, to charge users of the sewerage system directly for related costs. Under the authority of Act No. 567, sewerage service charges were implemented May 1, 1967; and subsequently, sewerage service revenue bonds totaling \$33,000,000 were sold in 1968, 1976, 1982 (2 issues), and 1983. All sewerage system revenue bonds outstanding in 1986 were defeased by the \$21,280,000 Series 1986 Sewerage Service Revenue bonds. These bonds were fully retired in 1994. Sewerage system revenue bonds in the amount of \$30,000,000 were issued in 1997; \$25,000,000 in 1998; \$47,100,000 in 2000 (two issues); \$32,720,000 in 2001; \$57,000,000 in 2002; and \$5,500,000 in 2003. \$33,000,000 in revenue bonds, \$25,200,000 in Bond Anticipation Notes (BANs), and \$111,800,000 in Refunding BANs were issued in 2004. The 2004 BANs were defeased by the \$137,000,000 Refunding BANs Series 2005A. A portion of the 2005 BANs was refinanced with the Refunding BANs Series 2006. The remaining balance on the 2005 BANs were paid from funds on hand. The Refunding BANs Series 2006 were due July 15, 2009 and as of the publishing date of this report have been paid in full by the issuance of Refunding Bonds Series 2009 in the amount of \$23,375,000. Outstanding principal on revenue bonds totaled \$170,745,000 as of December 31, 2008 and is summarized in the table on the following page.

Drainage Department

In 1966 three constitutional amendments, Acts No. 565, 566, and 567 were enacted by the Louisiana Legislature and subsequently approved by the State's voters. Act No. 565 authorized the City of New Orleans to levy a three-mill ad valorem tax, effective January 1, 1967, to be used solely for operations and capital costs of the drainage system. Provision for issuance of bonds repayable solely from the three-mill tax was also included in the Act. In 1967, the Board issued \$15,000,000 of three-mill tax bonds. These bonds were fully retired in 1992. Under the Louisiana State Constitution, all assessments beginning in 1978 were equalized, with residential property assessed at 10 percent of its market value and commercial and personal property assessed at 15 percent of market value. The constitution also provides that no tax revenues shall be lost by reassessments; thus, it has been necessary to revise the millage rates in effect at various times. If reassessment results in a lower tax base, the millage rate may be adjusted upward. If a larger tax base results, the millage rates must be rolled back. However, by state law, the City Council, upon request and after a public hearing, may increase the millage rates to the prior year's level. The three-mill tax rate, 6.01 mills since 1988, was increased to 6.40 mills in 1992 due to reassessment, and remained at that level through 2008.

Passage of a referendum in April 1977, authorized the collection of an additional six-mill, ad valorem tax for drainage purposes, effective January 1, 1978. The six-mill ad valorem

| Outstanding Sewerage Utility Debt Issues | | |
|--|-----------------|---------------------------|
| Description | Issue Amount | Amount Outstanding (a) |
| | \$ | \$ |
| Revenue Bonds | | |
| Series 1997 | 30,000,000 | 17,685,000 |
| Series 1998 | 25,000,000 | 15,625,000 |
| Series 2000A | 26,800,000 | 19,585,000 |
| Series 2000B | 20,300,000 | 14,905,000 |
| Series 2001 | 37,720,000 | 24,435,000 |
| Series 2002 | 57,000,000 | 45,740,000 |
| Series 2003 | 5,500,000 | 4,490,000 |
| Series 2004 | 33,000,000 | 28,280,000 |
| Total | 235,320,000 | 170,745,000 |
| Bond Anticipation Notes | | |
| 2004 BANs (b) | 25,200,000 | |
| 2004 Refunding BANs (b) | 111,800,000 | |
| 2005A BANs | 137,000,000 | |
| 2006 BANs (c) | 24,030,000 | 24,030,000 |
| Total | 298,030,000 | 24,030,000 |
| (a) As of December 31, 2008 | | |
| (b) Paid in full by 2005A BANs. | | |
| (c) Paid in full by 2009 Refunding Bonds in July 2009. | | |

tax was increased to 6.09 mills in 1988 and to 6.48 mills in 1992 due to reassessment and remained at that level through 2008. In 1978, the State Legislature authorized a debt limit of \$18,000,000 as sought by the Board of Liquidation, City Debt. That debt limit was eliminated by Legislative action in 2003. The Board issued \$18,000,000 in Series A, six-mill tax bond in November 1978. During 1994 the Board issued Drainage System Refunding Bonds, Series 1994, for the purpose of refunding the six-mill 1978 bonds. The 1994 bonds were considered to be an obligation of the six-mill ad valorem tax revenue and have been repaid.

In 1980, a constitutional amendment, Act No. 844, authorized an increase in the exemption of each homestead from ad valorem taxes from \$5,000 to \$7,500, and provided for periodic reassessment.

In 1981, a nine-mill ad valorem tax was approved and became effective January 1, 1982. The purpose of the nine-mill tax levy is to provide funds for the operation, maintenance, and construction of the drainage system. State law set the authorized debt limit for nine-mill bonds at \$68,000,000. That debt limit was eliminated by Legislative action in 2003. The Board sold

nine-mill bond issues of \$22,000,000 in 1982 and \$30,000,000 in 1983. In 1986, \$12,525,000 Drainage System Bonds Series 1986A and \$15,755,000 Drainage System Bonds Series 1986B were authorized and sold for the purpose of refunding a portion the 1982 nine-mill bonds and a portion of the 1983 nine-mill bonds, respectively.

In 1992 the Drainage System Bonds, Series 1982, was fully refunded, and beginning in 1993, debt service payments on the Drainage System Bonds, Series 1986A was paid from nine-mill tax revenue. In 1993, proceeds from the Drainage System Bonds, Series 1986B fully refunded the Drainage System Bonds, issue of 1983, and the debt service on these bonds became the obligation of nine-mill tax revenue. All Series 1986A and Series 1986B bonds have been retired. In 1998 nine-mill bonds in the amount of \$10,000,000 were issued and as of December 31, 2008, the outstanding balance was \$6,175,000. Additional nine-mill bonds in the amount of \$20,000,000 were issued in 2002, bringing the total of six-mill and nine-mill Drainage System Bonds outstanding as of December 31, 2008 to \$22,710,000.

In 1988, reassessment caused the nine-mill ad valorem tax to be increased to 9.13 mills, and it was increased due to reassessment again in 1992 to 9.71 mills remained at this level through 2008. A reassessment occurred in 1999, which effectively increased millage receipts by approximately 10 percent.

Collection of the three-mill ad valorem tax levy is authorized until the year 2017; six-mill tax until 2028; and nine-mill tax until 2032.

General

In July of 2006 the Board entered into a Cooperative Endeavor Agreement with the State of Louisiana to secure proceeds from the State's Gulf Opportunity Tax Credit Bond Loan Program to assist in payment of debt service requirements from 2006 through 2008. As of December 31, 2008, the Board had borrowed \$77,465,247, which was the total amount available to the Board. Of that amount, \$31,500,000 was used to make a partial payment on the Sewerage Service Refunding BANs Series 2005A that matured on July 26, 2006. The remaining \$45,965,247 was used to make debt service payments on the Drainage System special tax bonds, the Sewerage Service revenue bonds, and the Water revenue bonds that were due on December 1, 2006; June 1, 2007; December 1, 2007; and June 1, 2008.

The Board provides free water and sewer services to the City of New Orleans and its public institutions as mandated by state law in accordance with R.S. 33:4096 and R.S. 33:4121, respectively. During 2008, the Board provided 981,283,000 gallons of water free of charge to agencies of the City of New Orleans. The value of this free water, at current rates, is \$1,447,828.64. The value of the sewerage charges is \$2,394,062.19.

The three revenue-generating public agencies - the New Orleans Museum of Art, City Park, and Audubon Park – continued to receive free water under “caps”, or maximum annual limits, established by the Legislature in 1982. The Museum of Art used 2,534,200 gallons or 19,600 above its annual “cap” of 2,553,800 gallons. City Park used 417,924,900 gallons or 182,601,500 above its annual “cap” of 235,323,400 gallons. Audubon Park used 102,106,300 gallons or 137,893,700 gallons below its annual “cap” of 240,000,000 gallons.

The Sewerage and Water Board and the Orleans Parish School Board (OPSB) reached an agreement effective July 1, 1992, whereby the schools would be charged for any water exceeding an allowance of six gallons per day, for 365 days per year, for each student enrolled and any other person regularly assigned to that campus or facility. The allowance was lowered to four gallons per day effective July 1, 1993.

Sources of Financial Data

Financial information included in this report is obtained from audited financial reports provided by the Board.

Summary of Findings

This section contains a summary of the financial operations of the Water, Sewerage, and Drainage Departments for the year 2008. Projections of future operations are also presented as a basis for determining the adequacy of present revenue sources to finance projected operating expenses and proposed capital program costs of the respective departments.

The statistical data maintained by the Board includes the compilation of detailed information on water sales and revenues. Information provided for 2008 includes a summary of the number of bills issued, billed volume, and revenues by customer class for both the Water and Sewerage Departments.

Under the current budget code system, costs are identified by general functional categories. Supplemental accounts are used for internal purposes to identify the cost in each functional category that is incurred for personal services, services and utilities, material and supplies, replacement and maintenance, and other special charges.

Water Department

Water Revenue Bond Resolution Requirements

Sewerage and Water Board financial operations for 2008 have complied with the requirements set forth in the 1998 and Supplemental Water Revenue Bond Resolutions with the exception of debt service coverage in 2008 due to reduced revenues and increased operating expenses resulting from their continuing recovery from Hurricane Katrina. It is anticipated that

the Board will not meet debt service coverage in 2010 through 2013 with the existing revenue increases that were approved by the City Council in October of 2007. The Board may wish to consider additional annual revenue adjustments to meet the parity bond debt service coverage tests for each year of the study period.

Summary of 2008 Operations

Based upon a tabulation of water bills rendered during the year, the Water Department provided water service to an average of 102,575 regular billed customers and 896 governmental accounts, the latter of which are served without charge. According to the December 31, 2008 Comprehensive Annual Financial Report, of the 52,656.3 million gallons of water pumped by the Department during the year, 13,283.6 million gallons were sold, 981.3 million gallons were metered to customers without charge, treatment plant process water totaled 618.1 million gallons, and unmetered uses accounted for the remaining 37,773.3 million gallons. Unmetered water uses include fire protection; flushing streets, sewers, and drains; chlorinating and flushing new water mains; construction of streets; Sewerage and Water Board plant uses; and unaccounted for system losses.

The total revenue from water sales, delinquent fees, interest income and other income increased approximately 14 percent from \$40,038,704 in 2007 to \$45,797,672 in 2008. Operation and maintenance expenses (excluding claims paid) increased from \$58,756,829 in 2007 to \$66,778,929 in 2008. After adding claims of \$210,155 and debt service payments of \$3,585,096, a net deficit balance of \$24,272,440 was incurred.

Ability to Finance Future Operations and Proposed Improvements

A summary of projected financial operations of the Water Department for the period 2009 through 2013 is shown in Table 11 of the report. Revenues shown on Line 1 of Table 11 are based on rates that became effective July 1, 2008. A *Report on Revenue Requirements, Costs of Service and Rates for Water Service* was issued in April of 2005. The series of revenue increases proposed in that study were approved by the City Council on October 4, 2007 and are shown on Lines 2 through 6 of Table 11 with the exception of the first two increases which went into effect November 1, 2007 and July 1, 2008. The existing rates along with the proposed revenue increases will generate sufficient revenue to meet projected operating expenditures during the study period, as shown respectively on Line 29 of Table 11; however, they will not generate sufficient revenue to meet debt service coverage in 2010 through 2013.

Because additional revenue bonds cannot be issued at this time due to the debt service coverage tests shown in Table 11, it is anticipated that funding will be insufficient for the adopted capital program and a deficit net End of Year Balance in the capital fund is shown on

Line 41 of Table 11. The Board is actively pursuing additional funding from FEMA for projects for which capital project worksheets have not yet been completed.

The Board may wish to take into consideration additional annual revenue adjustments to meet the parity bond debt service coverage tests for each year of the study period and to provide a funding source for the adopted capital program.

Sewerage Department

Sewerage Service Revenue Bond Resolution Requirements

Sewerage and Water Board financial operations for 2008 have complied with the requirements set forth in the 1997 and Supplemental Sewer Revenue Bond Resolutions.

Summary of 2008 Operations

Sewerage Department revenues for 2008 of \$63,841,782 increased approximately 9 percent from \$70,361,496 in 2007. Operation and maintenance expenses (excluding claims paid) increased from \$38,769,004 in 2007 to \$42,367,349 in 2008. After adding claims reflecting a credit of \$231,762 and debt service payments of \$7,335,564, a balance of \$14,370,631 was available for capital related expenditures in 2008, unadjusted for depreciation.

Ability to Finance Future Operations and Proposed Improvements

A summary of projected financial operations of the Sewerage Department for the period 2009 through 2013 is shown in Table 22 of the report. Revenues shown on Line 1 of Table 22 are based on rates that became effective July 1, 2006. To meet the total projected revenue requirements through 2013 additional revenue increases are indicated as follows: July 1, 2012, 5 percent and July 1, 2013, 5 percent. No additional revenue increase is indicated for 2009 through 2011. The existing rates along with the proposed revenue increases will generate sufficient revenue to meet projected operating expenditures and required debt service coverage tests during the study period, as shown respectively on Lines 29 and Lines 48 through 51 of Table 22.

It is anticipated that the Capital Projects will be funded from the issuance of revenue bonds and operating revenues. Revenue bond proceeds are shown on Line 31 of Table 22. The net End of Year Balance is shown on Line 47.

The Water Department has borrowed funds from the Sewerage and Drainage Departments in order to fund operating expenses. As of December 31, 2008, the Water Department had borrowed approximately \$21,398,000 from the Sewerage Department. In July, Black and Veatch prepared a consulting engineer's report for inclusion in the Official Statement prepared in connection with issuance by the Board of the Sewerage Service Refunding Bonds

Series 2009. At that time, the amount of funds on hand to finance capital projects included the entire amount that the Water Department owes to the Sewerage Department. As of the issue date of this report, the Water Department has reimbursed the Sewerage Department \$5,000,000; therefore, the amount of funding available for capital projects has been reduced by \$16,398,000 since the issuance of the Series 2009 bonds. As a result, Line 47 indicates that the Board does not have sufficient funding for the proposed capital projects in 2009 and 2010.

The Board is currently considering increasing non-rate related fees in order to generate additional revenue. The proposed increases will generate approximately \$3 million additional revenue per year. While this revenue will be allocated 50 percent to the Water Department and 50 percent to the Sewerage Department, it is anticipated that the Water Department will transfer this additional revenue to the Sewerage Department as reimbursement towards the amount previously borrowed for operating expenses. It is also anticipated that the Sewerage Department will use this additional revenue to fund capital projects. Additionally, the Board is actively pursuing additional funding from FEMA for projects for which project worksheets have not yet been completed.

Drainage Department

Summary of 2008 Operations

Total revenues received from all sources including interest income and two-mill ad valorem tax receipts totaled \$43,075,847 in 2008, a decrease of approximately 7 percent from \$46,227,574 reported for the same sources in 2007. Total operation and maintenance expenses increased about 6.5 percent from \$26,742,028 in 2007 to \$28,491,530 in 2008. After adding claims of \$609,072 and debt service payments of \$1,659,888, a balance of \$12,315,356 was available for capital related expenditures in 2008, unadjusted for depreciation.

Ability to Finance Future Operations and Proposed Improvements

An analysis of financial operations projected for the Drainage Department for the period 2009 through 2013 is summarized in Table 32 of the report. Revenue from the three-mill, six-mill, and nine-mill ad valorem taxes may be used for operating expenses, debt service, and capital expenditures.

The analysis indicates that current revenue sources are adequate to meet operation and maintenance expenses and total debt service on the existing 1998 and 2002 bond issues for each year of the study period as well as debt service on new bond issues totaling \$620,700,000. The limits on bonds that can be outstanding under the 6 and 9 mill levies were removed by the State Legislature in 2003.

Other Findings

The Board's analysis of power purchased and produced is shown in the supplemental section of the 2007 Comprehensive Annual Financial Report. In 2008, approximately 76.4 million kilowatt hour (kWh) of power was purchased and 40.4 million kWh of power was generated.

On a unit cost basis, the average cost of purchased power has increased over the past five years from about 8.01¢ per kWh in 2004 to about 14.8¢ per kWh in 2008. During the same period, the Board's unit cost for generated power has increased from about 33.1¢ per kWh to about 34.8¢ per kWh. The cost of Board generated power is almost 2.4 times higher than that of purchased power. The cost of fuel to generate power in 2008 amounted to approximately 47.3¢ per kWh.

In conducting our analyses and in forming an opinion of the projection of future operations summarized in this report, Black & Veatch has made certain assumptions with respect to conditions, events, and circumstances that may occur in the future. The methodology utilized by Black & Veatch in performing the analysis follows generally accepted practices for such projections. Such assumptions and methodologies are summarized in this report and are reasonable and appropriate for the purpose for which they are used. While Black & Veatch believes the assumptions are reasonable and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that actually occur.

Subject to the limitations set forth herein, this report is based on information not within the control of Black & Veatch. Black & Veatch has not been requested to make an independent analysis, to verify the information provided to us, or to render independent judgment of the validity of information provided by others. As such, Black & Veatch cannot, and does not, guarantee the accuracy thereof to the extent that such information, data, or opinions were based on information provided by others.

Facilities Evaluation

Operation, Maintenance, and Reconstruction

This section summarizes the findings of the on-site inspections of Sewerage and Water Board (Board) facilities conducted by the Black & Veatch and Julien Engineering team (team) from March 23, 2009 to March 27, 2009. Site visits were conducted at the water and wastewater treatment plants, Carrollton power plant facilities, Central Yard facilities, and a majority of the above-ground water, sewer and drainage facilities to evaluate their condition and operating capabilities. Interviews were conducted with management and supervisory level Board personnel to assess the current status of the operations of the various facilities.

Introduction

The Operations Division of the Board is comprised of four departments: Water Purification, Sewage Treatment, Water Pumping and Power, and Drainage and Sewerage Pumping.

The Carrollton and Algiers water purification plants, operated by the Board, purify raw water from the Mississippi River and supply potable water to the City's residents. The Carrollton plant currently purifies approximately 130 million gallons per day (mgd) of water for the East Bank of Orleans Parish. The Algiers Plant, which serves the predominantly residential West Bank portion of the parish, purifies about 11 mgd of water. The treated water from the two plants is pumped through approximately 1,610 miles of mains to the service connections within the City.

The Board also has two sewage treatment plants, one on the East Bank and one on the West Bank. The West Bank Sewerage Treatment Plant has a treatment capacity of 20 mgd (dry weather) and serves the west bank community of New Orleans. The East Bank Plant has a treatment capacity of 122 mgd (dry weather) and treats sewage from the East Bank community. Both plants were built in the 1970s. The West Bank Sewerage Treatment Plant and East Bank Sewerage Treatment Plant have been upgraded or expanded to increase reliability or meet growing population demands within the community. The plants are currently operated by a contract operator, Veolia Water.

Sewage is conveyed to the two treatment plants via a force main system. These systems receive their flow from gravity collection systems, consisting of several miles of lateral and trunk sewers and 84 electrically operated pumping and lift stations. Sewage pumping Stations A and D on the East Bank and Station C on the West Bank are attended stations. Sewage Pumping

Station A houses a supervisory control and data acquisition (SCADA) system that monitors the operation of all the other stations.

The Board also has responsibility for operating and maintaining the 24 major drainage pumping stations in New Orleans. Typically, the majority of those stations are manned. There are also 12 underpass stations, each with multiple pumps that turn on automatically by increasing water level. These pumps are checked regularly and are monitored by field personnel during rain events.

The 25 cycle power plant operated by the Board provides power for portions of the water purification plant and about 60 percent of the drainage pumps' power needs. The following sections provided a summary of each operation department within the Board.

Staffing Issues

Staffing levels within the Board have increased and with the downturn in the economy there has been an opportunity for the Board to add staff due to a larger labor pool in the local area. In more technical areas such as engineering, machinist, and electrical there is still a shortage of personnel within the respective departments.

In an effort to alleviate the personnel issues, the Board has suspended the domicile policy, which required the Board employees to live in the City of New Orleans. This will allow personnel hired by the Board to live outside the city. This action allows the Board to recruit from a wider base, and provides employees with a greater sense of stability.

The City Council initially waived the domicile policy for a period of three years in 2005, but the Council has decided to waive the policy for an additional three years since the policy expired. Many departments are actively recruiting from local college campuses, career job fairs, and trade schools to fill vacancies.

Water Purification Plants

The Black & Veatch team was accompanied on the facility tours by the Superintendent of Water Purification operations. The Carrollton and Algiers water purification plants are currently operational and are producing water which meets the Federal Drinking Water Standards. Treatment systems at both plants are operational and functioning well and continue to produce water for the East and West Bank.

Carrollton Water Purification Plant

The Carrollton plant, which has a design capacity of 232 mgd, is treating approximately 130 mgd of water for the East Bank of Orleans Parish. The water treatment process at the plant consists of flocculation with a polymer and ferric sulfate, followed by pH adjustment with lime.

The flocculated particles are allowed to settle in two sedimentation basins. The settled solids are removed from the sedimentation basins by traveling mechanical rakes and discharged into the Mississippi river. The clarified water is disinfected by adding free chlorine. Anhydrous ammonia is then added to aid the formation of chloramines for residual disinfection. Additional settling time and disinfection contact time is allowed in the secondary settling basins. Further, the water is treated with sodium hexametaphosphate for pipe corrosion control and hydrofluorosilicic acid for fluoride addition. The final step in the treatment process is filtration where the water is filtered through rapid sand filters. Finished water from the plant is pumped out to the service areas.



Figure 1. Carrollton Water Purification Plant

As a result of the leaks in the water distribution system, the Carrollton plant is currently treating approximately 130 mgd of water in spite of serving only about 70 percent of the pre-Katrina population. The additional water treated is driving up the operating costs. In addition, chemical costs are increasing due to higher transportation cost and demand for chemicals, although, recently costs have decreased as the economy has hit a downturn in the last 6 months. At present, the Board is feeding all chemicals at appropriate dosages and maintains chemical storage at each site. At times it has been difficult to get fluoride delivered due to limited supplies of the product. A couple days each month out of the past year fluoride was not fed to the process water, due to chemical supply problems, but this does not affect the quality of water as fluoride is purely for preventative public health purposes rather than required treatment.

Staffing is adequate at the plant for at least the next five years as indicated by the plant superintendent. The plant has added staff laborers, but the plant needs to hire operators with higher level licenses to fill the gaps of personnel who will retire within the next few years.

Problems persist in maintaining adequate pressure in the distribution system due to leaks in the distribution network. Normal system pressure is 70 pounds per square inch (psi), but has

been limited to 65 psi to control the loss of water through leaks in the distribution system. The water delivery pressure has been consistent throughout the last year with no major problems.

Improvements completed over the previous year at the plant are as follows:

- The staff is close to finishing G3 sedimentation basin rehabilitation and the basin should be back in service within the next few months.
- Design for a new disinfection storage and feed facility is 90 percent complete which includes a second chlorine and ammonia addition point for an emergency chlorine addition point.

Maintenance and/or improvement projects that the Board has planned on existing facilities include:

- A hydraulic leak between sedimentation basin L4 and chlorine contact basin C5 is to be investigated and rectified. Currently, L4 is out of service and chlorine contact basins C5/C6 have been drained. The chlorine contact basins need to have the sediment removed and cleaned prior to fixing the leak and placing the basins back in service.



Figure 2. Sediment buildup in Chlorine Contact Basin C5/C6

- A second sludge line to the river is approximately 65 percent designed, but awaiting funding. This will add redundancy and flexibility to the operations.
- New sodium hypochlorite chemical feed system design is 90 percent complete, but awaiting funding.

- Head loss pressure cells are to be added to the filters to monitor pressure loss through the filters. Currently, approximately 10 percent of the filters have been retrofitted with head loss pressure cells.
- Repairs to the L4 flocculation equipment and mono-rake system.
- Repairs need to be completed on the chemical feed building.



Figure 3. Chemical Feed Building

- Resumption of the filter rehabilitation program which had been suspended due to limited funds.

Algiers Water Purification Plant

The Algiers plant has a design capacity of 40 mgd. The treatment process at the plant is similar to that at the Carrollton facility, utilizing the same chemicals with a slightly modified application scheme in the upflow clarifiers. Currently, the plant is treating approximately 11 mgd of water and is serving the predominantly residential West Bank portion of the Parish.



Figure 4. Algiers Water Purification Plant

The facility has purchased a sodium hypochlorite generation system, which is currently ready for commissioning. Other improvements needed or ongoing at the plant include the following:

- The SCADA system is out of service and is impacting monitoring capabilities at the plant. Currently, the system is being upgraded and should be repaired in the near future.
- The plant staff has discovered sediment in the bottom of the finished water storage tanks. The tanks should be taken out of service one at a time and cleaned, disinfected, and put back in service.
- The ferric system will be moved from the River Intake Station to the plant site. Currently, the containment area has been built for the chemical storage tanks.
- The circular sedimentation basins require some minor repairs to the flocculation drives and corrosion protection.

Water Quality Laboratory at the Carrollton Plant

The water quality laboratory conducts daily analyses of the river water quality and purified water. Water samples from the distribution network are also analyzed regularly. The lab continues to meet the mandated analytical requirements of the water plants and is certified by the Louisiana Department of Health and Hospitals for analysis of coliform bacteria.

In addition to coliform analysis, the lab also collects samples for protozoan analysis. Other regular analyses include hardness, turbidity, fluoride, ammonia, pH, alkalinity, and chlorine residual at different stages of treatment. The solids are analyzed for total suspended solids and total dissolved solids concentrations. River water and finished water samples are analyzed for volatile organic compounds.

The lab continues to maintain its involvement in the Early Warning Organics Contamination Detection System (EWOCDS) run by the State DEQ, although, several of the upstream stations have been unreliable and the State of Louisiana has underfunded the program. Monitoring stations connected by telecommunications notify DEQ if any of the 60 listed pollutants are detected in the river water samples. The DEQ disseminates the information to the program participants, allowing an early warning of possible problems. The EWOCDS equipment is maintained at all participating locations by the DEQ and the program participants provide manpower to collect and run the samples.

Currently, the laboratory is staffed with one microbiologist, three chemists, two technician, and two sample collectors. Staffing levels have increased within the laboratory due to the current economic climate and a successful recruitment effort.

Water Pumping and Power

The primary function of the Water Pumping and Power department is steam production and the generation of 25 Hertz power. The facilities at the Carrollton power plant include three steam turbines and one gas turbine for a total theoretical capacity of 61 megawatts (MW). The steam required for the turbines is generated in the five boilers that remain from the original six (boiler 2 has been removed and a new boiler is being installed to replace it) with a total capacity of 650,000 pounds of steam per hour.

The generating station at the Algiers facility is capable of generating 60 cycle power using diesel generators. The facility can generate enough power to support operations at the Algiers plant and one drainage pumping station. The station is also capable of performing a frequency change from 25 cycle power supplied from the Carrollton power plant to 60 cycle power.

At present, total capacity of the Carrollton power plant is 43 MW. Turbine 4 was repaired, but has since stopped working which has reduced the capacity of the plant to the present 43 MWs. The new Boiler No. 2 is in the process of performance testing and should be in service within the next 60 days.



Figure 5. Turbine 4 and Boiler 2

Additional work at the Carrollton power plant includes design and installation of a new high pressure natural gas line which gives the power plant the fuel for the future installation of the 15 MW 60 cycle generator at the plant site. The Corps of Engineers will build the new generator to supplement the current power available from Entergy to serve the plant, the raw water intake stations, and additional drainage station capacity. Of the two steam-driven distribution pumps located at the power plant, one is in the process of being reconditioned, and the other is scheduled to be reconditioned when funds are available.

All roof damage has been repaired at the main Carrollton power plant and West Bank Power Control building. All the pumps at the New River Station have been reconditioned and

are in service. A study was performed by an engineering consultant on the Old River Station. The pumps are in need of reconditioning and the inlet to the plant needs to be cleaned as debris has blocked most of the intake to the water pumps.

Currently, the Corps of Engineers is in the planning stages of adding a levee system around the Carrollton Plant which will protect the power plant and other plant assets during a flood event.

All of the water intake and effluent pumping stations are currently operational. Typically, the Claiborne pumping station and the two steam driven turbine pumps are adequate for pumping, with the Panola Station serving as a backup.

The water pumping and power department has 76 employees. Currently, there are 43 vacancies in the division, requiring staff to work some overtime. Additional hurricane damage related work primarily includes valve replacement, electrical items, and controls related items.

Sewerage Treatment Plants

The team visited both the East Bank and West Bank wastewater treatment plants, currently operated by Veolia Water. The team was accompanied by the plant superintendent. Currently, there is not a representative from the Board to oversee the contractor operator. Both the treatment plants were operational at the time of the site visits and were meeting the discharge limits according to the treatment plant personnel.

East Bank Wastewater Treatment Plant

The East Bank facility has a treatment capacity of 122 mgd (dry weather). Currently, the plant is receiving approximately 90 mgd flow which is 10 percent less than the amount of flow received in 2007 due to the efforts of inflow and infiltration mitigation efforts by the Board. The treatment facilities at the plant include bar screens, grit removal, pure oxygen activated sludge system, final clarification, and disinfection. The solids generated during sewage treatment are thickened, dewatered in belt filter presses, and incinerated. The Board is developing a plan for an alternative sludge treatment system to supplement the fluid bed incinerator (FBI).

The following list summarizes the findings at the plant:

- The lab functions are being done off site and the staff are occupying trailers. The Board has not split samples with the contract operator within the last year. The Board should consider splitting samples on a quarterly basis and more often if large discrepancies are observed.

- The representative for the Board to oversee the contractor operator has retired within the last year. The Board should hire a representative to work with the contract operator and review their operations on a routine basis.
- Damage to structures and equipment from salt water due to the hurricane. Most equipment has been repaired and is operational; although the final clarifiers show corrosion to the skimmer arms caused by salt water. The Board is currently in negotiations with FEMA to pay for the repairs. Final clarifier No. 6 is currently out of service due to the skimmer arm corrosion.
- The FBI is back in service for solids disposal and the multiple hearth incinerator is awaiting demolition. The Board is currently researching a beneficial reuse process as a back-up to the FBI. Alternatives for various systems have been evaluated and an alternative has been approved.
- Grit basin number six is out of service and is awaiting replacement of a bearing on the grit conveyor.
- Approval has been granted to add a waste heat recovery system for the FBI. It is expected 950 KW of power will be produced from a turbine generator with annual cost savings of \$750,000 to \$1 million dollars.
- One of the return activated sludge pumps is out of service at the South Pump House. Repairs are currently being performed and should be completed and the pump reinstalled soon.



Figure 6. RAS Pump Out for Repair

- A new drum screen has been installed for grease removal. The final clarifiers look significantly better as compared to last year since the grease has been removed via the new drum screen.



Figure 7. Drum Screen for Grease Removal

- At present a Request for Proposals has been released to design, purchase, and install an oxygen production facility at the plant. Oxygen is currently trucked in at significant cost and the new oxygen plant will reduce the cost of oxygen to the plant. The plant uses approximately 30 tons of oxygen a day.
- Water drainage from rain events and the air conditioning units is running off the roof of the solids handling building and causing corrosion to the side of the building. Downspouts should to be installed to eliminate the problem.
- A new 4 MW generator is to be designed, purchased, and installed on site to power the effluent pumps in the event of a power outage.
- In 2009 the Board anticipates bidding a project to raise the height of the berm (barrier) that protects the plant from flooding. The project, estimated to cost \$14 million will be reimbursed by FEMA.
- New brush systems to keep the weirs clean on the final clarifiers have been installed. A service contract has been instituted with the manufacturer of the brush system to maintain and replace the brush system. The service contract was for semiannual service, but it was found the brushes need to be replaced quarterly; therefore, the contract has been amended for quarterly preventive maintenance.

- Two new belt filter presses with a gravity zone have been added to the plant. Two existing belt presses will continue to be used.

At present the influent TSS and BOD concentration are approximately 120 milligrams per liter (mg/L) and 90 mg/L, respectively. This is significantly lower than normal concentrations, which is probably the result of a significant increase in the amount of inflow and infiltration in the collection system following the hurricane requiring treatment at the plant. Effluent quality has been adequate over the last year and the plant experienced zero permit violations last year.

West Bank Wastewater Treatment Plant

The West Bank facility has a treatment capacity of 20 mgd (dry weather). Currently, the plant is receiving approximately 10.5 mgd flow. The West Bank treatment facility consists of bar screens, primary clarifiers, trickling filters, final clarifiers, and disinfection. Primary and secondary solids are co-thickened in a gravity thickener and hauled to the East Bank facility for further dewatering at the belt filter presses.

Following is a summary of findings for the West Bank treatment plant:

- A new solids treatment building and belt filter press is currently at 30 percent level of design for the plant.
- A new sodium hypochlorite system including tanks and pumps is at 65 percent level of design.
- The thickener is currently out of service due to a scum collection trough failure. Repairs have commenced and it is expected to put back in service within a month. As a consequence, sludge hauling quantities have increased.



Figure 8. Solids Thickener

- New drainage pumps are to be installed as the old pumps are not reliable.



Figure 9. Site Drainage Pumps

The monthly average TSS and BOD influent concentration are approximately 150 mg/L and 150 mg/L, respectively. Treatment at the plant is very good for a trickling filter plant as the monthly average effluent TSS and BOD concentration has been approximately 12 mg/L and 10 mg/L, respectively. The plant capacity is adequate for the long term needs of the area. Staffing levels are adequate and the facility and grounds are well maintained.

Sewage and Drainage Pumping Stations

The sewage pumping and lift stations convey sewage through the gravity and force main systems to the East Bank and the West Bank wastewater treatment plants. Damage was extensive to the sewer pump stations within the East and West Bank due to the hurricane. Currently, 100 percent of the population is being served, but some areas are using portable pumps until the stations are repaired. It is anticipated the repairs to the sewer stations will be paid for by FEMA funding. In order to receive these funds, the stations have to be repaired to pre-Katrina conditions. Most stations are located below ground and the rehabilitated stations will be vulnerable to flooding. The Board wishes to elevate most of the stations so that this does not occur again. The Board is currently in negotiations with FEMA to elevate the stations or perform other flood mitigation measures at the station with the funds that will be provided by this agency. This would ensure continuous operations of all stations during flooding events. The Board has retained the services of consulting engineers for program management and design for the sewerage stations to complete the work necessary to restore the pump stations.

The Board also has responsibility for operating and maintaining the 24 drainage and 12 underpass pumping stations in New Orleans. The drainage stations also suffered significant damage from the hurricane related flood waters. Most motors have been rewound and are in service within the drainage stations. Drainage station 3 contains 1 storm proof pump. It is estimated that flood mitigation efforts such as this will take place at several drainage station during the current year.

Post-Katrina federal legislation requires the Corps not only to repair the stations damaged by Katrina, but also to ensure that they are outfitted to remain operable during and after future storm events. Stormproofing pump stations will ensure that pumps remain operable and that station operators can safely stay on the job during a storm event. The Corps is providing 100 percent funding, valued at \$40 million, for electrical, mechanical and structural upgrades to the drainage stations. There are various alternatives under consideration for the implementation of an effective drainage system within East Bank Orleans Parish.

The team visited 82 sewage pumping and sewage lift stations and 23 drainage pumping stations. A summary of the sewage pumping stations and the drainage pumping stations visited by the team is included in the Appendix.

Maintenance

The facility Maintenance Department provides major electrical and mechanical maintenance for all Board facilities except the contractor operated wastewater treatment plants. The Maintenance Department has the specialized equipment to maintain the plant process equipment, drainage stations, sewer lift stations, power generation equipment, and water meter servicing. Automated lathes and mills provide the department with the ability to fabricate parts when replacement parts are excessively expensive or no longer available. However, lack of an adequate number of trained personnel has hampered the capabilities of the department.

The Maintenance Department had 128 authorized positions. Only 60 positions are currently staffed with most of the highly skilled areas remaining vacant. To compensate for the limited work force, overtime is necessary and more work is being contracted out than before to contractors. Now the department is facing a situation where they do not have enough personnel to supervise or assist contractors. The department is actively recruiting at job fairs and trade schools to hire additional workers to staff the department.

All maintenance equipment is well maintained and adequate to do the work in-house.

Engineering

The Engineering Department includes mechanical, electrical, civil, construction administration and inspection, drainage, and network engineering. The department administers

major contracts throughout the City and coordinates with other agencies for the design and construction activities impacting Board maintained facilities. The Engineering Department was also in charge of overseeing the Sanitary Sewer Evaluation and Rehabilitation Program (SSERP), a \$640 million program that was in place to upgrade facilities within the sanitary sewer network for the City prior to the hurricane.

Following is the status of some of the contracts administered through the Engineering Department:

- Emergency contracts issued for leasing and purchasing portable diesel pumps for the sewage pumping stations that sustained damage from the flood waters.
- The contract for installation of the sodium hypochlorite generation system has been awarded and contractors are in the process of installing the system at the Algiers water treatment plant.
- Contracts issued for repairing roofs of non-critical facilities.
- A solids discharge line to the Mississippi river is currently in design and at present is 65 percent completed.
- Review of design for a sodium hypochlorite storage and pumping system at the Carrollton Water Purification Plant.
- Review of design for new belt filter presses at the West Bank Sewerage Treatment Plant.
- A 100 percent design of a 15 MW diesel generator was completed in June 2009.

Currently, the engineering department is in the process of working with the Corps of Engineers on storm proofing projects by identifying the most critical needs and addressing those. At present, 15 storm proofing projects have been identified and are currently in various stages of design. The value of the projects is approximately \$150 million.

Networks

The Networks Department is charged with maintaining the sanitary sewer system, the major drainage system, and the potable water distribution system. The water distribution network that was damaged by uprooted trees and other debris during Katrina has still not been fully repaired. Consequently, the Carrollton plant is currently purifying approximately 130 mgd of water in spite of serving only about 70 percent of the pre-Katrina population. Service has been restored to all affected areas.

According to Board personnel, the biggest challenge in restoring normal operations at the water purification plants has been the detection and repair of leaks in the distribution system.

The Board, with the aid of contractors, is currently conducting a system evaluation of the piping system to detect leaks. The Board is employing engineering approaches and has planned an evaluation of a leak detection system over 40 miles of pipeline using acoustic leak detection techniques. A contractor has been hired to use acoustic technology to determine leaks in large water mains of greater than 20 inches in diameter.

Over 24,000 leaks have been repaired in the last year. Manholes are being inspected as an ongoing inspection of the sewer system. A phase II assessment of the system has been instituted to continue inspecting all reaches of the collection system.

The water and sewer line inspections completed to date have primarily focused on areas which were under water after the hurricane, but the inspections have been expanded to other areas. The projected costs for repairs to the water distribution system are \$10 to \$20 million.

The Networks department works in conjunction with the fire department to monitor and maintain all fire hydrants. The Networks Department has resumed inspecting all the fire hydrants within the system. All the hydrants in the City have been assigned an identification number and have been mapped. The fire hydrants program requires the 16,500 fire hydrants in the database to be inspected every two years to supplement the annual inspection cycle of the fire department.

The networks department administers the paving contract and has completed over 3,000 paving projects since July 2007 by contractors. Networks has several maintenance contracts to assist with the maintenance of the water distribution, wastewater collection, and drainage stations. This has increased the workload in the department.

Support Services

Fleet Management

The Board has 529 pieces of rolling stock, which includes trucks, backhoes and sewer cleaning equipment. Approximately, 140 pieces are at least 13 years old and will be in need of replacement in the next few years. The Board has plans to purchase approximately 171 pieces of heavy equipment worth \$8 million. This order will be funded with FEMA monies designated to replace equipment. Some of this new rolling stock will replace the older pieces of equipment. The new equipment includes vacuum trucks, trailers, crew trucks, backhoes, etc. The available equipment is being assigned to the various departments based on need of the operations departments.

Based on the information obtained from the Fleet Manager, it is expected to take up to two years to acquire all the equipment needed for normal functioning of the Board maintained facilities.

The Department has 145 total staff on their payroll and is adequately staffed based on the current needs of the Board. Large mechanical work and some ground maintenance functions have been contracted out to other firms. In particular, the ground maintenance contract is for 2 years with an option for a third year. Currently, the contract is in the second year and it is expected the third year option will be exercised following this year. After the contract expires the Board expects to resume performing those functions in house.

In addition, Garage 1 and Garage 2 are in design phase and are slated to be built within the next year. The Main Warehouse is currently under going renovations and the warehouse construction activities should be completed by this year. The Old Warehouse status is still to be determined based on engineering assessment and funding from FEMA.

Environmental Affairs Department

The Environmental Affairs Department oversees the consent decree and all administrative orders. They also undertake special projects for the Executive Director's office and report sewer bypasses and overflow to Region 6 Environmental Protection Agency.

Some of the activities being undertaken by the department include:

- Taking the lead among other agencies to ensure wastes are disposed of in an environmentally friendly manner and assisting State agencies with environmental clean up.
- Providing technical assistance to the pumping station crews.
- Permit compliance in water, wastewater, solid waste, and underground storage tanks.

The department is short on supervisors and the head of the department is to retire within a few years. A succession plan should be established for key personnel within the department.

In 2006, the Board received \$400,000 from the Delta Regional Authority (DRA) to develop feasibility and pre-design for a wetlands restoration project. The project will develop the largest form of sustainable infrastructure in the world – storm protection for Orleans and St. Bernard Parishes and restoration of 10,000 acres of critical cypress wetlands. The Environmental Affairs Department was also able to obtain a \$10 million grant from the state's Coastal Impact Assistance Program (CIAP) to construction the first phase of the estimated \$65 million wetland assimilation project. Construction of the project has commenced with a 20-acre demonstration project adjacent to the East Bank Sewerage Treatment Plant. Ground breaking is expected in November 2009.

Status of the Consent Decree

The Board is currently complying with the EPA Region 6 and Department of Justice Consent Decree that requires cessation of unauthorized discharges and the development of a schedule for repairs to both the collection system and the treatment plant.

The Board is currently negotiating the deadline to prepare a plan and schedule for achieving compliance with the Consent Decree at pre-Katrina Levels, although, major portions of the consent decree are in negotiations. A phased approach has been suggested by the EPA in response to the Board's claim for unanticipated delays and violations of the Decree due to the hurricane. Some of the provisions outlined in the document include:

- The quarterly reporting requirements have been submitted regularly.
- The Sewage Overflow Action Plan (SOAP) described in section XIII of the Decree requires the Board to respond to all reported sewage overflows and bypasses within four hours of receiving the call. The EPA acknowledged the fact that it would be difficult to respond to all notices within four hours with the reduced workforce. Hence, the Board will not be deemed to be in violation of the SOAP and no penalties will be assessed as long as the Board responds to notices of unauthorized discharges within 24 hours.

The Board is in compliance with the EPA Consent Decree as it has met every construction and reporting deadline in the decree and has had no fines relative to construction or reporting schedules.

Summary of Findings

- The Board has a good understanding of the existing condition of the water and sewage treatment facilities and is aware of the immediate needs within each department and area addressing those needs as funding is available.
- The distribution network and the sanitary sewer collection system present the two biggest challenges and are being addressed in a systematic manner with the aid of contractors. It has been stated that it could take 3 to 5 years for the Board to restore the water distribution network and the sewage collection system to pre-Katrina condition. Significant progress has been made over the last year and the wastewater treatment plant has seen a decrease in influent flow by 10 percent related to collection system repairs.
- The Board is servicing 100 percent of the population within the collection system. The Board is currently utilizing portable diesel pumps at some of the sewer pump stations

- due to the hurricane damage. Only 25 of the 66 sewerage pumping stations are on local utility power with the remainder relying on diesel generators or diesel pumps.
- The Corps of Engineers has installed temporary drainage pumping systems at Lake Ponchartrain to prevent storm surge from entering the City of New Orleans during a flood. Ongoing discussions are taking place for permanent drainage stations. Several alternatives are being evaluated at this time.
 - In an effort to alleviate the personnel issues, the Board has suspended the domicile policy, which required Board employees to live in the City of New Orleans. This will allow personnel hired by the Board to live outside the City and retain the right to receive promotions during the suspension and after the suspension expires. In addition, the Board should consider succession planning for key areas of the operations where personnel are close to retirement age. This will allow for easier transition of daily responsibilities once retirements are announced.
 - The Board received a \$400,000 grant by the Delta Regional Authority for initial feasibility of wetland wastewater assimilation for the East Bank Sewerage Treatment Plant. This feasibility study is complete. A follow up to the successful feasibility study is a \$2.6 million pilot study awarded by the Coastal Impact Assistance Program to the Board. This pilot test will include planting 20 acres of cypress trees and pumping approximately 0.12 mgd of final effluent flow from the East Bank Wastewater Treatment Plant to the wetlands area.
 - The Board should concentrate on filling vacancies of highly technical skills such as engineering, machinist, and electricians especially during this economic downturn since it may be easier to recruit staff with the required skills.
 - The Board should hire a representative to work directly with the contractor operator who operates the wastewater treatment plants to ensure smooth communication and oversight of the contract operator.
 - The Board should continue efforts to storm proof critical facilities as funding becomes available.

Water Department

Adherence to Water Revenue Bond Resolution Requirements

In 1998, the Sewerage and Water Board sold \$16,000,000 of Water Revenue Bonds. The sale of these bonds, as well as the 2002 Series Water Revenue bonds, has obligated the Board to fulfill the covenants of the current bond resolutions. The covenants are designed to protect the interests of the bond holders. Particular covenants of the Board in the General Water Revenue Bond Resolution pertain to the power to issue bonds and the pledge of system revenues; the extension of payment of bonds; the establishment of rates and charges; the sale, lease, and encumbrance of the system; the operation, maintenance, and reconstruction of the system; insurance; the preparation of an annual operating budget; the preparation of the capital improvements budget; the maintenance of accounts and reports; further assurances; and the issuance of additional bonds. The Requirements of the 1998 General Water Revenue Bond Resolution and Supplemental Resolutions adopted on August 21, 2002, (hereafter collectively called the General Resolution) are discussed in this section.

The Board is in compliance with the 1998 General Water Revenue Bond Resolution and subsequent amendments with the exception of debt service coverage in 2008 due to reduced revenues and increased operating expenses resulting from their continuing recovery from Hurricane Katrina. It is anticipated that the Board will not meet debt service coverage in 2010 through 2013 with the existing revenue increases that were approved by the City Council in October of 2007. It is recommended that the Board consider additional annual revenue adjustments to meet the parity bond debt service coverage tests for each year of the study period.

Powers as to Bonds and Pledge

The General Resolution gives the Board the power to issue bonds and to pledge the revenues according to the resolution. "The revenues and other monies, securities and funds so pledged are and will be free and clear of any pledge, lien, charge or encumbrance thereon with respect thereto prior to, or of equal rank with, the pledge created by the resolution except to the extent expressly permitted hereby. The Board shall at all times, to the extent permitted by law, defend, preserve and protect the pledge of the revenue and other monies, securities and lands pledged under the resolution and all the rights of the bondholders under the resolution against all claims and demands of all persons whomsoever."

The Extension of Payment of Bonds

The Board is obligated not to extend the maturity of the bonds. The Board still has the right to issue refunding bonds because the issuance of refunding bonds shall not constitute an extension of maturity of the bonds.

The Establishment of Rates and Charges

The General Resolution obligates the Board to establish and maintain rates and charges at levels sufficient so that total revenues over and above the amount required for operation and maintenance of the system be at least one hundred thirty percent (130%) of the bond debt service requirement.

The Board must engage a Consulting Engineer to annually review the adequacy of the rates and charges to satisfy the requirements of the resolution for the next succeeding year.

In addition, "...the Board shall not... furnish or supply any facilities, services or commodities afforded by it in connection with the system free of charge (except as required by law). The Board will promptly enforce in the manner and to the extent provided by law the payment of any and all delinquent accounts except when the Board determines that such enforcement is no longer practicable or economically justified."

The Sale, Lease, and Encumbrance of the System

The General Resolution requires that, with exceptions, ". . . no part of the System shall be sold, mortgaged, leased (with the Board as lessor) or otherwise disposed of or encumbered." However, the Board may sell, mortgage, or lease any property that has become worn out or that is not useful.

The Operation, Maintenance, and Reconstruction of the System

The Board is obligated to ". . . operate, or cause to be operated, the System properly and in a sound, efficient and economical manner and shall maintain, preserve, and keep the same or cause the same to be maintained, preserved, and kept in good repair, working order and condition, and shall from time to time make, or cause to be made, all necessary and proper repairs, replacements and renewals so that the operation of the System may be properly and advantageously conducted . . ." The Board must reconstruct damaged or destroyed parts of the system, except in those cases where the market value of that part of the system is more than \$100,000 and a Consulting Engineer certifies that the abandonment is economically justified and is not prejudicial to the interest of the bond owners and that failure to reconstruct the part will not impair the Board's ability to comply with the requirements of the rates and charges covenant

in the current or any future fiscal year. The Board is actively engaged in repairing or replacing facilities damaged in 2005 by Hurricane Katrina.

Insurance and Condemnation

The Board agrees to ". . . keep all property which is a part of the System and which is of an insurable nature and of the character usually insured by operating systems similar to the Board insured against loss or damage by fire and from other causes customarily insured against and in such relative amounts as are customary. The Board will also at all times maintain insurance against loss or damage from such hazards and risks to the persons and property of others as are usually insured against by those operating systems similar to the Board."

The Board also agrees that all insurance proceeds shall be applied to the restoration of the lost or damaged facilities, unless the Board determines not to replace the facilities according to the previous covenant. Any excess proceeds not applied to the reconstruction of facilities or remaining after the work is complete shall be deposited into the Water System Account.

The Board may also elect to insure itself if it determines that any policies required are not reasonably obtainable or may not be obtained at a reasonable cost.

The Board carries fire and extended coverage insurance on buildings connected with the treatment and supplying of water, and the collection and treatment of sewage. In addition, the Board carries the generally accepted coverage for water and wastewater utilities. This coverage consists of personal liability and property damage liability coverage; forgery, money, and securities dishonesty and disappearance coverage; and employees' faithful performance bonds. The Board also carries coverage on vehicles and equipment used in the operation of the water, sewerage and drainage systems. A summary of the insurance program of the Board is shown in Table 1.

The Board is self-insured for worker's compensation and comprehensive general liability. In addition, the Board maintains a self-insurance program of hospitalization benefits. Anticipated expenditures are budgeted annually.

The Preparation of an Annual Operating Budget

The Board agrees to prepare and adopt an annual operating budget not less than one day prior to the beginning of each fiscal year. The Board may adopt an amended or supplemental budget from time to time but not more than once a month. The Board is required not to ". . . incur aggregate Operating Expenses in any Fiscal Year in excess of the aggregate amount of Operating Expenses shown in the Annual Budget as amended and supplemented for such Fiscal Year except in case of emergency or as required by law."

The Board agrees that the ". . . amounts expended by the Board in any Fiscal Year for Current Expenses shall not exceed the reasonable and necessary amounts thereof and such amounts so expended in any Fiscal Year from Revenues shall not exceed the amounts provided therefore in the Annual Budget for such Fiscal Year as amended and supplemented from time to time."

The Preparation of the Capital Improvement Budget

The Board is required to prepare a proposed program of Capital Improvements for the current and next two fiscal years prior to the beginning of each fiscal year. The program must identify the capital improvements to be carried out, the estimated costs of the improvements, the period of construction, and a proposed budget for the capital improvements to be undertaken in the first fiscal year of the budget period. The capital improvements budget is to be prepared showing projected quarterly requirements and can be amended or supplemented from time to time, but not more than once a month for the fiscal year in progress.

Employment of Consulting Engineer

The General Resolution requires the Board to employ a Consulting Engineer no later than the last day of each third full fiscal year following the delivery of the initial bonds to report on the properties and operations of the System. However, any report prepared by the Consulting Engineers for the issuance of additional bonds within a three year period will satisfy this requirement.

The Maintenance of Accounts and Reports

The Board is required to ". . . maintain its books and accounts in accordance with generally accepted accounting principles and in accordance with such other principles of accounting as the Board shall deem appropriate."

The Board is also required to file with the Board of Liquidation, City Debt an annual report with financial statements audited by and containing the report of a nationally recognized independent public accountant. The auditor's report is to include a statement that during their examination, made in accordance with generally accepted auditing standards, nothing came to their attention that would lead them to believe that a default had occurred under the resolution, or to state the nature of the default.

The Board engaged the firms of Postlethwaite & Netterville and Bruno & Tervalon to comply with this covenant. Financial reports with the Accountants' Certificate have been furnished to the Board of Liquidation, City Debt and have been reproduced for public distribution. In 20 of the past 22 years, the Government Finance Officers Association (GFOA)

has awarded to the Board the “Certificate of Achievement for Excellence in Financial Reporting” for their annual financial reports.

Issuance of Additional Bonds

Additional bonds may be issued, but only after certain conditions have been met. These conditions are described in the following paragraphs.

The Board must deliver to the Board of Liquidation, City Debt a certificate of an authorized officer stating that the Resolution has not been repealed, and a certified copy of every supplemental resolution previously adopted by the Sewerage and Water Board.

The Board must deliver to the Board of Liquidation, City Debt the documents and monies, if any, required by this resolution and any applicable supplemental resolution.

The Board must provide to the Board of Liquidation, City Debt a certificate of an authorized officer stating that as of the delivery of the additional bonds no event of default has occurred.

The Board of Liquidation, City Debt is required to have a certificate of an authorized officer stating that for the two full fiscal years prior to the year of issuance, the average net revenues were equal to at least (1) the amount required by Louisiana law, and (2) 110 percent of the average bond debt service requirement on all bonds outstanding plus the average bond debt service requirement on the additional bonds.

The Board must provide to the Board of Liquidation, City Debt a certificate of the Consulting Engineer stating that projected net revenues for each of the five fiscal years following issuance of the additional bonds will be at least 130 percent of the debt service reserve fund requirement.

2008 Water Department Operations

Funds for the operation and maintenance of Water Department properties were derived from sales of water, delinquent fees, plumbing inspection and license fees, charges for disconnections and reconnections, and from interest earned on available funds. Analyses of the 2008 Water Department operations are discussed in the following paragraphs.

Water Use

According to statistics found in the December 31, 2008 Comprehensive Annual Financial Report, during the year, 52,656,260,000 gallons of water were pumped by the Water Department. Water sales accounts for 13,283,616,700 gallons and 981,283,000 gallons were metered to City departments without charge. Metered treatment plant process water totaled 618,116,900 gallons. The remaining 37,773,243,400 gallons resulted from unmetered uses, such

as fire protection; flushing streets, sewers, drains, and gutters; and unaccounted for system losses.

Number of Customers

Table 2 presents a summary of the historical and projected average number of treated water customers for the period 2004 through 2013. Based on year-end billing summaries, the number of monthly billed customers during 2008 averaged 102,575 compared with 113,513 for 2007. In 2007, the Board began an aggressive campaign to close accounts that reflected no recent water usage and/or no recent payments. Beginning in December 2007, Board staff worked overtime to review each account, delete unwarranted charges, and close the accounts. In October of 2008, the Board hired a contractor to begin removing the meters associated with closed accounts. As a result of this work, many customers have requested to have their water services restored and are opening new accounts. Since the beginning of 2009, the Board averaged 1,000 new accounts opened each month and as of May 19th, the Board had 112,761 open water accounts. It is projected that the Board will average approximately 113,859 open accounts in 2009 and that the number of accounts will continue to grow at approximately 1 percent each year.

In addition to regular customers, water is sold to construction contractors and other customers on an irregular basis. The Board, by law, also provides water service free of charge to certain municipal and public connections including the Board itself. In 2008 there were 896 connections in this group, compared with 874 for 2007.

Billed Water Usage

Table 2 also presents a summary of historical and projected treated water sales. Based on year-end billing summaries, a total of 13,438 million gallons of water sales were billed on a monthly basis in 2008, compared with a total of 13,927 million gallons in 2007. Projected water sales assume a growth rate of approximately 2.6 percent.

Operating Revenues

The 2008 schedule of rates for retail treated water service is presented in Table 3. The rates consist of monthly service charges, which vary by meter size, plus a 4-step declining block volume charge, with the exception of the first block, which is a life-line related charge. Current rates for flat rate fire service are also shown in Table 3. Separate rate schedules, not shown, are used for billing water sold to construction projects and other purposes.

A summary of historical treated water billings and other Water Department revenue is presented in Table 4 for the period 2004 through 2008. The historical revenues shown in Table

4 were developed from detailed records provided by Board Staff. Operating revenues are derived from charges for sale of water and delinquent fees. Sales of water in 2008 were \$42,913,744 which, when compared with \$36,198,631 for 2007, shows an increase of approximately 18.6 percent. Delinquent fee revenues were \$1,081,988 in 2008 which represent a 32 percent decrease over 2007 delinquent fees.

Non-operating Revenues

Also shown in Table 4, non-operating revenue of the Water Department includes interest earned on invested funds, and other income from miscellaneous sources. During 2008, non-operating revenue included \$302,558 of interest earned from the investment of available funds in the Water System Fund and the Water Revenue Bond Account and \$1,499,382 from other sources.

Operation and Maintenance Expenses

The Sewerage and Water Board uses a system of accounts for budget purposes which groups expenses by water system function. Under the present system of accounts, expenses are categorized under the general classifications of management and general, operations expenses, and other expenses. Management and general expenses include wages, materials and supplies, services, and other costs of the Executive Director, Deputy Director, Office of the Management Services Director, Personnel Administration, Finance Department, Information Systems, Purchasing Administration, Customer Services Department, and Legal Department. Operations expenses encompass the costs of source of supply, treatment, and delivery of potable water. Other expenses include such items as general insurance, outside services employed, social security, pension and medical insurance contributions, and miscellaneous expenditures.

Table 5 presents a summary of historical expenses as recorded under the present system of accounts by the Sewerage and Water Board. Expenditures in 2008 increased about 8.9 percent from 2007 expenditures and about 59.8 percent from 2006 expenditures. The largest increase from 2006 expenses is reflected in Payroll Related Expenses. In July of 2004, the Governmental Accounting Standard Board (GASB) released Statement 45 (GASB 45) concerning health and other non-pension benefits for retired public employees. As a result of GASB 45, the Board must set aside money to cover the cost of post-retirement benefits as opposed to funding the benefits on a pay-as-you-go basis. This liability is reflected in the 2008 operating expenses. Historical operation and maintenance expenses shown in Table 5 do not include the non-cash portion of Provision for Claims as recorded in the Comprehensive Annual Financial Report. Estimates of future Water Department claims are included on Line 16 of Table 11.

Capital Budget and Expenditures

Capital expenditures of the Water Department include the cost of replacements and improvements to waterworks facilities, the water distribution system, and the Water Department pro rata share of power projects and general budget costs.

The Water Department's 2008 capital expenditures, exclusive of prorated interest expense, totaled \$19,903,840. The Water Department's capital improvement expenditures for the year are shown in Table 6.

Summary of Operations

The following tabulation shows a summary of the receipts and expenditures of the Water Department during 2008:

| | |
|--|------------------|
| Total Revenues | \$45,797,672 |
| Operation and Maintenance Expense | 66,778,929 |
| Claims | 210,155 |
| Debt Service Payments | <u>3,585,096</u> |
| Revenue Primarily Available for Capital Expenditures (a) | -\$24,272,440 |

(a) Excludes depreciation.

Proposed Capital Improvement Program

Table 7 presents a summary of the projected major capital improvement program for the period 2009 through 2013. Table 7 is based on revisions of the Board's 2009 adopted Capital Budget and the 2010-2013 proposed Capital Program. The revised budget was presented and adopted by the Board in July. The costs associated with CP 214, 215, 216, and 221 for 2009 through 2013 will be funded from FEMA reimbursements which is discussed in the next section. The five-year major capital improvement program costs are estimated to total \$223,759,000. About 83 percent of this amount, or \$185,274,000, is for recurring annual capital improvements, with the remaining \$38,485,000 for major improvements. The proposed routine annual capital expenditures for water system improvements and extensions include \$26,656,000 for the Water Department's share of power projects, and \$44,768,000 for its share of general budget items.

Ability to Finance Proposed Capital Expenditures

This section of the report analyzes the adequacy of projected revenues to finance the proposed capital improvements shown in Table 7.

Operating Revenues

Operating revenues of the Water Department consist of revenues from water sales. Projected operating revenues for the years 2009 through 2013 are shown in Table 8. These estimates reflect the rate schedule effective July 1, 2008 applied to the projected number of customers and water usage and are projected to increase, on average, about 2.9 percent per year throughout the study period.

Other Revenue Sources

Based upon past practices, the Water Department can expect to obtain revenues or funds from non-operating sources. These include interest earned on available funds, participation by others, house connection charges, fire connections, fire hydrant relocations, and various other income sources. Also, by Board policy, the Water Department receives one-half of the plumbing inspection and license fees currently projected at \$250,000 per year, and \$200,000 for three-mill revenue sharing.

Interest income from the investment of funds held for future use depends upon the level of water revenue available for investment and the amount of revenue accrued towards payment of future capital expenditures.

Participation by others represents payments made by developers and others; however, at this time there is no participation funds anticipated during the five-year study period.

Projections of other revenue sources are presented in a subsequent table, which summarizes the Department's financial position during the financing of projected operating and capital requirements.

Operation and Maintenance Expenses

A summary of projected operation and maintenance expense for the period 2009 through 2014 is shown in Table 9. Expenses are categorized by system function as now reflected in the accounting system of the Sewerage and Water Board. Estimates of future expenses are based on anticipated future operating conditions and allowances for inflationary factors.

Based on historical trends and conversations with utility staff, all costs are projected to increase 3.0 percent per year from the Board's budget for 2009.

Debt Service Requirements

Water Revenue Bonds in the amount of \$16,000,000 in 1998 and \$34,000,000 in 2002 have been issued. Shown in Table 10 are the scheduled principal and interest requirements on the outstanding bonds for the period 2009 through 2013.

Adequacy of Revenues to Finance Proposed Capital Improvements

Total revenue requirements for the Water Department recognized for purposes of this report include operation and maintenance expense, allowance for claims, debt service costs on major capital improvements financed through the sale of bonds, and expenditures for capital improvements not financed from bond proceeds. Table 11 summarizes the financing of operation and maintenance expense, debt service costs on outstanding and proposed bonds, and the transfer of operating funds for major capital improvement financing. It also examines the financing of the major capital improvement program.

Operating Fund

Line 1 of Table 11 shows projected Revenue from Charges under 2008 rates as previously presented in Table 8.

Lines 2 through 6 show any indicated increases in water revenues associated with rate increases assumed to be in effect the number of months shown. The rate increases shown reflect the increases proposed in our *Report on Revenue Requirements, Costs of Service and Rates for Water Service* that was issued in April of 2005. The series of revenue increases proposed in that study were approved by the City Council on October 4, 2007.

Other revenue available for system operations, shown on Lines 9 through 13, consist of Interest Income on operating funds, Three-Mill Revenue Sharing, Plumbing Inspection and License Fees, Other Miscellaneous Income, and Interest from Bond Reserve Fund. Interest Income available to the operating fund, shown on Line 9, is estimated to be 0.5 percent of the average of the beginning and end of year Net Annual Balance, except as the average is affected by identifiable nonrecurring major receipts, transfers, or expenditures during the year.

The Board has received funds from FEMA to assist with the expense associated with filing forms with FEMA. This reimbursement is shown on Line 14. The Board has submitted Project Worksheets to FEMA for operating expenses incurred from water repairs performed by Board crews. Line 15 indicates the amount projected to be reimbursed by FEMA for these repairs during the study period. Total Operating Revenue is shown on Line 16.

Operation and Maintenance expense, previously projected in Table 9, is shown on Line 17 of Table 11. Line 18 shows the estimated allowance for claims. Bad debt expense is assumed to be 2 percent of projected revenue and is shown on Line 19. Projected Net Operating Revenue from system operations is shown on Line 20.

Lines 21 through 23 present debt service requirements on currently outstanding and proposed revenue bonds. There are no projected bond issues during the study period.

Line 24 reflects the projected transfer of accumulated net earnings from system operations to assist in major capital financing. Typically, such accumulated net earnings may be

used to help recover portions of the annual costs of system operations or to assist in major capital improvement financing. It is anticipated that there will be no funds accumulated for transfer to construction for the water department.

Line 25 shows the anticipated reimbursement from FEMA for water purchased during hurricane recovery.

The Water Department has borrowed funds from the Sewerage and Drainage Departments in order to fund operating expenses. As of December 31, 2008, the Water Department had borrowed approximately \$21,398,000 from the Sewerage Department and \$7,436,000 from the Drainage Department. As of the issue date of this report, the Water Department has reimbursed the Sewerage Department \$5,000,000. This payment is shown on Line 26.

Line 27 indicates the estimated Net Annual Balance from operations remaining at the end of each year.

The \$5,094,300 balance of operating funds available at the beginning of the year 2009, shown on Line 28, is comprised of the current cash assets.

The End of Year Balance is shown on Line 29. It is intended that, in all years of the period 2009 through 2013, the End of Year Balance should equal or exceed the assumed adequate emergency capital reserve of 45 days operation and maintenance expense. It is anticipated that the End of Year Balance will be equal to or greater than the targeted emergency capital reserve for each year of the study period.

Capital Projects Funding

Major capital improvement financing is examined in Lines 30 through 41 of Table 11. The amount of Funds Available at Beginning of Year, shown on Line 30, is \$12,594,500. This amount is based on audited data provided by the Board.

Projected revenue bond proceeds are shown on Line 31. It is anticipated that revenue bonds will not be issued during the study period due to noncompliance with the parity bond debt service coverage tests.

It is anticipated that no operating reserves will be available to finance the major capital improvement program as shown on Line 32. Interest earnings recognize an assumed 0.5 percent average annual interest rate and are shown on Line 33. Line 34 of the table shows the projected major capital improvement funds available each year.

As of December 31, 2008, the Board had \$12,618,900 obligated for open contracts and capital jobs as shown on Line 35 of Table 11. Lines 36 and 37 show the projected Reinvestment in Assets and Major Capital Additions to be funded as shown in Table 7. The Board anticipates receiving funds from FEMA under the provisions of the Stafford Act to restore all damaged

assets to pre-Katrina condition. Projects for which a project worksheet has been submitted to FEMA and the corresponding FEMA reimbursements for capital projects are excluded from this table.

The Total Application of Funds is shown on Line 40 of Table 11. The net End of Year Balance is shown on Line 41 and indicates that the Board does not have sufficient funding for the proposed capital projects. The Board is actively pursuing additional funding from FEMA for capital projects for which project worksheets have not yet been completed.

Bond Coverage Requirements

A requirement of the Water Bond Resolution provides that rates must be adopted that will provide revenues in excess of operation and maintenance expense of at least 130 percent of the current year's Bond Debt Service Requirement. As shown on Line 42 of Table 11, the indicated revenue increases will not provide sufficient net revenues to meet coverage requirements beginning in 2010.

The results of the Additional Bonds Test, described in an earlier section of this report, are shown on Lines 43 through 45 of Table 11. These tests will also not be met during the study period.

The Board may wish to take into consideration additional annual revenue adjustments to meet the parity bond debt service coverage tests for each year of the study period and to provide a funding source for the adopted capital program.

Table 1

Insurance in Force as of December 31, 2008

| Carrier | Kind and / or Location | Amount of Coverage | Policy Period | |
|--|---|--|---------------|------------------------------|
| | | | From | To |
| Lexington Insurance Co. | Business Automobile | Primary: \$1,000,000 (\$200,000 Deductible) | 06/20/08 | 06/20/09 |
| Interstate Fire & Casualty Company | Business Automobile | Excess \$9,000,000 (\$1,200,000 Deductible) | 06/20/08 | 06/20/09 |
| Westport/Lancashire/RSUI Indemnity | Fire, Extended Coverage and Vandalism and Malicious Mischief | \$46,401,255 Building \$22,114,000 Contents (\$100,000 Deductible) | 09/01/08 | 03/20/10 |
| Lexington Insurance Co. | Vehicle Physical Damage | \$12,534,764 (\$250,000 Deductible) | 08/17/08 | 03/20/10 |
| National Flood Insurance | Flood | \$29,634,300 (\$404,000 Deductible) | 08/06/2008 | 08/06/2009 |
| Fidelity & Deposit Company of Maryland | Commercial Crime and Employee Theft | \$525,000 (\$10,500 Deductible) | 05/01/07 | 05/01/10 |
| National Union Fire Insurance Co. | Public Officials and Employees Liability | \$5,000,000 (\$100,000 Deductible) | 11/20/08 | 11/20/09 |
| Travelers Casualty & Surety | Fiduciary Liability | \$1,000,000 (\$50,000 Deductible) | 08/01/07 | 08/01/10 |
| Fidelity & Deposit Company of Maryland | Performance Bond | \$100,000 Limit | 06/13/05 | Continous until Cancelled |

Table 2

**Water Department
Historical and Projected Sales and
Average Number of Customers (a)**

| | Historical | | | | | Projected | | | | |
|--|------------|---------|---------|---------|---------|-----------|---------|---------|---------|---------|
| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| Single Family Residential (b) | | | | | | | | | | |
| Customers | 122,143 | 94,379 | 104,843 | 97,218 | 87,691 | 97,337 | 98,310 | 99,293 | 100,286 | 101,289 |
| Sales (1,000,000 gal.) | 9,163 | 6,471 | 5,207 | 6,110 | 5,734 | 6,364 | 6,489 | 6,752 | 7,020 | 7,293 |
| Sales Per Customer (1,000 gal.) | 75 | 69 | 50 | 63 | 65 | 65 | 66 | 68 | 70 | 72 |
| Multi-family Residential | | | | | | | | | | |
| Customers | 5,423 | 4,184 | 4,818 | 4,626 | 4,194 | 4,656 | 4,703 | 4,750 | 4,798 | 4,846 |
| Sales (1,000,000 gal.) | 1,913 | 1,285 | 895 | 887 | 825 | 916 | 941 | 974 | 1,008 | 1,042 |
| Sales Per Customer (1,000 gal.) | 353 | 307 | 186 | 192 | 197 | 197 | 200 | 205 | 210 | 215 |
| Commercial | | | | | | | | | | |
| Customers | 11,693 | 9,095 | 13,390 | 10,448 | 9,475 | 10,517 | 10,622 | 10,728 | 10,835 | 10,943 |
| Sales (1,000,000 gal.) | 5,623 | 4,140 | 3,874 | 4,144 | 4,070 | 4,518 | 4,621 | 4,720 | 4,822 | 4,924 |
| Sales Per Customer (1,000 gal.) | 481 | 455 | 289 | 397 | 430 | 430 | 435 | 440 | 445 | 450 |
| Industrial | | | | | | | | | | |
| Customers | 24 | 19 | 47 | 24 | 22 | 24 | 24 | 24 | 24 | 24 |
| Sales (1,000,000 gal.) | 80 | 92 | 148 | 123 | 91 | 101 | 101 | 101 | 101 | 101 |
| Sales Per Customer (1,000 gal.) | 3,303 | 4,910 | 3,157 | 5,086 | 4,222 | 4,221 | 4,221 | 4,221 | 4,221 | 4,221 |
| Dual Service & Metered Fire Service (c) | | | | | | | | | | |
| Customers | 1,220 | 1,020 | 929 | 1,197 | 1,193 | 1,325 | 1,338 | 1,351 | 1,365 | 1,379 |
| Sales (1,000,000 gal.) | 3,577 | 2,629 | 2,467 | 2,663 | 2,718 | 3,018 | 3,048 | 3,077 | 3,109 | 3,141 |
| Sales Per Customer (1,000 gal.) | 2,932 | 2,578 | 2,656 | 2,225 | 2,278 | 2,278 | 2,278 | 2,278 | 2,278 | 2,278 |
| Total | | | | | | | | | | |
| Customers | 140,502 | 108,697 | 124,027 | 113,513 | 102,575 | 113,859 | 114,997 | 116,146 | 117,308 | 118,481 |
| Sales (1,000,000 gal.) | 20,355 | 14,616 | 12,592 | 13,927 | 13,438 | 14,917 | 15,199 | 15,625 | 16,060 | 16,501 |

- (a) Excludes customers receiving free service.
- (b) Includes duplex.
- (c) Does not include flat rate fire protection customers.

Table 3

**Water Department
Existing Water Rates
(Effective July 1, 2008)**

| | General Service | Dual Service (a) |
|-------------------------------------|--------------------|---------------------|
| | \$ | \$ |
| Monthly Water Service Charge | | |
| <u>Meter Size</u> | | |
| Inches | | |
| 5/8 | 3.50 | 4.80 |
| 3/4 | 4.30 | 5.90 |
| 1 | 5.50 | 7.70 |
| 1-1/2 | 9.00 | 12.00 |
| 2 | 12.00 | 17.00 |
| 3 | 27.00 | 38.00 |
| 4 | 47.00 | 66.00 |
| 6 | 92.00 | 129.00 |
| 8 | 137.00 | 192.00 |
| 10 | 186.00 | 260.00 |
| 12 | 218.00 | 306.00 |
| 16 | 290.00 | 407.00 |

Monthly Water Quantity Charge - per 1,000 Gallons

| | | | |
|-------|-------------------|------|------|
| First | 3,000 gallons | 2.35 | 2.35 |
| Next | 17,000 gallons | 4.01 | 4.01 |
| Next | 980,000 gallons | 3.15 | 3.15 |
| Over | 1,000,000 gallons | 2.65 | 2.65 |

Flat Rate Fire Service

| <u>Meter Size</u> | |
|-------------------|--------|
| Inches | |
| 2 | 8.00 |
| 3 | 11.00 |
| 4 | 20.00 |
| 6 | 34.00 |
| 8 | 47.00 |
| 10 | 73.00 |
| 12 | 95.00 |
| 16 | 130.00 |

(a) Includes Dual Service and all metered fire services.

Table 4
Water Department
Statement of Historical Revenues

| | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> |
|--------------------------------------|------------------|------------------|------------------|------------------|------------------|
| | \$ | \$ | \$ | \$ | \$ |
| Operating Revenue | | | | | |
| Sales of Water | 53,057,240 | 37,997,862 | 33,718,910 | 36,198,631 | 42,913,744 |
| Delinquent Fee | <u>1,176,905</u> | <u>729,404</u> | <u>80,850</u> | <u>1,596,891</u> | <u>1,081,988</u> |
| Total Operating Revenue | 54,234,145 | 38,727,266 | 33,799,761 | 37,795,522 | 43,995,732 |
| Nonoperating Revenue | | | | | |
| Interest Earned | 563,059 | 666,889 | 834,088 | 493,003 | 302,558 |
| Plumbing Inspection and License Fees | 116,574 | 87,630 | 295,122 | 271,170 | 295,302 |
| Revenue Sharing | 331,223 | 281,159 | 282,273 | 197,190 | 229,502 |
| Other Income | <u>1,660,249</u> | <u>1,901,997</u> | <u>2,283,384</u> | <u>1,281,819</u> | <u>974,578</u> |
| Total Nonoperating Revenue | <u>2,671,105</u> | <u>2,937,675</u> | <u>3,694,867</u> | <u>2,243,181</u> | <u>1,801,940</u> |
| Total Revenues | 56,905,250 | 41,664,942 | 37,494,628 | 40,038,704 | 45,797,672 |

Table 5

**Water Department
Historical Operation and Maintenance Expenses**

| | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|
| | \$ | \$ | \$ | \$ | \$ |
| Management and General Expenses | | | | | |
| Administrative | 1,994,969 | 1,799,005 | 1,290,870 | 2,056,157 | 3,696,400 |
| Management Services Director | 88,643 | 99,251 | 75,410 | 26,676 | 31,034 |
| Building and Grounds and Support Services | 1,017,743 | 948,310 | 1,128,139 | 1,383,923 | 1,554,301 |
| Personnel Administration | 452,757 | 397,340 | 297,352 | 372,108 | 393,557 |
| Finance Administration | 704,143 | 777,050 | 691,849 | 741,562 | 835,575 |
| Information Systems | 2,125,759 | 2,443,907 | 2,230,138 | 2,037,654 | 1,933,589 |
| Revenue and Customer Service | 3,078,314 | 2,882,398 | 2,325,713 | 2,746,344 | 3,482,268 |
| Purchasing | 262,234 | 268,376 | 216,849 | 235,090 | 269,051 |
| Total Management and General | <u>9,724,562</u> | <u>9,615,637</u> | <u>8,256,320</u> | <u>9,599,514</u> | <u>12,195,776</u> |
| Operations Expenses | | | | | |
| General Superintendent | 389,054 | 229,857 | 164,123 | 196,374 | 236,623 |
| Chief of Operations | 105,042 | 100,915 | 71,717 | 77,769 | 62,507 |
| Water Pumping and Power | 13,299,299 | 15,037,043 | 8,870,268 | 14,866,810 | 17,695,920 |
| Central Control | 620,571 | 748,612 | 470,418 | 431,312 | 573,855 |
| Water Purification | 6,180,711 | 6,685,610 | 7,026,675 | 8,199,532 | 10,313,493 |
| Chief of Facilities Maintenance | 112,109 | 118,707 | 61,042 | 66,631 | 76,786 |
| Facilities Maintenance | 2,950,542 | 3,479,142 | 2,990,353 | 3,326,563 | 3,846,125 |
| Central Yard | 2,424,053 | 2,472,046 | 1,995,190 | 2,499,556 | 2,511,570 |
| Office of Chief of Networks | 175,162 | 113,222 | 90,770 | 357,326 | 120,178 |
| Networks | 13,695,566 | 12,451,563 | 9,274,448 | 12,490,047 | 12,324,603 |
| Engineering | 1,315,150 | 1,391,081 | 1,051,807 | 1,184,106 | 1,401,279 |
| Plumbing | 433,282 | 461,852 | 400,927 | 441,830 | 499,622 |
| Total Operations | <u>41,700,541</u> | <u>43,289,650</u> | <u>32,467,738</u> | <u>44,137,856</u> | <u>49,662,562</u> |
| Other Expenses | | | | | |
| Special Accounts | 1,127,730 | 1,194,655 | 1,506,011 | 1,661,998 | 1,292,730 |
| Payroll Related Expenses | 3,083,780 | 2,970,428 | 3,090,892 | 7,629,127 | 8,002,409 |
| Overhead Allocation | (3,942,123) | (4,124,375) | (3,535,924) | (4,271,666) | (4,374,549) |
| Total Other | <u>269,387</u> | <u>40,708</u> | <u>1,060,979</u> | <u>5,019,459</u> | <u>4,920,590</u> |
| Total Operation and Maintenance (a) | <u>51,694,490</u> | <u>52,945,995</u> | <u>41,785,037</u> | <u>58,756,829</u> | <u>66,778,929</u> |

(a) Source: Expenditure Analysis by Group Report.

Note: Historical operation and maintenance expenses do not include the non-cash portion of provision for claims as recorded in the Comprehensive Annual Financial Report. Estimates of future Water Department claims payable are included in Table 11.

Table 6

**Water Department
Capital Expenditures (a)
2008**

| C.P. # | Project | Actual Expenditures |
|--------|--|------------------------|
| | | \$ |
| | Waterworks | |
| 110 | Normal Extensions & Replacements | 526,824 |
| 112 | Modification to Oak St Raw Water Intake Stat | 68,288 |
| 135 | Improvements to Chemical System | 1,439,038 |
| 157 | Advanced Water Treatment | 51,767 |
| 160 | Hurricane Katrina Expense for Water | 1,515,341 |
| 175 | Water Hurricane Recovery Bonds | 7,912,830 |
| | Total Waterworks | 11,514,088 |
| | Water Distribution | |
| 214 | Normal Extensions & Replacements | 1,170,679 |
| 215 | Rehabilitation - Mains, Hydrants & Services | 354,904 |
| 239 | Mains In Street Department Contracts | 1,782,079 |
| | Total Water Distribution | 3,307,662 |
| | Power Projects and General Budget | |
| 600 | Water Share of Power Projects | 312,585 |
| 800 | Water Share of General Budget Items | 4,769,505 |
| | Total Water Department | 19,903,840 |

(a) Expenditures do not include proration of interest expense.

Table 7

**Water Department
Proposed Capital Improvements (a)**

| C.P. # | Project | 2009 | 2010 | 2011 | 2012 | 2013 | Total |
|-----------------------------------|---|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| | | \$ | \$ | \$ | \$ | \$ | \$ |
| Reinvestment in Assets | | | | | | | |
| 110 | Normal Extension & Replacement | 5,350,000 | 2,800,000 | 2,800,000 | 2,800,000 | 2,800,000 | 16,550,000 |
| 112 | Modification to Oak St. Raw Water Intake Station | 5,500,000 | 2,000,000 | 42,000,000 | | | 49,500,000 |
| 122 | Filter Rehabilitation | 2,100,000 | 1,000,000 | 1,000,000 | 6,000,000 | 6,000,000 | 16,100,000 |
| 214 | Normal Extensions & Replacements (b) | | | | | | 0 |
| 215 | Rehabilitation - Mains, Hydrants and Services (b) | | | | | | 0 |
| 216 | Water System Replacement Program (b) | | | | | | 0 |
| 239 | Mains In Streets Department Contracts | 6,200,000 | 6,200,000 | 6,200,000 | 6,200,000 | 6,200,000 | 31,000,000 |
| 600 | Water Share of Power Projects | 230,000 | 26,180,000 | 86,000 | 80,000 | 80,000 | 26,656,000 |
| 701 | Water Reserve for Emergencies | 700,000 | | | | | 700,000 |
| 800 | Water Share of General Budget Items | 12,027,000 | 9,552,000 | 8,722,000 | 7,362,000 | 7,105,000 | 44,768,000 |
| | Total Routine Capital Improvements | 32,107,000 | 47,732,000 | 60,808,000 | 22,442,000 | 22,185,000 | 185,274,000 |
| Major Capital Improvements | | | | | | | |
| 135 | Improvements to Chemical System | 335,000 | 1,760,000 | | | | 2,095,000 |
| 156 | Advanced Carrollton Water Treatment | 11,700,000 | 200,000 | | | | 11,900,000 |
| 157 | Advanced Algiers Water Treatment | 1,000,000 | 1,280,000 | 80,000 | | | 2,360,000 |
| 159 | Water Plant Security Improvements | 3,630,000 | 2,900,000 | 200,000 | 200,000 | 200,000 | 7,130,000 |
| 175 | Water Hurricane Recovery Bonds | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 15,000,000 |
| 221 | Feeder Main Extension, General (b) | | | | | | 0 |
| | Total Major Capital Improvements | 19,665,000 | 9,140,000 | 3,280,000 | 3,200,000 | 3,200,000 | 38,485,000 |
| | Total Water Department Improvements | 51,772,000 | 56,872,000 | 64,088,000 | 25,642,000 | 25,385,000 | 223,759,000 |

(a) The improvements for the 2009-2013 period are based on revisions of the budget approved December 17, 2008. The revised budget was ratified by the Board in July 2009.

(b) The costs associated with CP 214, 215, 216, and 221, totaling \$69,255,000 have been removed from the table and will be funded from FEMA rei

Table 8

**Water Department
Projected Operating Revenues**

| <u>Year</u> | <u>Total Operating Revenues</u> \$ |
|-------------|---|
| 2009 | 48,236,100 |
| 2010 | 49,064,100 |
| 2011 | 50,253,000 |
| 2012 | 51,468,100 |
| 2013 | 52,701,200 |

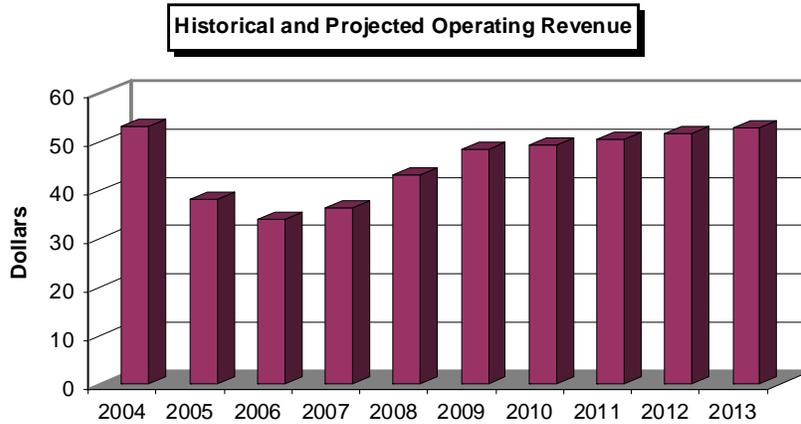


Table 9

**Water Department
Projected Operation and Maintenance Expenses**

| | 2009 (a) | 2010 | 2011 | 2012 | 2013 |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|
| | \$ | \$ | \$ | \$ | \$ |
| Management and General Expenses | | | | | |
| Administrative | 3,432,800 | 3,535,700 | 3,641,800 | 3,751,100 | 3,863,600 |
| Management Services Director | 33,500 | 34,500 | 35,500 | 36,600 | 37,700 |
| Building and Grounds and Support Services | 1,493,600 | 1,538,400 | 1,584,600 | 1,632,100 | 1,681,100 |
| Personnel Administration | 378,600 | 390,000 | 401,700 | 413,700 | 426,200 |
| Finance Administration | 724,300 | 746,000 | 768,400 | 791,500 | 815,200 |
| Information Systems | 2,678,100 | 2,758,400 | 2,841,200 | 2,926,400 | 3,014,200 |
| Revenue and Customer Service | 3,444,500 | 3,547,900 | 3,654,300 | 3,764,000 | 3,876,900 |
| Purchasing | 378,200 | 389,500 | 401,200 | 413,200 | 425,600 |
| Total Management and General | 12,563,600 | 12,940,400 | 13,328,700 | 13,728,600 | 14,140,500 |
| Operations Expenses | | | | | |
| General Superintendent | 174,400 | 179,700 | 185,100 | 190,600 | 196,300 |
| Chief of Operations | 88,900 | 91,500 | 94,300 | 97,100 | 100,000 |
| Water Pumping and Power | 11,354,900 | 11,695,600 | 12,046,400 | 12,407,800 | 12,780,100 |
| Central Control | 411,600 | 423,900 | 436,700 | 449,800 | 463,200 |
| Water Purification | 8,454,500 | 8,708,200 | 8,969,400 | 9,238,500 | 9,515,700 |
| Chief of Facilities Maintenance | 131,200 | 135,200 | 139,200 | 143,400 | 147,700 |
| Facilities Maintenance | 3,623,900 | 3,732,700 | 3,844,600 | 3,960,000 | 4,078,800 |
| Central Yard | 2,180,500 | 2,245,900 | 2,313,300 | 2,382,700 | 2,454,200 |
| Office of Chief of Networks | 130,700 | 134,600 | 138,700 | 142,800 | 147,100 |
| Networks | 11,524,600 | 11,870,300 | 12,226,400 | 12,593,200 | 12,971,000 |
| Engineering | 1,308,800 | 1,348,100 | 1,388,500 | 1,430,200 | 1,473,100 |
| Plumbing | 474,800 | 489,000 | 503,700 | 518,800 | 534,400 |
| Total Operations | 39,858,800 | 41,054,700 | 42,286,300 | 43,554,900 | 44,861,600 |
| Other Expenses | | | | | |
| Special Accounts | 2,146,900 | 2,211,300 | 2,277,600 | 2,346,000 | 2,416,400 |
| Payroll Related Expenses | 3,353,900 | 3,454,500 | 3,558,100 | 3,664,900 | 3,774,800 |
| Overhead Allocation | (3,864,000) | (3,979,900) | (4,099,300) | (4,222,300) | (4,349,000) |
| Total Other | 1,636,800 | 1,685,900 | 1,736,400 | 1,788,600 | 1,842,200 |
| Total Operation and Maintenance | 54,059,200 | 55,681,000 | 57,351,400 | 59,072,100 | 60,844,300 |

(a) Represents the adopted operating budget as of December 17, 2008.



Table 10
Water Revenue Bond
Debt Service Requirements

| | 2009 | 2010 | 2011 | 2012 | 2013 |
|-----------------------------|--------------------|------------------|------------------|------------------|------------------|
| | \$ | \$ | \$ | \$ | \$ |
| Existing Bonds | | | | | |
| Series 1998 | 1,281,700 | 1,281,700 | 1,283,500 | 1,283,400 | 1,281,000 |
| Series 2002 | 2,588,600 | 2,606,200 | 2,623,100 | 2,634,900 | 2,646,600 |
| Total Existing Debt Service | <u>3,870,300</u> | <u>3,887,900</u> | <u>3,906,600</u> | <u>3,918,300</u> | <u>3,927,600</u> |
| Proposed Bonds | | | | | |
| | Amount of Issue | | | | |
| | \$ | | | | |
| 2009 | 0 | 0 | 0 | 0 | 0 |
| 2010 | 0 | 0 | 0 | 0 | 0 |
| 2011 | 0 | | 0 | 0 | 0 |
| 2012 | 0 | | | 0 | 0 |
| 2013 | 0 | | | | 0 |
| Total Proposed Debt Service | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Total Debt Service | <u>3,870,300</u> | <u>3,887,900</u> | <u>3,906,600</u> | <u>3,918,300</u> | <u>3,927,600</u> |

Table 11

**Water Department
Analysis of Ability of Forecasted Revenue to
Finance Projected Revenue Requirements**

| Line No. | | | | 2009 | 2010 | 2011 | 2012 | 2013 |
|---------------------------------|--|------------------|------------------|--------------|---------------|---------------|---------------|---------------|
| | | | | \$ | \$ | \$ | \$ | \$ |
| Operating Fund | | | | | | | | |
| 1 | Revenue from Charges | | | 48,236,100 | 49,064,100 | 50,253,000 | 51,468,100 | 52,701,200 |
| Additional Revenue Required | | | | | | | | |
| | Year | Revenue Increase | Months Effective | | | | | |
| 2 | 2009 | 5.0% | 5.0 | 1,004,900 | 2,453,200 | 2,512,700 | 2,573,400 | 2,635,100 |
| 3 | 2010 | 5.0% | 5.0 | | 1,073,300 | 2,638,300 | 2,702,100 | 2,766,800 |
| 4 | 2011 | 4.0% | 5.0 | | | 923,400 | 2,269,700 | 2,324,100 |
| 5 | 2012 | 0.0% | 5.0 | | | | 0 | 0 |
| 6 | 2013 | 0.0% | 5.0 | | | | | 0 |
| 7 | Total Additional Revenue | | | 1,004,900 | 3,526,500 | 6,074,400 | 7,545,200 | 7,726,000 |
| 8 | Total Service Charge Revenue | | | 49,241,000 | 52,590,600 | 56,327,400 | 59,013,300 | 60,427,200 |
| 9 | Interest Income | | | 75,900 | 88,200 | 80,000 | 76,300 | 71,100 |
| 10 | Three-Mill Revenue Sharing | | | 200,000 | 200,000 | 200,000 | 200,000 | 200,000 |
| 11 | Plumbing Insp. & License Fees | | | 250,000 | 250,000 | 250,000 | 250,000 | 250,000 |
| 12 | Other Miscellaneous Income | | | 1,300,000 | 1,300,000 | 1,300,000 | 1,300,000 | 1,300,000 |
| 13 | Interest from Bond Reserve Fund | | | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 |
| 14 | FEMA Federal Assistance Fees | | | 1,093,400 | 1,093,400 | 1,093,400 | 0 | 0 |
| 15 | FEMA Project Reimbursements | | | 18,617,100 | 2,538,700 | 2,538,700 | 2,538,700 | 2,538,700 |
| 16 | Total Operating Revenue | | | 70,797,400 | 58,080,900 | 61,809,500 | 63,398,300 | 64,807,000 |
| 17 | Operation & Maintenance | | | (54,059,200) | (55,681,000) | (57,351,400) | (59,072,100) | (60,844,300) |
| 18 | Provision for Claims | | | (510,400) | (191,000) | (196,700) | (202,600) | (208,700) |
| 19 | Provision for Doubtful Accounts | | | (964,700) | (981,300) | (1,005,100) | (1,029,400) | (1,054,000) |
| 20 | Net Operating Revenue | | | 15,263,100 | 1,227,600 | 3,256,300 | 3,094,200 | 2,700,000 |
| Debt Service | | | | | | | | |
| 21 | Existing | | | (3,870,300) | (3,887,900) | (3,906,600) | (3,918,300) | (3,927,600) |
| 22 | Proposed | | | 0 | 0 | 0 | 0 | 0 |
| 23 | Total Debt Service | | | (3,870,300) | (3,887,900) | (3,906,600) | (3,918,300) | (3,927,600) |
| 24 | Transfer to Construction | | | 0 | 0 | 0 | 0 | 0 |
| 25 | FEMA Water Sales Reimbursement | | | 3,100,000 | 0 | 0 | 0 | 0 |
| 26 | Due from (to) Other Internal Departments | | | (5,000,000) | 0 | 0 | 0 | 0 |
| 27 | Net Annual Balance | | | 9,492,800 | (2,660,300) | (650,300) | (824,100) | (1,227,600) |
| 28 | Beginning of Year Cash Balance | | | 5,094,300 | 14,587,100 | 11,926,800 | 11,276,500 | 10,452,400 |
| 29 | End of Year Balance | | | 14,587,100 | 11,926,800 | 11,276,500 | 10,452,400 | 9,224,800 |
| Capital Projects Funding | | | | | | | | |
| 30 | Funds Available at Beginning of Year | | | 12,594,500 | (51,784,000) | (108,656,000) | (172,744,000) | (198,386,000) |
| 31 | Revenue Bond Proceeds | | | 0 | 0 | 0 | 0 | 0 |
| 32 | Operation Fund Transfers | | | 0 | 0 | 0 | 0 | 0 |
| 33 | Interest Income | | | 12,400 | 0 | 0 | 0 | 0 |
| 34 | Total Funds Available | | | 12,606,900 | (51,784,000) | (108,656,000) | (172,744,000) | (198,386,000) |
| 35 | Obligated Contracts & Capital Jobs | | | (12,618,900) | 0 | 0 | 0 | 0 |
| 36 | Reinvestment in Assets (a) | | | (32,107,000) | (47,732,000) | (60,808,000) | (22,442,000) | (22,185,000) |
| 37 | Major Capital Additions (a) | | | (19,665,000) | (9,140,000) | (3,280,000) | (3,200,000) | (3,200,000) |
| Issuance Costs | | | | | | | | |
| 38 | Bond Issuance Expense | | | 0 | 0 | 0 | 0 | 0 |
| 39 | Revenue Bond Reserve Fund | | | 0 | 0 | 0 | 0 | 0 |
| 40 | Total Application of Funds | | | (64,390,900) | (56,872,000) | (64,088,000) | (25,642,000) | (25,385,000) |
| 41 | End of Year Balance | | | (51,784,000) | (108,656,000) | (172,744,000) | (198,386,000) | (223,771,000) |
| Debt Service Coverage | | | | | | | | |
| 42 | Annual Test | | | 394% | 32% | 83% | 79% | 69% |
| Additional Bonds Test | | | | | | | | |
| 43 | Prior Two-Year Test | | | -549% | -54% | 210% | 57% | 81% |
| 44 | Maximum Future Debt Test | | | 389% | 31% | 83% | 79% | 69% |
| 45 | Coverage 5 Years after Sale | | | 57% | 47% | -30% | -43% | -55% |

(a) The costs associated with CP 214, 215, 216, and 221, totaling \$69,255,000 have been removed from the table and will be funded from FEMA reimbursements.

Sewerage Department

Adherence to Sewerage Service Revenue Bond Resolution

In 1997, the Board issued \$30,000,000 Sewerage Service Revenue Bonds. Issuance of these bonds obligated the Board to adhere to the covenants of the Bond Resolution. Briefly, the covenants are concerned with:

- Powers as to bonds and pledge.
- Extension of payment of bonds.
- Establishment of rates and charges.
- Sale, lease, and encumbrance of the system.
- Operation, maintenance, and reconstruction of the system.
- Insurance and condemnation.
- Preparation of an annual operating budget.
- Preparation of the capital improvement budget.
- Employment of Consulting Engineer
- Maintenance of accounts and reports.
- Issuance of additional bonds.

The provisions of the Sewerage Service Revenue Bond Resolution are virtually identical to those of the Water Revenue Bond Resolution described in the preceding section of this report. The Board is in compliance with these covenants.

2008 Sewerage Department Operations

Funds for the operation, maintenance, and debt service requirements of the Sewerage Department are obtained from sewerage service charges. The balance of revenue remaining after meeting these costs may be used for cash financing capital improvements as required. Other fund sources include participation by others, interest earned on invested funds, and other minor sources.

Revenues and expenditures related to the 2008 operations of the Sewerage Department are discussed in the following paragraphs.

Wastewater Volumes

Number of Customers

Table 12 presents a summary of the historical and projected average number of sewer customers for the period 2004 through 2013. Based on year-end billing summaries, the number of monthly billed customers during 2008 average 100,812 compared with 111,775 for 2007. In

late 2007, the Board began an aggressive campaign to close accounts that reflected no recent water usage and/or no recent payments. Beginning in December 2007, Board staff worked overtime to review each account, delete unwarranted charges and close the accounts. In October of 2008, the Board hired a contractor to begin removing the meters associated with closed accounts. As a result of this work, many customers have requested to have their water services restored and are opening new accounts. Since the beginning of 2009, the Board averaged 1,000 new accounts opened each month and as of May 19th, the Board had 111,280 open sewer accounts. It is projected that the Board will average approximately 111,902 open accounts in 2009 and that the number of accounts will continue to grow at approximately 1 percent each year.

Billed Wastewater Volume

Table 12 also presents a summary of historical and projected billed wastewater volumes. Based on year-end billing summaries, a total of 11,152 million gallons of wastewater volume was billed in 2008, compared with a total of 11,466 million gallons in 2007.

Operating Revenues

Sewerage Department operating revenue for 2008 consisted of sales revenues based on the schedule of sewerage service charges shown in Table 13. The rates consist of monthly service charges, which vary by meter size, plus a volume charge. Quantity charges for single family residential and multi-residential customers are based on 85 percent of the metered water consumption to allow 15 percent for lawn watering and other uses, which contribute no flow to the sanitary sewer. All other classes are based on 100 percent of water consumption. Water from private wells or other non-Board sources that is discharged to the sanitary sewer system is to be metered and the consumption included in computing sewerage service charges. Any customer who can show that only a portion of his metered water usage is discharged to the sanitary sewer system is to be charged for only that portion of the total water quantity. A residential customer may have either the 15 percent allowance or a special exemption, but not both.

A summary of historical sewer billings and other Sewerage Department revenue is presented in Table 14 for the period 2004 through 2008. The historical revenues shown in Table 14 were developed from detailed records provided by Board staff. Operating revenues are derived from sewerage service charge revenue, which includes excess strength charges, and delinquent fees. Sewerage service charge revenues in 2008 were \$61,154,472 which, when compared with \$67,236,089 for 2007, shows a decrease of approximately 9.0 percent.

Delinquent fee revenues were \$722,775 in 2008 which represent a decrease over 2007 delinquent fees.

Non-operating Revenues

Also shown in Table 14, Sewerage Department non-operating revenue includes interest earned on the investment of available funds and other minor items of revenue. Interest earned in 2008 consisted of \$1,094,327 from investments in the Sewerage System fund, the capital projects and construction fund. Miscellaneous income was \$870,209 for 2008.

Operation and Maintenance Expenses

As previously discussed in the section of this report covering Water Department Operation and Maintenance Expenses, the Sewerage and Water Board utilizes a system of accounts designed to group expenses by function for budget purposes. Under the present system of accounts, expenses are categorized under the general classifications of management and general, operations expenses, and other expenses. Management and general expenses include wages, materials and supplies, services, and other costs of operating the Office of the Management Services Director, Personnel Administration, Finance Department, Information Systems, Purchasing Administration, Customer Services Department, and other administrative services including the Deputy Director, Executive Director, and Legal Department. Operations expenses encompass the costs of collecting, transporting, treating, and disposing of wastewater. Other expenses include such items as general insurance, outside services employed, social security, worker's compensation insurance, pension and medical insurance contributions, and miscellaneous expenditures.

Table 15 presents a summary of 2004 through 2008 historical operation and maintenance expenses of the Sewerage Department. Expenditures for 2008 increased about 9.2 percent from 2007 expenditures and about 28.2 percent from 2006 expenditures. The largest increase from 2006 expenses is reflected in Payroll Related Expenses. In July of 2004, the Governmental Accounting Standard Board (GASB) released Statement 45 (GASB 45) concerning health and other non-pension benefits for retired public employees. As a result of GASB 45, the Board must set aside money to cover the cost of post-retirement benefits as opposed to funding the benefits on a pay-as-you-go basis. This liability is reflected in the 2008 operating expenses. Historical operation and maintenance expenses shown in Table 15 do not include the non-cash portion of Provision for Claims as recorded in the Comprehensive Annual Financial Report. Estimates of future Sewerage Department claims are shown on Line 16 in Table 21.

Capital Budget and Expenditures

Capital expenditures of the Sewerage Department include the cost of replacements and improvements to wastewater treatment and collection facilities. Total expenditures of \$19,051,959 were made in 2008. Capital improvement expenditures for 2008 are shown in Table 16.

Summary of Operations

The following tabulation shows a summary of the receipts and expenditures of the Sewerage Department during 2008:

| | |
|--|------------------|
| Total Revenue | \$63,841,782 |
| Operation and Maintenance Expense | 42,367,349 |
| Claims | -231,762 |
| Bond Debt Service | <u>7,335,564</u> |
| Revenue Available for Capital Expenditures (a) | \$14,370,631 |

(a) Excludes depreciation.

Proposed Capital Improvement Program

Table 17 presents a summary of the projected major capital improvement program for the period 2009 through 2013. Table 17 is based on revisions of the Board's 2009 adopted Capital Budget and the 2010-2013 proposed Capital Program. The revised budget was presented and adopted by the Board in July. The Sewerage and Water Board staff has prepared a Capital Improvement Program calling for expenditures, exclusive of prorated interest, of \$103,839,000 in the five-year period 2009 through 2013. The costs associated with CP 313, 317, 318, 319, 326, 348, 609, 807, 810, and 823, totaling \$369,299,000 will be funded from FEMA reimbursements and is discussed in the next section. Of the projected total, \$84,639,000 is considered to be for recurring annual capital improvements. The remaining \$19,200,000 is for proposed major capital expenditures. Costs of power projects and general budget items are prorated between the Water, Sewerage and Drainage Departments on the basis of relative use. The projected Sewerage Department pro rata share of power project and general budget item costs for the five-year period 2009 through 2013 total \$2,400,000 and \$12,885,000, respectively.

The Board is currently complying with the EPA Region 6 Administrative Order; however, due to Hurricane Katrina the Consent Decree has been temporarily suspended. The Capital Improvement Program shown in Table 17 represents the schedule for complying with the Consent Decree prior to Hurricane Katrina.

Ability to Finance Proposed Capital Expenditures

This section of the report analyzes the adequacy of projected revenues to finance the proposed capital improvements shown in Table 17.

Operating Revenues

Future operating revenues of the Sewerage Department consist of sewerage service charge revenues which are summarized for 2009 through 2013 in Table 18. Future revenues reflect the existing rate schedule, which became effective July 1, 2006 applied to the projected number of customers and water usage.

Other Revenue Sources

Based upon past practices, the Sewerage Department can expect to obtain revenues or funds from non-operating sources. These include interest earned from the investment of available funds, participation by others, and miscellaneous other income. Also, by Board policy, the Sewerage Department receives one-half of the plumbing inspection and license fees, currently projected at \$250,000 per year. Additionally, about \$300,000 is currently anticipated for three-mill revenue sharing.

Interest income from the investment of funds held for future use depends upon the amount of funds accumulated for payment of future capital expenditures. Projections of interest income are presented in a subsequent table which summarizes the Department's financial position, and recognizes the financing of proposed capital improvements.

Participation by others consists of monies collected from developers and individuals for the extension of sewerage service to new customers and from governmental agencies for replacement and expansion of system facilities. As shown in Table 19, future revenue from EPA are estimated by the Board in the 2009 through 2013 Capital Budget to total \$15,000,000.

Operation and Maintenance Expense

A summary of projected operation and maintenance expense is shown in Table 20 and is categorized by the present system of accounts. Estimates of future expenses are based on 2009 budgeted expenses with an allowance for continued inflation. Based on historical trends and conversations with utility staff, all costs are projected to increase 3.0 percent per year.

Debt Service Requirements

Sewerage Service Revenue Bonds in the amount of \$30,000,000 in 1997, \$25,000,000 in 1998, two issues totaling \$47,100,000 in 2000, \$32,720,000 in 2001, \$57,000,000 in 2002, \$5,500,000 in 2003, and \$33,000,000 in 2004 have been issued. Shown in Table 21 are the

scheduled principal and interest requirements on the outstanding bonds for the period 2009 through 2013.

To adequately fund the proposed capital improvements, additional revenue bonds are indicated as shown in Table 20. Debt service requirements for the 2009 bonds reflect actual amounts for the recent July Sewerage Service Refunding Bonds Series 2009 (Series 2009) issue. The Series 2009 is a 20-year bond with an average annual interest cost of 6.035 percent. It is assumed that the terms of all other new debt incurred will be 6.0 percent for a term of 30 years.

Adequacy of Revenues to Finance Proposed Capital Improvements

Total revenue requirements for the Sewer Department recognized for purposes of this report include operation and maintenance expense, allowance for claims, debt service costs on major capital improvements financed through the sale of bonds, and expenditures for capital improvements not financed from bond proceeds. Table 22 summarizes the financing of operation and maintenance expense, debt service costs on outstanding and proposed bonds, and the transfer of operating funds for capital improvement financing. It also examines the financing of the major capital improvement program.

Operating Fund

Line 1 of Table 22 shows projected Revenue from Charges under 2009 rates as previously presented in Table 18.

Lines 2 through 6 show indicated increases in sewer revenues associated with rate increases assumed to be in effect the number of months shown. Additional revenue increases are indicated, as follows: July 1, 2012, 5 percent and July 1, 2013, 5 percent. No additional revenue increase is indicated for 2009 through 2011.

Other revenue available for system operations, shown on Lines 9 through 13, consist of Interest Income on operating funds, Three-Mill Revenue Sharing, Plumbing Inspection and License Fees, Miscellaneous Revenue, and Interest from Bond Reserve Fund. Interest Income available to the operating fund, shown on Line 9, is estimated to be 0.5 percent of the average of the beginning and end of year Net Annual Balance, except as the average is affected by identifiable nonrecurring major receipts, transfers, or expenditures during the year.

The Board has received funds from FEMA to assist with the expense associated with filing forms with FEMA. This reimbursement is shown on Line 14. The Board has submitted Project Worksheets to FEMA for operating expenses incurred from sewer repairs performed by Board crews. Line 15 indicates the amount projected to be reimbursed by FEMA for these repairs during the study period. Total Operating Revenue is shown on Line 16.

Operation and Maintenance expense, previously projected in Table 19, is shown on Line 17 of Table 22. Line 18 shows the estimated allowance for claims. Bad debt expense is assumed to be 2 percent of projected revenue and is shown on Line 19. Projected Net Operating Revenue from system operations is shown on Line 20.

Lines 21 through 23 present debt service requirements on currently outstanding and proposed revenue bonds. Additional revenue bond debt financing as shown in Table 21 is assumed. Debt service requirements for the 2009 bonds reflect actual amounts for the recent July Sewerage Service Refunding Bonds Series 2009 (Series 2009) issue. The Series 2009 is a 20-year bond with an average annual interest cost of 6.035 percent. All other debt is assumed to be 30 year, 6.0 percent fixed interest rate bonds issued in October, with equal annual payments of principal and interest.

In July 2006, Sewerage Service Refunding Bond Anticipation Notes (BANs) were issued in the amount of \$24,030,000. The 2006 BANs were due July 2009 and were refunded by the Series 2009. Line 24 of Table 22 shows the projected interest expenses associated with the outstanding 2006 BANs in 2009.

Line 25 reflects the projected transfer of accumulated net earnings from system operations to assist in major capital financing. Typically, such accumulated net earnings may be used to help recover portions of the annual costs of system operations or to assist in major capital improvement financing.

The Water Department has borrowed funds from the Sewerage and Drainage Departments in order to fund operating expenses. As of December 31, 2008, the Water Department had borrowed approximately \$21,398,000 from the Sewerage Department. As of the issue date of this report, the Water Department has reimbursed the Sewerage Department \$5,000,000. This revenue is shown on Line 26.

Line 27 indicates the estimated Net Annual Balance from operations remaining at the end of each year. It is assumed that all available cash balances will be used to fund capital projects; therefore, the beginning balance for the operating fund is \$0 as shown on Line 28.

The End of Year Balance is shown on Line 29. It is intended that, in all years of the period 2009 through 2013, the End of Year Balance should equal or exceed the assumed adequate emergency capital reserve of 45 days of operation and maintenance expense. It is anticipated that the End of Year Balance will be equal to or greater than the targeted emergency capital reserve for each year of the study period.

Capital Projects Funding

Major capital improvement financing is examined in Lines 30 through 47 of Table 22. The amount of Funds on Hand, shown on Line 30, is \$57,320,400. This amount is based on audited data provided by the Board.

Bond issues in the amount for \$23,375,000 in 2009, \$8,000,000 in 2010, \$16,500,000 in 2012, and \$4,000,000 in 2013 are projected and shown on Line 31 of Table 22. The amounts and years of issue are developed considering capital program needs, current policies, other sources of major capital improvement financing, and the debt service coverage requirements of the bond covenants regarding the issuance of parity revenue bonds.

Financing of the major capital improvement program anticipates the transfer of a total of \$60,500,000 of operating reserves as shown on Line 32. Other sources of funds available to meet major capital improvement expenditures are participation by EPA, Participation by Others and interest income. Participation by Others, as shown on Line 24 includes \$10,150,000 for a Wetland Assimilation Grant received in 2009 and \$1,000,000 in developer contributions. Interest earnings recognize an assumed 0.5 percent average annual interest rate. Line 37 of the table shows the projected major capital improvement funds available each year.

As of December 31, 2008, the Board had \$65,856,900 obligated for open contracts and capital jobs as shown on Line 38 of Table 22. Lines 39 and 40 show the projected Reinvestment in Assets and Major Capital Additions to be funded. The Board anticipates receiving funds from FEMA under the provisions of the Stafford Act to restore all damaged assets to pre-Katrina condition. Projects for which a project worksheet has been submitted to FEMA and the corresponding FEMA reimbursements for capital projects are excluded from this table.

Estimated issuance costs related to the proposed bond issue amounts is shown on Line 41. Line 42 shows the required deposits into the Revenue Bond Reserve Fund associated with proposed bond issues. The Debt Service Reserve Fund was overfunded prior to the issuance of Series 2009; therefore, there was no bond reserve requirement for the Series 2009. Municipal bond insurance purchased in association with the Series 2009 is shown on Line 43. Other Uses of Funds, shown on Line 44, reflect the original issue discount associated with the Series 2009. The anticipated Redemption of 2006 BANs, as mentioned above, is shown on Line 45 and the Total Application of Funds is shown on Line 46 of Table 22. The net End of Year Balance is shown on Line 47.

In July, Black and Veatch prepared a consulting engineer's report for inclusion in the Official Statement prepared in connection with issuance by the Board of the Series 2009 issue. At that time, the amount of funds on hand to finance capital projects included the entire amount that the Water Department owes the Sewerage Department. As previously mentioned, as of the issue date of this report, the Water Department has reimbursed the Sewerage Department

\$5,000,000; therefore, the amount of funding available for capital projects has been reduced by \$16,398,000 since the issuance of the Series 2009 bonds. As a result, Line 47 indicates that the Board does not have sufficient funding for the proposed capital projects in 2009 and 2010.

The Board is currently considering increasing non-rate related fees in order to generate additional revenue. The proposed increases will generate approximately \$3 million additional revenue per year. While this revenue will be allocated 50 percent to the Water Department and 50 percent to the Sewerage Department, it is anticipated that the Water Department will transfer this additional revenue to the Sewerage Department as reimbursement towards the amount previously borrowed for operating expenses. It is also anticipated that the Sewerage Department will use this additional revenue to fund capital projects. Additionally, the Board is actively pursuing additional funding from FEMA for projects for which project worksheets have not yet been completed.

Bond Coverage Requirements

A requirement of the Sewerage Service Revenue Bond Resolution provides that rates must be adopted that will provide revenues in excess of operation and maintenance expense of at least 130 percent of the current year's Bond Debt Service Requirements. As shown on Line 48 of Table 22, the existing schedule of rates will provide sufficient net revenues to meet coverage requirements during the study period.

The results of the Additional Bonds Test, described in an earlier section of this report, are shown on Lines 49 through 51 of Table 22.

Table 12

**Sewerage Department
Historical and Projected Billed Volumes
and Average Number of Customers (a)**

| | Historical | | | | | Projected | | | | |
|--------------------------------------|------------|---------|---------|---------|---------|-----------|---------|---------|---------|---------|
| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| Single Family Residential (b) | | | | | | | | | | |
| Customers | 121,524 | 93,897 | 104,312 | 96,611 | 87,079 | 96,658 | 97,625 | 98,601 | 99,587 | 100,583 |
| Sales (1,000,000 gal.) | 7,653 | 5,403 | 4,316 | 5,096 | 4,770 | 5,510 | 5,760 | 5,916 | 5,975 | 6,035 |
| Sales Per Customer (1,000 gal.) | 63 | 58 | 41 | 53 | 55 | 57 | 59 | 60 | 60 | 60 |
| Multifamily Residential | | | | | | | | | | |
| Customers | 5,414 | 4,176 | 4,811 | 4,616 | 4,187 | 4,647 | 4,693 | 4,740 | 4,787 | 4,835 |
| Sales (1,000,000 gal.) | 1,635 | 1,094 | 766 | 747 | 703 | 790 | 821 | 853 | 886 | 895 |
| Sales Per Customer (1,000 gal.) | 302 | 262 | 159 | 162 | 168 | 170 | 175 | 180 | 185 | 185 |
| Commercial | | | | | | | | | | |
| Customers | 11,897 | 9,292 | 13,623 | 10,513 | 9,514 | 10,561 | 10,667 | 10,774 | 10,882 | 10,991 |
| Sales (1,000,000 gal.) | 7,786 | 5,751 | 5,368 | 5,529 | 5,393 | 6,178 | 6,347 | 6,518 | 6,692 | 6,760 |
| Sales Per Customer (1,000 gal.) | 654 | 618 | 394 | 525 | 566 | 585 | 595 | 605 | 614 | 615 |
| Industrial | | | | | | | | | | |
| Customers | 37 | 28 | 71 | 35 | 32 | 36 | 36 | 36 | 36 | 36 |
| Sales (1,000,000 gal.) | 86 | 57 | 67 | 94 | 287 | 80 | 80 | 80 | 80 | 80 |
| Sales Per Customer (1,000 gal.) | 2,348 | 2,023 | 937 | 2,675 | 8,889 | 2,222 | 2,222 | 2,222 | 2,222 | 2,222 |
| Total | | | | | | | | | | |
| Customers | 138,871 | 107,393 | 122,817 | 111,775 | 100,812 | 111,902 | 113,021 | 114,151 | 115,292 | 116,445 |
| Sales (1,000,000 gal.) | 17,160 | 12,305 | 10,517 | 11,466 | 11,152 | 12,558 | 13,008 | 13,368 | 13,633 | 13,769 |

(a) Excludes customers receiving free service.

(b) Includes duplex.

Table 13

**Sewerage Department
Existing Sewer Rates
(Effective July 1, 2006)**

Monthly Sewerage Service Charge

| <u>Meter Size</u> | <u>Total Monthly Charge</u> |
|-------------------|-------------------------------------|
| Inches | \$ |
| 5/8 | 11.60 |
| 3/4 | 16.50 |
| 1 | 23.50 |
| 1-1/2 | 43.25 |
| 2 | 63.25 |
| 3 | 150.00 |
| 4 | 250.00 |
| 6 | 500.00 |
| 8 | 750.00 |
| 10 | 1,000.00 |
| 12 | 1,150.00 |
| 16 | 1,550.00 |

Monthly Quantity Charge

| | |
|-------------------|------|
| Per 1,000 Gallons | 4.04 |
|-------------------|------|

Excessive Strength Charge per Pound

| | |
|-----|--------|
| BOD | 0.2619 |
| TSS | 0.1494 |

Table 14
Sewerage Department
Statement of Historical Revenues

| | 2004 | 2005 | 2006 | 2007 | 2008 |
|--------------------------------------|------------|------------|------------|------------|------------|
| | \$ | \$ | \$ | \$ | \$ |
| Operating Revenue | | | | | |
| Sewerage Service Charges | 71,465,136 | 56,842,180 | 62,603,447 | 67,236,089 | 61,154,472 |
| Delinquent Fee | 786,979 | 487,783 | 54,189 | 1,068,458 | 722,775 |
| Total Operating Revenue | 72,252,115 | 57,329,963 | 62,657,636 | 68,304,547 | 61,877,246 |
| Nonoperating Revenue | | | | | |
| Interest Income | 2,673,124 | 4,218,505 | 4,568,292 | 1,273,048 | 1,094,327 |
| Plumbing Inspection and License Fees | 116,574 | 87,630 | 295,122 | 271,170 | 295,302 |
| Revenue Sharing | 413,099 | 350,659 | 352,048 | 245,933 | 286,233 |
| Other Income | 284,927 | 256,648 | 58,556 | 266,798 | 288,674 |
| Total Nonoperating Revenue | 3,487,724 | 4,913,443 | 5,274,017 | 2,056,949 | 1,964,536 |
| Total Revenue | 75,739,839 | 62,243,406 | 67,931,653 | 70,361,496 | 63,841,782 |

Table 15

**Sewerage Department
Historical Operation and Maintenance Expenses**

| | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|-------------|-------------|-------------|-------------|-------------|
| | \$ | \$ | \$ | \$ | \$ |
| Management and General Expenses | | | | | |
| Administrative | 2,528,091 | 1,575,719 | 2,630,861 | 2,341,636 | 2,710,619 |
| Management Services Director | 64,635 | 72,370 | 54,986 | 19,451 | 22,630 |
| Building and Grounds and Support Services | 752,517 | 704,393 | 833,341 | 1,020,976 | 1,148,020 |
| Personnel Administration | 330,135 | 289,726 | 216,821 | 271,329 | 286,969 |
| Finance Administration | 534,728 | 588,646 | 525,451 | 546,981 | 617,079 |
| Information Systems | 1,550,033 | 1,782,016 | 1,626,143 | 1,485,788 | 1,409,909 |
| Revenue and Customer Service | 3,078,293 | 2,882,380 | 2,325,703 | 2,746,331 | 3,482,253 |
| Purchasing | 191,210 | 195,690 | 158,120 | 171,419 | 196,183 |
| Total Management and General | 9,029,642 | 8,090,940 | 8,371,426 | 8,603,911 | 9,873,660 |
| Operations Expenses | | | | | |
| General Superintendent | 283,685 | 167,604 | 119,672 | 143,189 | 172,537 |
| Drainage Pumping and Central Control | 343,313 | 335,715 | 210,012 | 333,390 | 335,881 |
| Sewerage Pumping | 2,349,727 | 2,404,140 | 2,018,413 | 2,962,907 | 3,530,071 |
| Chief of Operations | 76,593 | 73,583 | 52,294 | 56,706 | 45,578 |
| Water Pumping and Power | 379,879 | 1,949,523 | 3,023,657 | 342,093 | 1,931,804 |
| Sewerage Treatment | 12,525,522 | 8,982,281 | 8,091,279 | 9,989,978 | 10,001,042 |
| Chief of Facilities Maintenance | 81,746 | 86,558 | 44,510 | 48,584 | 55,990 |
| Facilities Maintenance | 2,336,736 | 2,739,218 | 2,342,667 | 2,607,184 | 3,035,342 |
| Central Yard | 1,827,746 | 1,835,205 | 1,467,353 | 1,876,880 | 1,879,518 |
| Office of Chief of Networks | 127,722 | 82,558 | 66,186 | 260,551 | 87,629 |
| Networks | 7,533,371 | 6,885,272 | 5,741,081 | 7,494,584 | 7,713,092 |
| Engineering | 958,961 | 1,014,334 | 766,945 | 863,407 | 1,021,766 |
| Plumbing | 433,278 | 461,851 | 400,924 | 441,827 | 499,620 |
| Total Operations | 29,258,279 | 27,017,842 | 24,344,993 | 27,421,280 | 30,309,870 |
| Other Expenses | | | | | |
| Special Accounts | 1,404,331 | 1,281,688 | 1,393,262 | 1,420,981 | 937,175 |
| Payroll Related Expenses | 1,910,244 | 1,856,416 | 1,818,997 | 4,815,145 | 4,823,058 |
| Overhead Allocation | (3,222,884) | (3,371,886) | (2,890,799) | (3,492,313) | (3,576,413) |
| Total Other | 91,691 | (233,782) | 321,460 | 2,743,813 | 2,183,819 |
| Total Operation and Maintenance (a) | 38,379,612 | 34,875,000 | 33,037,879 | 38,769,004 | 42,367,349 |

(a) Source: Expenditure Analysis by Group Report.

Note: Historical operation and maintenance expenses do not include the non-cash portion of provision for claims as recorded in the Comprehensive Annual Financial Report. Estimates of future Water Department claims payable are included in Table 11.

Table 16

**Sewerage Department
Capital Expenditures (a)
2008**

| C.P. # | Project | Actual Expenditures |
|--------|--|------------------------|
| | | \$ |
| | Sewerage Systems | |
| 313 | Extensions & Replacements - Sewer Force Mains | 1,754,435 |
| 317 | Normal Extensions & Replacement of Gravity Mains | 7,752,527 |
| 318 | Rehabilitation Gravity Sewer System | 235,040 |
| 326 | Extensions & Replacements to Sewer Pump Stations | 229,501 |
| 339 | Mains in Street Dept. Contracts | 2,075,336 |
| 348 | Normal Extensions & Replacements | 1,945,486 |
| 367 | Collection System Eval/Survey Uptown | 233,616 |
| 368 | Wetlands Assimilation Project | 345,769 |
| 369 | Hurricane Katrina Expenses for Sewer System | (891,030) |
| 375 | Sewerage Hurricane Recovery Bonds | 1,345,030 |
| 381 | Modification & Extension of WBSTP to 20/50 MGD | 5,243 |
| | Total Sewerage System | 15,030,953 |
| | Power Projects and General Budget | |
| 600 | Sewerage Share of Power Projects | 70,095 |
| 800 | Sewerage Share of General Budget Items | 3,950,911 |
| | Total Sewerage Department | 19,051,959 |

(a) Expenditures do not include proration of interest expense.

Table 17

**Sewerage Department
Proposed Capital Improvements (a)**

| C.P. # | Project | 2009 | 2010 | 2011 | 2012 | 2013 | Total |
|-----------------------------------|---|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| | | \$ | \$ | \$ | \$ | \$ | \$ |
| Reinvestment in Assets | | | | | | | |
| 317 | Extensions and Replacements - Gravity Mains (b) | 0 | 0 | 0 | 0 | 0 | 0 |
| 318 | Rehabilitation Gravity Sewer System (b) | 0 | 0 | 0 | 0 | 0 | 0 |
| 319 | Extension and Replacements - Sanitary Sewer Mains Algiers (b) | 0 | 0 | 5,600,000 | 6,817,000 | 10,225,000 | 22,642,000 |
| 326 | Extensions and Replacements to Pumping Stations (b) | 0 | 0 | 0 | 0 | 0 | 0 |
| 339 | Mains in Streets Department Contracts | 5,200,000 | 3,900,000 | 5,200,000 | 5,200,000 | 5,200,000 | 24,700,000 |
| 348 | Extensions and Replacements - Treatment Plants | 2,680,000 | 6,294,000 | 5,340,000 | 4,223,000 | 3,475,000 | 22,012,000 |
| 600 | Sewer Share of Power Projects (b) | 67,000 | 2,273,000 | 20,000 | 20,000 | 20,000 | 2,400,000 |
| 702 | Sewer Reserve for Emergencies | 0 | 0 | 0 | 0 | 0 | 0 |
| 800 | Sewer Share of General Budget Items (b) | 6,697,000 | 0 | 1,200,000 | 4,622,000 | 366,000 | 12,885,000 |
| | Total Routine Annual Improvements | 14,644,000 | 12,467,000 | 17,360,000 | 20,882,000 | 19,286,000 | 84,639,000 |
| Major Capital Improvements | | | | | | | |
| 300 | Engineering/Inspection of Developer Installations | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 50,000 |
| 308 | Sewer Rehabilitation | 0 | 0 | 0 | 0 | 0 | 0 |
| 313 | Extensions and Replacements - Sewer Force Mains (b) | 0 | 0 | 0 | 0 | 0 | 0 |
| 358 | EBSTP Expansion | 10,000 | 0 | 0 | 0 | 0 | 10,000 |
| 367 | Sewer System Evaluation Study | 0 | 0 | 0 | 0 | 0 | 0 |
| 368 | Wetland Assimilation | 10,150,000 | 0 | 0 | 0 | 0 | 10,150,000 |
| 375 | Sewerage Hurricane Recovery Bonds | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 500,000 |
| 381 | Modification and Expansion of WBSTP to 20/50 MGD | 600,000 | 100,000 | 0 | 7,790,000 | 0 | 8,490,000 |
| | Total Major Improvements | 10,870,000 | 210,000 | 110,000 | 7,900,000 | 110,000 | 19,200,000 |
| | Total Sewerage System Improvements | 25,514,000 | 12,677,000 | 17,470,000 | 28,782,000 | 19,396,000 | 103,839,000 |

- (a) The improvements for the 2009-2013 period are based on revisions of the budget approved December 17, 2008. The revised budget will be presented to the Board for ratification in July.
- (b) Costs associated with CP 313, 317, 318, 319, 326, 348, 609, 807, 810, and 823, totaling \$369,299,000 have been removed from the table and will be funded from FEMA reimbursements.

Table 18

**Sewerage Department
Projected Operating Revenues**

| <u>Year</u> | <u>Amount</u> \$ |
|-------------|---------------------|
| 2009 | 69,241,100 |
| 2010 | 71,118,100 |
| 2011 | 72,663,100 |
| 2012 | 73,865,100 |
| 2013 | 74,592,100 |

Historical and Projected Operating Revenue

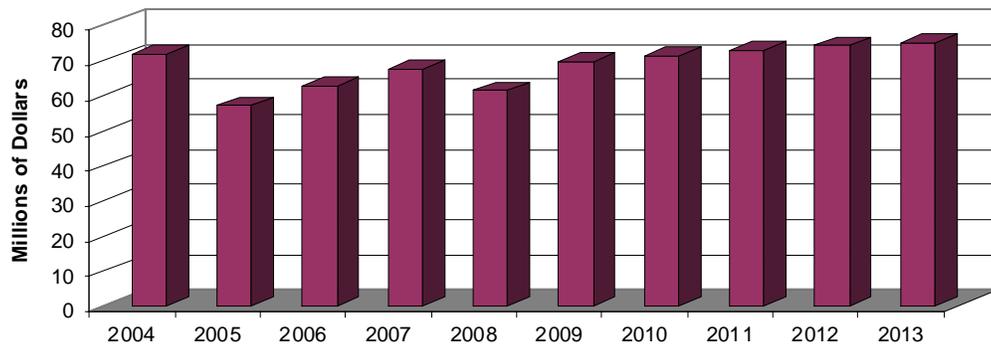


Table 20

**Sewerage Department
Projected Operation and Maintenance Expenses**

| | 2009 (a) | 2010 | 2011 | 2012 | 2013 |
|---|-------------|-------------|-------------|-------------|-------------|
| | \$ | \$ | \$ | \$ | \$ |
| Management and General Expenses | | | | | |
| Administrative | 3,008,600 | 3,098,900 | 3,191,800 | 3,287,600 | 3,386,200 |
| Management Services Director | 24,400 | 25,100 | 25,900 | 26,700 | 27,500 |
| Building and Grounds and Support Services | 1,104,900 | 1,138,100 | 1,172,200 | 1,207,400 | 1,243,600 |
| Personnel Administration | 276,100 | 284,400 | 292,900 | 301,700 | 310,700 |
| Finance Administration | 536,900 | 553,000 | 569,600 | 586,700 | 604,300 |
| Information Systems | 1,952,800 | 2,011,300 | 2,071,700 | 2,133,800 | 2,197,800 |
| Revenue and Customer Service | 3,444,500 | 3,547,900 | 3,654,300 | 3,764,000 | 3,876,900 |
| Purchasing | 275,700 | 284,000 | 292,500 | 301,300 | 310,400 |
| Total Management and General | 10,623,900 | 10,942,700 | 11,270,900 | 11,609,200 | 11,957,400 |
| Operations Expenses | | | | | |
| General Superintendent | 127,200 | 131,000 | 134,900 | 139,000 | 143,200 |
| Drainage Pumping and Central Control | 357,100 | 367,800 | 378,800 | 390,200 | 401,900 |
| Sewerage Pumping | 2,574,700 | 2,651,900 | 2,731,500 | 2,813,500 | 2,897,900 |
| Chief of Operations | 64,800 | 66,700 | 68,700 | 70,800 | 72,900 |
| Water Pumping and Power | 277,100 | 285,400 | 294,000 | 302,800 | 311,900 |
| Sewerage Treatment | 11,611,400 | 11,959,800 | 12,318,600 | 12,688,100 | 13,068,800 |
| Chief of Facilities Maintenance | 102,100 | 105,100 | 108,300 | 111,500 | 114,900 |
| Facilities Maintenance | 2,877,800 | 2,964,200 | 3,053,100 | 3,144,700 | 3,239,000 |
| Central Yard | 1,593,500 | 1,641,300 | 1,690,600 | 1,741,300 | 1,793,500 |
| Office of Chief of Networks | 95,300 | 98,200 | 101,100 | 104,100 | 107,300 |
| Networks | 7,683,900 | 7,914,400 | 8,151,900 | 8,396,400 | 8,648,300 |
| Engineering | 954,300 | 983,000 | 1,012,500 | 1,042,800 | 1,074,100 |
| Plumbing | 474,800 | 489,000 | 503,700 | 518,800 | 534,400 |
| Total Operations | 28,794,000 | 29,657,800 | 30,547,700 | 31,464,000 | 32,408,100 |
| Other Expenses | | | | | |
| Special Accounts | 1,690,000 | 1,740,700 | 1,793,000 | 1,846,700 | 1,902,100 |
| Payroll Related Expenses | 2,023,500 | 2,084,200 | 2,146,700 | 2,211,200 | 2,277,500 |
| Overhead Allocation | (3,108,000) | (3,201,200) | (3,297,300) | (3,396,200) | (3,498,100) |
| Total Other | 605,500 | 623,700 | 642,400 | 661,700 | 681,500 |
| Total Operation and Maintenance | 40,023,400 | 41,224,200 | 42,461,000 | 43,734,900 | 45,047,000 |

(a) Represents the adopted operating budget as of December 17, 2008.

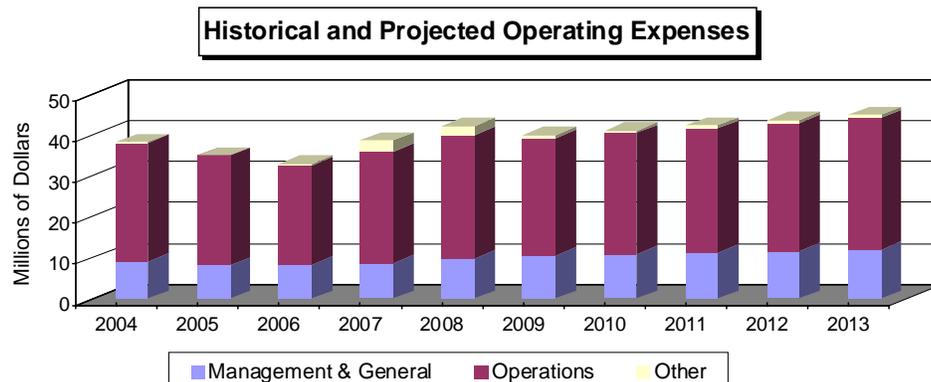


Table 21

**Sewerage Service Revenue Bond
Debt Service Requirements**

| | 2009 | 2010 | 2011 | 2012 | 2013 |
|-----------------------------|--------------------|-------------------|-------------------|-------------------|-------------------|
| | \$ | \$ | \$ | \$ | \$ |
| Existing Bonds | | | | | |
| Series 1997 | 2,511,000 | 2,515,400 | 2,519,000 | 2,522,400 | 2,528,600 |
| Series 1998 | 2,003,900 | 2,004,900 | 2,007,400 | 2,007,500 | 2,009,100 |
| Series 2000A | 2,231,200 | 2,235,000 | 2,245,100 | 2,252,400 | 2,261,300 |
| Series 2000B | 1,692,600 | 1,699,000 | 1,703,900 | 1,709,900 | 1,717,500 |
| Series 2001 | 2,617,500 | 2,614,800 | 2,612,800 | 2,609,600 | 2,603,700 |
| Series 2002 | 4,516,000 | 4,550,800 | 4,570,800 | 4,582,200 | 4,596,500 |
| Series 2003 | 406,500 | 408,100 | 408,100 | 405,500 | 402,700 |
| Series 2004 | 2,438,700 | 2,448,100 | 2,457,200 | 2,461,900 | 2,463,500 |
| Total Existing Debt Service | <u>18,417,400</u> | <u>18,476,100</u> | <u>18,524,300</u> | <u>18,551,400</u> | <u>18,582,900</u> |
| Proposed Bonds | | | | | |
| | Amount of Issue | | | | |
| | \$ | | | | |
| 2009 | 23,375,000 | 1,018,500 | 2,021,600 | 2,021,100 | 2,023,500 |
| 2010 | 0 | | 0 | 0 | 0 |
| 2011 | 8,000,000 | | 145,300 | 581,200 | 581,200 |
| 2012 | 16,500,000 | | | 299,700 | 1,198,700 |
| 2013 | 4,000,000 | | | | 72,700 |
| Total Proposed Debt Service | | <u>1,018,500</u> | <u>2,021,600</u> | <u>2,166,400</u> | <u>2,904,400</u> |
| Total Debt Service | | <u>19,435,900</u> | <u>20,497,700</u> | <u>20,690,700</u> | <u>21,455,800</u> |

Table 22

**Sewerage Department
Analysis of Ability of Forecasted Revenue to
Finance Projected Revenue Requirements**

| Line No. | | 2009 | 2010 | 2011 | 2012 | 2013 |
|---------------------------------|--|---------------|--------------|--------------|--------------|--------------|
| | | \$ | \$ | \$ | \$ | \$ |
| Operating Fund | | | | | | |
| 1 | Revenue from Charges | 69,241,100 | 71,118,100 | 72,663,100 | 73,865,100 | 74,592,100 |
| | Additional Revenue Required | | | | | |
| | Revenue Increase | | | | | |
| | Months Effective | | | | | |
| 2 | 2009 | 0 | 0 | 0 | 0 | 0 |
| 3 | 2010 | | 0 | 0 | 0 | 0 |
| 4 | 2011 | | | 0 | 0 | 0 |
| 5 | 2012 | | | | 1,538,900 | 3,729,600 |
| 6 | 2013 | | | | | 1,631,700 |
| 7 | Total Additional Revenue | 0 | 0 | 0 | 1,538,900 | 5,361,300 |
| 8 | Total Service Charge Revenue | 69,241,100 | 71,118,100 | 72,663,100 | 75,404,000 | 79,953,400 |
| 9 | Interest Income | 22,000 | 47,200 | 48,000 | 48,000 | 49,600 |
| 10 | Three-Mill Revenue Sharing | 300,000 | 300,000 | 300,000 | 300,000 | 300,000 |
| 11 | Plumbing Insp. & License Fees | 250,000 | 250,000 | 250,000 | 250,000 | 250,000 |
| 12 | Miscellaneous Revenue | 175,000 | 175,000 | 175,000 | 175,000 | 175,000 |
| 13 | Interest from Debt Service Reserve Fund | 92,000 | 81,000 | 82,000 | 87,000 | 91,000 |
| 14 | FEMA Federal Assistance Fees | 1,680,300 | 1,680,300 | 1,680,300 | 0 | 0 |
| 15 | FEMA Project Reimbursements | 4,095,000 | 1,267,500 | 1,267,500 | 1,267,500 | 1,267,500 |
| 16 | Total Operating Revenue | 75,855,400 | 74,919,100 | 76,465,900 | 77,532,300 | 82,086,500 |
| 17 | Operation & Maintenance | (40,023,400) | (41,224,200) | (42,461,000) | (43,734,900) | (45,047,000) |
| 18 | Provision for Claims | (133,900) | (137,900) | (142,100) | (146,300) | (150,700) |
| 19 | Provision for Doubtful Accounts | (1,384,800) | (1,422,400) | (1,453,300) | (1,508,100) | (1,599,100) |
| 20 | Net Operating Revenue | 34,313,300 | 32,134,600 | 32,409,500 | 32,143,000 | 35,289,700 |
| | Debt Service | | | | | |
| 21 | Existing | (18,417,400) | (18,476,100) | (18,524,300) | (18,551,400) | (18,582,900) |
| 22 | Proposed | (1,018,500) | (2,021,600) | (2,166,400) | (2,904,400) | (3,878,800) |
| 23 | Total Debt Service | (19,435,900) | (20,497,700) | (20,690,700) | (21,455,800) | (22,461,700) |
| 24 | Interest Expense on BAN's | (603,200) | 0 | 0 | 0 | 0 |
| 25 | Transfer to Construction | (14,300,000) | (11,500,000) | (11,500,000) | (10,600,000) | (12,600,000) |
| 26 | Due from (to) Other Internal Departments | 5,000,000 | 0 | 0 | 0 | 0 |
| 27 | Net Annual Balance | 4,974,200 | 136,900 | 218,800 | 87,200 | 228,000 |
| 28 | Beginning of Year Cash Balance | 0 | 4,974,200 | 5,111,100 | 5,329,900 | 5,417,100 |
| 29 | End of Year Balance | 4,974,200 | 5,111,100 | 5,329,900 | 5,417,100 | 5,645,100 |
| Capital Projects Funding | | | | | | |
| 30 | Funds Available at Beginning of Year | 57,320,400 | (6,268,800) | (4,245,800) | 243,000 | 233,600 |
| 31 | Revenue Bond Proceeds | 23,375,000 | 0 | 8,000,000 | 16,500,000 | 4,000,000 |
| 32 | Operation Fund Transfers | 14,300,000 | 11,500,000 | 11,500,000 | 10,600,000 | 12,600,000 |
| 33 | Participation by EPA | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 |
| 34 | Participation by Others | 10,350,000 | 200,000 | 200,000 | 200,000 | 200,000 |
| 35 | Debt Service Reserve Fund Release | 2,161,600 | 0 | 0 | 0 | 0 |
| 36 | Interest Income | 131,700 | 0 | 0 | 1,300 | 0 |
| 37 | Total Funds Available | 110,638,700 | 8,431,200 | 18,454,200 | 30,544,300 | 20,033,600 |
| 38 | Obligated Contracts & Capital Jobs | (65,856,900) | 0 | 0 | 0 | 0 |
| 39 | Reinvestment in Assets (a) | (14,644,000) | (12,467,000) | (17,360,000) | (20,882,000) | (19,286,000) |
| 40 | Major Capital Additions (a) | (10,870,000) | (210,000) | (110,000) | (7,900,000) | (110,000) |
| 41 | Bond Issuance Expense | (459,500) | 0 | (160,000) | (330,000) | (80,000) |
| 42 | Debt Service Reserve Fund | 0 | 0 | (581,200) | (1,198,700) | (290,600) |
| 43 | Bond Insurance | (711,600) | 0 | 0 | 0 | 0 |
| 44 | Other Uses of Funds | (335,500) | 0 | 0 | 0 | 0 |
| 45 | Redemption of BAN's | (24,030,000) | 0 | 0 | 0 | 0 |
| 46 | Total Application of Funds | (116,907,500) | (12,677,000) | (18,211,200) | (30,310,700) | (19,766,600) |
| 47 | End of Year Balance | (6,268,800) | (4,245,800) | 243,000 | 233,600 | 267,000 |
| | Debt Service Coverage | | | | | |
| 48 | Annual Test | 176.5% | 156.8% | 156.6% | 149.8% | 157.1% |
| | Additional Bonds Test | | | | | |
| 49 | Prior Two-Year Test | 134% | 155% | 159% | 146% | 144% |
| 50 | Maximum Future Debt Service Test | 213% | 204% | 322% | 300% | 346% |
| 51 | Coverage 5 Years after Sale | 402% | 470% | 540% | 646% | 787% |

(a) Costs associated with CP 313, 317, 318, 319, 326, 348, 609, 807, 810, and 823, totaling \$369,299,000 have been removed from the table and will be funded from FEMA reimbursements.

Drainage Department

2008 Drainage Department Operations

The Sewerage and Water Board has provided for the drainage needs of New Orleans since 1903. The City encompasses a saucer-shaped depression between the Mississippi River and Lake Pontchartrain on the East Bank and an area bordered by the river and adjoining wet lands on the West Bank. Prior to January 1, 1967, when the three-mill drainage tax became effective, the City of New Orleans was obligated to reimburse the Board for the cost of operating and maintaining drainage facilities.

In 1969, studies of projected capital improvement financing needs and revenue requirements indicated the need for additional sources of funds. Constitutional amendments, which would have provided the required funds from an additional three-mill ad valorem tax, were offered in 1970, and again in 1972. The State's electorate rejected both amendments. However, an additional six-mill ad valorem tax was approved April 16, 1977 and became effective January 1, 1978. Subsequently, a nine-mill property tax increase was approved May 16, 1981 and implemented January 1, 1982. The nine-mill tax is to be used for operation and maintenance, as well as funding of capital improvements.

Water entering the City in the form of rain or underground flow must be continually removed by pumping to minimize the danger of flooding, and pumping costs are significantly impacted by rainfall events. Rainfall in 2004, and 2005 was 3.55 inches and 3.25 inches, respectively, above average annual rainfall. Rainfall in 2006 and 2007 was 13.43 inches and 6.11 inches, respectively, below average annual rainfall. Rainfall in 2008 was 2.27 inches above average annual rainfall. A summary of rainfall for 2004 through 2008 is shown in Table 23.

The Board is charged with operating, maintaining, repairing, and expanding the major drainage system located throughout the City.

Revenues

Revenues that were available to the Drainage Department for operation and maintenance expenses, and capital additions, consisted of proceeds from the three-mill, six-mill, and nine-mill ad valorem tax, interest on investments, and miscellaneous income. Other revenues available for Drainage Department capital improvements included interest income and other miscellaneous sources.

A summary of historical revenues received by source is shown in Table 24 for the period 2004 through 2008. The historical revenue shown in Table 23 was developed from detailed records provided by Board Staff.

Operation and Maintenance Expenses

The present system of accounts categorizes expenses under the functional classifications of management and general expenses, operations expenses, and other expenses, including such items as general insurance, outside services employed, social security, worker's compensation insurance, pension and medical insurance contributions, and miscellaneous expenditures.

Table 25 presents a summary of 2004 through 2008 operation and maintenance expenses of the Drainage Department. Expenditures for 2008 increased about 6.5 percent from 2007 expenditures. The largest increase from 2007 expenses is reflected in Payroll Related Expenses. In July of 2004, the Governmental Accounting Standard Board (GASB) released Statement 45 (GASB 45) concerning health and other non-pension benefits for retired public employees. As a result of GASB 45, the Board must set aside money to cover the cost of post-retirement benefits as opposed to funding the benefits on a pay-as-you-go basis. This liability is reflected in the 2008 operating expenses. Operation and maintenance expenses have increased an average of 9 percent per year over the five-year period shown. Historical operation and maintenance expenses shown in Table 25 do not include the non-cash portion of Provision for Claims as recorded in the Comprehensive Annual Financial Report. Estimate of future Drainage Department claims are included on Line 8 in Table 32.

Capital Budget and Expenditures

Capital expenditures of the Drainage Department include the cost of replacements and improvements to pumping stations and canals, and the Drainage Department's pro rata share of power projects and general budget costs.

The Drainage Department capital improvement expenditures for 2007, shown in Table 26, amounted to \$27,723,440.

Summary of Operations

The following tabulation shows a summary of receipts and expenditures of the Drainage Department during 2008:

| | |
|--|------------------|
| Total Revenues | \$43,075,847 |
| Operation and Maintenance Expense | 28,491,530 |
| Claims | 609,072 |
| Bond Debt Service | <u>1,659,888</u> |
| Revenue Available for Capital Expenditures (a) | \$12,315,356 |

(a) Excludes depreciation

Proposed Capital Improvement Program

Table 27 presents a summary of the projected major capital improvement program for the period 2009 through 2013. Table 27 is based on revisions of the Board's 2009 adopted Capital Budget and the 2010-2013 proposed Capital Program. The revised budget was presented and adopted by the Board in July. The five-year major capital improvement program costs are expected to total \$1,413,667,000. Major budget items include extension and enlargement of canals plus increased pumping capacity.

Participation by others consists of monies collected from developers and individuals for the extension of drainage service to new customers and from governmental agencies for replacement and expansion of system facilities. As shown in Table 28, future revenues from these sources are estimated by the Board in the 2009 through 2013 Capital Budget according to capital project and amount to \$764,115,000, most of which is provided by the United States Corps of Engineers.

The Sewerage and Water Board is currently receiving funds from the Corps of Engineers sponsored and congressionally authorized Southeast Louisiana Urban Flood Control (SELA) Project. This funding will allow additional construction of projects which were identified in the 1970's, but which have not been completed because of funding limitations. The identified projects are to be funded either 100 percent from federal funds or 75 percent from federal funds and 35% from local funds. In September of 2008, Congress appropriated additional funds to serve as up-front funding of the local share, with payback via a 30-year plan. It is assumed that payback funding of the local share will not begin during the 2009-2013 study period.

Ability to Finance Proposed Capital Expenditures

Drainage Department future operating and capital cost requirements are to be met by the revenue sources previously discussed. In 2008, the three-mill, six-mill, and nine-mill ad valorem taxes were the principal source of operating funds for the Drainage Department.

Revenues

Projected operating income of the drainage system is shown in Table 29. Projections include proceeds from the three-mill, the six-mill, and the nine-mill ad valorem tax and other revenue and are based on the 2008 assessed taxable value.

Other sources of income include interest earned from the investment of funds held for future use; sales of three-mill, six-mill, and nine-mill ad valorem tax bonds; and participation by others. Projections of interest income, which vary according to the balance of funds held for future use, are shown in a later section of this report.

The projection of millage revenue for 2009 through 2013 is based on 6.40, 6.48, and 9.71 mills for three-mill, six-mill, and nine-mill taxes, respectively.

Operation and Maintenance Expenses

A summary of projected of operation and maintenance expenses are shown in Table 30. Expenses are categorized by system function as now reflected in the accounting system of the Sewerage and Water Board. Estimates of future expenses are based on anticipated future operating conditions and allowances for inflationary factors.

Based on historical trends and conversations with utility staff, all costs are projected to increase 3.0 percent per year from the Board's budget for 2009.

Debt Service Requirements

Nine-mill bonds in the amount of \$10,000,000 were issued in 1998, and as of December 31, 2008, \$6,175,000 remained outstanding. Additional nine-mill bonds in the amount of \$20,000,000 were issued in 2002, and as of December 31, 2008, \$16,535,000 remained outstanding.

Collection of the three-mill ad valorem tax levy is authorized until the year 2017; six-mill tax until 2028; and nine-mill tax until 2032.

Shown in Table 31 are the scheduled principal and interest requirements on the outstanding bonds for the period 2009 through 2013.

To adequately fund the proposed capital improvements, additional revenue bonds are indicated as shown in Table 31. It is assumed that the terms of new debt incurred will be 5.0 percent for a term of 30 years.

Debt service requirements associated with anticipated bond issues required to finance proposed major capital improvements are presented in Table 31 and described in the following section of this report.

Adequacy of Revenues to Finance Proposed Capital Improvements

Total revenue requirements for the Drainage Department recognized for purposes of this report include operation and maintenance expense, allowance for claims, debt service costs on major capital improvements financed through the sale of bonds, and expenditures for capital improvements not financed from bond proceeds. Table 32 summarizes the financing of operation and maintenance expense, debt service costs on outstanding and proposed bonds, and the transfer of operating funds for major capital improvement financing. It also examines the financing of the major capital improvement program.

Operating Fund

Money deposited in the Drainage System Fund is obtained primarily from the three-mill, six-mill, and nine-mill ad valorem tax as shown on Lines 1 through 3 of Table 32.

Other revenue available for system operations, shown on Lines 4 and 5, consist of other income and interest income. Interest Income available to the operating fund, shown on Line 5, is estimated to be 0.5 percent of the average of the beginning and end of year Net Annual Balance, except as the average is affected by identifiable nonrecurring major receipts, transfers, or expenditures during the year. The Board has received funds from FEMA to assist with the expense associated with filing forms with FEMA. This reimbursement is shown on Line 6.

Operation and Maintenance expense, previously projected in Table 30, is shown on Line 8 of Table 32. Line 9 shows the estimated allowance for claims. Projected Net Operating Revenue from system operations is shown on Line 10.

Lines 11 through 13 present debt service requirements on currently outstanding and proposed revenue bonds. Additional debt financing as shown in Table 31 is assumed to fund proposed capital improvements. These bonds are assumed to be 30 year, 5.0 percent fixed interest rate bonds issued in October of each year, with equal annual payments of principal and interest.

Line 14 reflects the projected transfer of accumulated net earnings from system operations to assist in major capital financing. Typically, such accumulated net earnings may be used to help recover portions of the annual costs of system operations or to assist in major capital improvement financing.

Line 15 indicated the estimated Net Annual Balance from operations remaining at the end of each year. The \$7,379,800 net balance of operating funds available at the beginning of the year 2009, shown on Line 16, is comprised of the current cash assets.

The End of Year Balance is shown on Line 17. It is intended that, in all years of the period 2009 through 2013, the End of Year Balance should equal or exceed the assumed adequate emergency capital reserve of 45 days operation and maintenance expense. It is anticipated that the End of Year Balance will be equal to or greater than the targeted emergency capital reserve through 2013.

Capital Projects Funding

Major capital improvement financing is examined in Lines 18 through 29 of Table 32. The amount of Funds on Hand, shown on Line 18, is \$75,782,300. This amount is based on audited data provided by the Board.

Bond issue amounts for a total of \$620,700,000 are projected and shown on Line 19 of Table 32. The amounts and year of issue are developed considering capital program needs, current policies, and other sources of major capital improvement financing.

Financing of the major capital improvement program anticipates the transfer of a total of \$3,900,000 of operating reserves as shown on Line 20. Other sources of funds available to meet major capital improvement expenditures are Participation by Others and Interest Income. Interest earnings recognize an assumed 0.5 percent average annual interest rate. Lines 21 and 22 indicate the estimated annual funds from each of these sources. Line 23 of the table shows the projected major capital improvement funds available each year.

As of December 31, 2008, the Board had \$38,572,800 obligated for open contracts and capital jobs as shown on Line 24 of Table 32. Lines 25 and 26 show the projected Reinvestment of Assets and Major Capital Additions to be funded. The Board anticipates receiving funds from FEMA under the provisions of the Stafford Act to restore all damaged assets to pre-Katrina condition. Projects for which a project worksheet has been submitted to FEMA and the corresponding FEMA reimbursements for capital projects are excluded from this table.

Estimated issuance costs related to the proposed bond issue amounts are shown on Line 27. The net End of Year Balance is shown on Line 29.

As demonstrated in Table 32, it is anticipated that current revenue sources will be adequate to readily finance both projected capital program requirements and estimated future operation expenses of the Drainage Department during the 2009-2013 study period examined herein.

Table 23
Drainage Department
Rainfall

| Year | Year to Date (inches) | | | | | | | | | | | | Deviation from Average |
|-------------|-----------------------|----------|-------|-------|-------|-------|-------|--------|-----------|---------|----------|----------|------------------------|
| | January | February | March | April | May | June | July | August | September | October | November | December | |
| 2004 | 3.34 | 11.44 | 12.43 | 20.73 | 28.11 | 38.42 | 43.20 | 47.38 | 48.45 | 54.00 | 60.08 | 62.84 | 3.55 |
| Average (a) | 4.52 | 9.14 | 14.30 | 19.21 | 24.02 | 29.75 | 36.21 | 42.05 | 47.72 | 50.91 | 54.67 | 59.29 | |
| 2005 | 3.65 | 12.68 | 16.54 | 23.02 | 27.03 | 31.32 | 42.94 | 57.49 | 58.35 | 58.41 | 59.64 | 62.60 | 3.25 |
| Average (a) | 4.60 | 9.14 | 14.39 | 19.25 | 24.05 | 29.67 | 35.13 | 42.12 | 47.53 | 54.18 | 54.72 | 59.35 | |
| 2006 | 2.60 | 5.32 | 5.57 | 8.73 | 9.49 | 11.65 | 20.05 | 26.45 | 29.34 | 32.37 | 35.31 | 45.86 | (13.43) |
| Average (a) | 4.58 | 9.23 | 14.33 | 19.24 | 24.01 | 69.69 | 36.22 | 42.13 | 47.74 | 50.90 | 54.64 | 59.29 | |
| 2007 | 4.12 | 5.93 | 7.31 | 9.12 | 17.63 | 22.06 | 29.72 | 31.36 | 35.78 | 47.40 | 48.61 | 53.13 | (6.11) |
| Average (a) | 4.58 | 9.20 | 14.27 | 19.15 | 23.95 | 29.63 | 36.16 | 42.04 | 47.64 | 50.87 | 54.58 | 59.24 | |
| 2008 | 6.32 | 11.96 | 14.53 | 22.41 | 30.17 | 36.69 | 40.60 | 48.37 | 56.24 | 57.60 | 59.66 | 61.52 | 2.27 |
| Average (a) | 4.60 | 9.22 | 14.27 | 19.18 | 24.01 | 29.69 | 36.20 | 42.09 | 47.71 | 50.93 | 54.63 | 59.25 | |

(a) Average of Year 1894 to Date.

Table 24
Drainage Department
Historical Revenues Received

| | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> |
|--------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | \$ | \$ | \$ | \$ | \$ |
| Three-mill Ad Valorem Tax | 12,199,559 | 12,990,040 | 9,682,028 | 11,388,731 | 11,294,822 |
| Six-mill Ad Valorem Tax | 12,352,092 | 13,152,643 | 9,803,052 | 11,525,043 | 11,406,361 |
| Nine-mill Ad Valorem Tax | 18,508,104 | 19,707,787 | 13,686,249 | 17,271,271 | 17,001,253 |
| Two-mill Ad Valorem Tax | 5,192 | 1,407 | 3,699 | 120 | 0 |
| Plumbing License and Inspection Fees | 0 | 0 | 0 | 0 | 0 |
| Interest Earned | 1,259,621 | 2,539,391 | 3,571,415 | 4,663,955 | 2,148,679 |
| Other | 971,224 | 1,013,058 | 948,743 | 1,378,453 | 1,224,732 |
| Total Revenue | <u>45,295,792</u> | <u>49,404,326</u> | <u>37,695,186</u> | <u>46,227,574</u> | <u>43,075,847</u> |
| Total Less Interest | 44,036,171 | 46,864,935 | 34,123,771 | 41,563,618 | 40,927,168 |

Table 25

**Drainage Department
Historical Operation and Maintenance Expenses**

| | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|-------------|-------------|-------------|-------------|-------------|
| | \$ | \$ | \$ | \$ | \$ |
| Management and General Expenses | | | | | |
| Administrative | 1,417,324 | (79,477) | 1,540,850 | 2,026,248 | 1,442,470 |
| Management Services Director | 31,395 | 35,152 | 26,708 | 9,447 | 10,991 |
| Building and Grounds and Support Services | 2,142,492 | 1,970,916 | 1,401,622 | 1,536,920 | 2,222,454 |
| Personnel Administration | 160,352 | 140,723 | 105,314 | 131,787 | 139,385 |
| Finance Administration | 221,540 | 246,375 | 217,596 | 254,449 | 285,726 |
| Information Systems | 752,874 | 865,551 | 789,841 | 721,668 | 684,813 |
| Purchasing | 92,872 | 95,051 | 76,801 | 83,257 | 95,289 |
| Total Management and General | 4,818,849 | 3,274,291 | 4,158,732 | 4,763,776 | 4,881,129 |
| Operations Expenses | | | | | |
| General Superintendent | 137,791 | 81,407 | 58,127 | 69,548 | 83,804 |
| Drainage Pumping and Central Control | 5,448,217 | 6,322,322 | 5,137,257 | 5,994,057 | 6,810,440 |
| Chief of Operations | 37,202 | 35,742 | 25,400 | 27,543 | 22,138 |
| Water Pumping and Power | 4,260,920 | 5,830,473 | 8,948,644 | 7,797,775 | 8,722,654 |
| Chief of Facilities Maintenance | 39,706 | 42,042 | 21,619 | 23,597 | 27,195 |
| Facilities Maintenance | 1,227,592 | 1,479,832 | 1,295,357 | 1,438,726 | 1,621,548 |
| Central Yard | 891,602 | 893,468 | 713,516 | 915,088 | 915,986 |
| Office of Chief of Network | 62,037 | 40,100 | 32,148 | 126,553 | 42,563 |
| Networks | 2,283,389 | 2,100,297 | 1,640,000 | 2,272,004 | 2,332,643 |
| Engineering | 607,271 | 706,332 | 618,892 | 626,482 | 743,445 |
| Total Operations | 14,995,727 | 17,532,015 | 18,490,960 | 19,291,373 | 21,322,417 |
| Other Expenses | | | | | |
| Special Accounts | 634,506 | 705,482 | 824,875 | 831,999 | 593,650 |
| Payroll Related Expenses | 1,293,770 | 1,171,313 | 1,129,437 | 3,471,996 | 3,350,223 |
| Overhead Allocation | (1,484,151) | (1,555,240) | (1,335,750) | (1,617,116) | (1,655,889) |
| Total Other | 444,125 | 321,555 | 618,562 | 2,686,879 | 2,287,984 |
| Total Operation and Maintenance (a) | 20,258,701 | 21,127,861 | 23,268,254 | 26,742,028 | 28,491,530 |

(a) Source: Expenditure Analysis by Group Report.

Note: Historical operation and maintenance expenses do not include the non-cash portion of provision for claims as recorded in the Comprehensive Annual Financial Report. Estimates of future Water Department claims payable are included in Table 11.

Table 26

**Drainage Department
Capital Expenditures (a)
2008**

| C.P. # Project | Actual Expenditures |
|--|------------------------|
| | \$ |
| Canals | |
| 418 Normal Extensions & Replacements | 12,394 |
| 439 SWB Part Drng Tchoupitoulas Paving Project | 1,755,968 |
| 471 C.O.E. Drainage Study | 906,756 |
| 474 Terpsichore Canal | 117 |
| 476 Hollygrove Canals | 178,935 |
| 486 Napoleon Canal Improvements | 3,134,153 |
| 497 Florida Ave. Canal - Mazant to Peoples | 35,561 |
| 498 Dwyer Canal (St. Charles to Dwyer DPS) | 3,353,012 |
| Total Drainage Canals | <u>9,376,896</u> |
| Pumping Stations | |
| 511 Normal Extensions & Rep./Stations | 9,099,402 |
| 554 Expansion of Dwyer DPS | 6,271 |
| 574 Hurricane Katrina Expenses for Drainage System | 5,644,063 |
| 575 Drainage Hurricane Recovery Bonds | 368,013 |
| Total Drainage Pumping Stations | <u>15,117,750</u> |
| Power Projects and General Budget | |
| 600 Drainage Share of Power Projects | 1,250,080 |
| 703 Drainage Reserve for Emergency | |
| 800 Drainage Share of General Budget Items | 1,978,715 |
| Total Drainage Department | <u>27,723,440</u> |

(a) Expenditures do not include proration of interest expense.

Table 27

**Drainage Department
Proposed Capital Improvements (a)**

| C.P.# | Project | 2009 | 2010 | 2011 | 2012 | 2013 | Total |
|-----------------------------------|---|--------------------|--------------------|--------------------|--------------------|--------------------|----------------------|
| | | \$ | \$ | \$ | \$ | \$ | \$ |
| Reinvestment in Assets | | | | | | | |
| 418 | Normal Ext. & Replacements | 3,905,000 | 555,000 | 555,000 | 555,000 | 555,000 | 6,125,000 |
| 511 | Normal Ext. & Replacement - Stations | 14,300,000 | 11,200,000 | 100,000 | 100,000 | 100,000 | 25,800,000 |
| 600 | Drainage Share of Power Projects | 7,153,000 | 104,345,000 | 1,327,000 | 300,000 | 300,000 | 113,425,000 |
| 703 | Drainage Reserve for Emergencies | | | | | | 0 |
| 800 | Drainage Share of General Budget Items | 3,432,000 | 3,467,000 | 3,211,000 | 2,432,000 | 2,220,000 | 14,762,000 |
| | Total Routine Capital Improvements | 28,790,000 | 119,567,000 | 5,193,000 | 3,387,000 | 3,175,000 | 160,112,000 |
| Major Capital Improvements | | | | | | | |
| 400 | Eng. & Insp. of Devlp. Installations | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 50,000 |
| 403 | Improvements to Vehicular Bridges | | | | | | 0 |
| 404 | Washington Avenue Canal Improvrments | | | | | | 0 |
| 439 | Mains, Over 36" in Street Dept. Contracts | 8,300,000 | 8,300,000 | 8,300,000 | 8,300,000 | 8,300,000 | 41,500,000 |
| 453 | Improvements to Metairie Relief Canal | 450,000 | 6,100,000 | 100,000 | | | 6,650,000 |
| 466 | Louisiana Ave. Canal | 150,000 | 150,000 | 4,000,000 | 150,750,000 | 250,000 | 155,300,000 |
| 471 | SELA Program Management | 1,500,000 | 1,500,000 | 1,500,000 | 1,500,000 | 1,500,000 | 7,500,000 |
| 472 | Tchoupitoulas Corridor | | | 250,000 | 12,000,000 | | 12,250,000 |
| 474 | Melpomene Street Canal | 150,000 | 50,000 | | | | 200,000 |
| 476 | Hollygrove Canals | 150,000 | 50,000 | | | | 200,000 |
| 477 | S. Claib Manifold - LA Ave. to Nashville Ave. | | 1,300,000 | | | | 1,300,000 |
| 478 | S. Claib - Lowerline to Monticello St. | 72,045,000 | 67,300,000 | 350,000 | 500,000 | 450,000 | 140,645,000 |
| 483 | Airline & Monticello Canal Improvements | | | 325,000 | 8,400,000 | | 8,725,000 |
| 486 | Napoleon Canal Improvements | 86,275,000 | 68,375,000 | 1,125,000 | 625,000 | 525,000 | 156,925,000 |
| 490 | Orleans Ave. Canal | | | | | | 0 |
| 492 | Donner Canal Improvements | | | 3,500,000 | 20,025,000 | 25,025,000 | 48,550,000 |
| 495 | Florida Ave. Canal, Peoples to Elysian Fields | | | | | | 0 |
| 496 | De Gaulle Canal | 7,250,000 | 12,050,000 | 12,050,000 | 35,050,000 | 35,050,000 | 101,450,000 |
| 497 | Florida Ave. Canal, DPS #19 to Peoples | 90,425,000 | 51,175,000 | 110,775,000 | 525,000 | 525,000 | 253,425,000 |
| 498 | Dwyer Canal - Lamb to Jourdan | 59,127,000 | 125,000 | 275,000 | 275,000 | 250,000 | 60,052,000 |
| 499 | Jefferson Ave. Canal | 87,525,000 | 64,725,000 | 25,000 | 525,000 | 525,000 | 153,325,000 |
| 512 | Expansion of DPS #15 | | | | 15,000,000 | | 15,000,000 |
| 535 | DPS #6 | 400,000 | | 12,500,000 | 12,500,000 | | 25,400,000 |
| 546 | Expansion of DPS #4 West | | | | | 25,908,000 | 25,908,000 |
| 550 | Additions to DPS #1 | | | | | | 0 |
| 554 | Expansion of Dwyer DPS | 4,075,000 | 75,000 | | | | 4,150,000 |
| 555 | DPS #7 Improvements | | | | | | 0 |
| 557 | Flood Gate - DPS #16 Discharge Tunnel | | | | | 1,000,000 | 1,000,000 |
| 568 | Lakefront Pumping Station | | | | | | 0 |
| 570 | Pritchard DPS | | | | | | 0 |
| 571 | Harrison Ave. DPS | | | | | | 0 |
| 572 | Robert E. Lee DPS | | | | | | 0 |
| 573 | DPS #13 Improvements | 500,000 | 500,000 | 32,325,000 | 225,000 | | 33,550,000 |
| 575 | Drainage Hurricane Recovery Bonds | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 500,000 |
| | Total Major Capital Improvements | 418,432,000 | 281,885,000 | 187,510,000 | 266,310,000 | 99,418,000 | 1,253,555,000 |
| | Total Drainage Department Improvements | 447,222,000 | 401,452,000 | 192,703,000 | 269,697,000 | 102,593,000 | 1,413,667,000 |

(a) The improvements for the 2009-2013 period are based on revisions of the budget approved December 17, 2008. The revised budget was ratified by the Board in July 2009.

Table 28

**Drainage Department
Projected Participation by Others (a)**

| C.P.# | Project | 2009 | 2010 | 2011 | 2012 | 2013 | Total |
|-------|--|--------------------|--------------------|-------------------|--------------------|-------------------|--------------------|
| | | \$ | \$ | \$ | \$ | \$ | \$ |
| 418 | | | | | | | 0 |
| 453 | Improvements to Metairie Relief Canal | 108,000 | 1,464,000 | 24,000 | | | 1,596,000 |
| 466 | Louisiana Ave. Canal | | | | 105,200,000 | | 105,200,000 |
| 472 | Tchoupitoulas Corridor | | | | 1,850,000 | | 1,850,000 |
| 476 | Hollygrove Canals | | | | | | 0 |
| 477 | S. Claib - Manifold-Louisiana Ave to Nashville | | 1,300,000 | | | | 1,300,000 |
| 478 | S. Claib - Lowerline to Monticello St. | 44,850,000 | 41,600,000 | | | | 86,450,000 |
| 486 | Napoleon Canal Improvements | 53,300,000 | 42,250,000 | | | | 95,550,000 |
| 490 | Orleans Ave. Canal | | | | | | 0 |
| 492 | Donner Canal Improvements | | | | 13,000,000 | 16,250,000 | 29,250,000 |
| 496 | De Gaulle Canal | 3,250,000 | 7,800,000 | 7,800,000 | 22,750,000 | 22,750,000 | 64,350,000 |
| 497 | Florida Ave. Canal, DPS #19 to Peoples | 75,376,000 | 31,850,000 | 67,600,000 | | | 174,826,000 |
| 498 | Dwyer Canal - Lamb to Jourdan | 58,826,000 | | | | | 58,826,000 |
| 499 | Jefferson Ave. Canal | 53,950,000 | 39,845,000 | | | | 93,795,000 |
| 520 | DPS #19 Generators | | | | | | 0 |
| 535 | DPS #6 | 96,000 | | 3,000,000 | 3,000,000 | | 6,096,000 |
| 546 | Expansion of DPS #4 West | | | | | 20,726,000 | 20,726,000 |
| 554 | Expansion of Dwyer DPS | 4,000,000 | | | | | 4,000,000 |
| 568 | Lakefront Pumping Station | | | | | | 0 |
| 571 | Harrison Ave. DPS | | | | | | 0 |
| 572 | Robert E. Lee DPS | | | | | | 0 |
| 573 | DPS #13 Improvements | | | 20,150,000 | 150,000 | | 20,300,000 |
| | Total | 293,756,000 | 166,109,000 | 98,574,000 | 145,950,000 | 59,726,000 | 764,115,000 |

(a) The improvements for the 2009-2013 period are based on revisions of the budget approved December 17, 2008. The revised budget will be presented to the Board for ratification in July.

Table 29

**Drainage Department
Projected Operating Revenues**

| Year | Ad Valorem Tax Revenue | | | | Total |
|------|------------------------|------------|------------|-----------|------------|
| | Three-Mill | Six-Mill | Nine-Mill | Other | |
| | \$ | \$ | \$ | \$ | |
| 2009 | 11,534,900 | 11,692,300 | 17,376,800 | 1,425,195 | 42,029,195 |
| 2010 | 12,688,400 | 12,861,500 | 19,114,500 | 1,425,195 | 46,089,595 |
| 2011 | 13,957,200 | 14,147,700 | 21,026,000 | 1,425,195 | 50,556,095 |
| 2012 | 15,352,900 | 15,562,500 | 23,128,600 | 1,425,195 | 55,469,195 |
| 2013 | 16,888,200 | 17,118,800 | 25,441,500 | 1,425,195 | 60,873,695 |

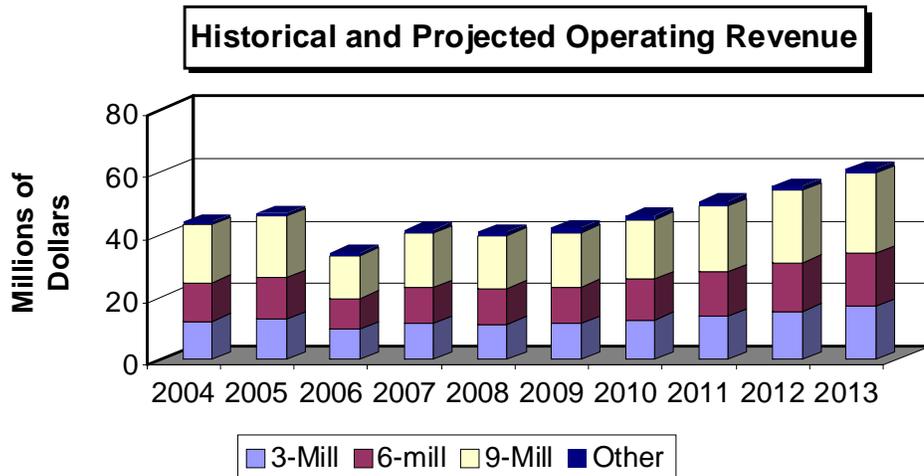


Table 30

**Drainage Department
Projected Operation and Maintenance Expenses**

| | 2009 (a) | 2010 | 2011 | 2012 | 2013 |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|
| | \$ | \$ | \$ | \$ | \$ |
| Management and General Expenses | | | | | |
| Administrative | 1,448,100 | 1,491,600 | 1,536,300 | 1,582,400 | 1,629,900 |
| Management Services Director | 11,900 | 12,200 | 12,600 | 13,000 | 13,300 |
| Building and Grounds and Support Services | 3,049,300 | 3,140,700 | 3,235,000 | 3,332,000 | 3,432,000 |
| Personnel Administration | 134,100 | 138,100 | 142,300 | 146,500 | 150,900 |
| Finance Administration | 245,100 | 252,500 | 260,000 | 267,800 | 275,900 |
| Information Systems | 948,500 | 976,900 | 1,006,200 | 1,036,400 | 1,067,500 |
| Purchasing | 133,900 | 138,000 | 142,100 | 146,400 | 150,700 |
| Total Management and General | 5,970,900 | 6,150,000 | 6,334,500 | 6,524,500 | 6,720,200 |
| Operations Expenses | | | | | |
| General Superintendent | 61,800 | 63,600 | 65,500 | 67,500 | 69,500 |
| Drainage Pumping and Central Control | 5,346,500 | 5,506,900 | 5,672,100 | 5,842,300 | 6,017,600 |
| Chief of Operations | 31,500 | 32,400 | 33,400 | 34,400 | 35,400 |
| Water Pumping and Power | 7,470,600 | 7,694,800 | 7,925,600 | 8,163,400 | 8,408,300 |
| Chief of Facilities Maintenance | 58,300 | 60,100 | 61,900 | 63,700 | 65,600 |
| Facilities Maintenance | 1,492,200 | 1,536,900 | 1,583,100 | 1,630,500 | 1,679,500 |
| Central Yard | 778,800 | 802,200 | 826,300 | 851,100 | 876,600 |
| Office of Chief of Network | 46,300 | 47,700 | 49,100 | 50,600 | 52,100 |
| Networks | 2,057,300 | 2,119,100 | 2,182,600 | 2,248,100 | 2,315,500 |
| Engineering | 690,200 | 710,900 | 732,200 | 754,200 | 776,800 |
| Total Operations | 18,033,500 | 18,574,600 | 19,131,800 | 19,705,800 | 20,296,900 |
| Other Expenses | | | | | |
| Special Accounts | 1,182,800 | 1,218,300 | 1,254,900 | 1,292,500 | 1,331,300 |
| Payroll Related Expenses | 1,499,900 | 1,544,900 | 1,591,300 | 1,639,000 | 1,688,200 |
| Overhead Allocation | (1,428,000) | (1,470,800) | (1,514,900) | (1,560,400) | (1,607,200) |
| Total Other | 1,254,700 | 1,292,400 | 1,331,300 | 1,371,100 | 1,412,300 |
| Total Operation and Maintenance | 25,259,100 | 26,017,000 | 26,797,600 | 27,601,400 | 28,429,400 |

(a) Represents the adopted operating budget as of December 17, 2008.



Table 31

**Drainage Department
Debt Service Requirements**

| | <u>2009</u> | <u>2010</u> | <u>2011</u> | <u>2012</u> | <u>2013</u> |
|------------------------------|--------------------|------------------|-------------------|-------------------|-------------------|
| | \$ | \$ | \$ | \$ | \$ |
| Nine-Mill Tax Bonds | | | | | |
| Series 1998 | 794,300 | 792,900 | 794,600 | 794,700 | 793,400 |
| Series 2002 | <u>1,400,200</u> | <u>1,391,000</u> | <u>1,403,100</u> | <u>1,412,300</u> | <u>1,423,400</u> |
| Total Nine-Mill Debt Service | 2,194,500 | 2,183,900 | 2,197,700 | 2,207,000 | 2,216,800 |
| Proposed Bond Issues | | | | | |
| | Amount of Issue | | | | |
| | \$ | | | | |
| 2009 | 114,600,000 | 1,863,700 | 7,454,900 | 7,454,900 | 7,454,900 |
| 2010 | 240,100,000 | | 3,904,700 | 15,618,800 | 15,618,800 |
| 2011 | 96,000,000 | | 1,561,200 | 6,244,900 | 6,244,900 |
| 2012 | 126,300,000 | | | 2,054,000 | 8,216,000 |
| 2013 | 43,700,000 | | | | 710,700 |
| Total Proposed Debt Service | | <u>1,863,700</u> | <u>11,359,600</u> | <u>24,634,900</u> | <u>31,372,600</u> |
| Total Debt Service | | <u>4,058,200</u> | <u>13,543,500</u> | <u>26,832,600</u> | <u>33,579,600</u> |

Table 32

**Drainage Department
Analysis of Ability of Forecasted Revenue to
Finance Projected Revenue Requirements**

| Line No | 2009 \$ | 2010 \$ | 2011 \$ | 2012 \$ | 2013 \$ | |
|---------------------------------|--------------------------------------|---------------|---------------|---------------|---------------|---------------|
| Operating Fund | | | | | | |
| 1 | Three-Mill Ad Valorem Tax Revenue | 11,534,900 | 12,688,400 | 13,957,200 | 15,352,900 | 16,888,200 |
| 2 | Six-Mill Ad Valorem Tax Revenue | 11,692,300 | 12,861,500 | 14,147,700 | 15,562,500 | 17,118,800 |
| 3 | Nine-Mill Ad Valorem Tax Revenue | 17,376,800 | 19,114,500 | 21,026,000 | 23,128,600 | 25,441,500 |
| 4 | Other | 1,425,195 | 1,425,195 | 1,425,195 | 1,425,195 | 1,425,195 |
| 5 | Interest Income | 66,500 | 103,000 | 109,800 | 85,400 | 48,000 |
| 6 | FEMA Federal Assistance Fees | 172,600 | 172,600 | 172,600 | 0 | 0 |
| 7 | Total Operating Revenue | 42,268,295 | 46,365,195 | 50,838,495 | 55,554,595 | 60,921,695 |
| 8 | Operation & Maintenance | (25,259,100) | (26,017,000) | (26,797,600) | (27,601,400) | (28,429,400) |
| 9 | Provision for Claims | (618,000) | (636,500) | (655,600) | (675,300) | (695,600) |
| 10 | Net Operating Revenue | 16,391,195 | 19,711,695 | 23,385,295 | 27,277,895 | 31,796,695 |
| Debt Service | | | | | | |
| 11 | Existing | (2,194,500) | (2,183,900) | (2,197,700) | (2,207,000) | (2,216,800) |
| 12 | Proposed | (1,863,700) | (11,359,600) | (24,634,900) | (31,372,600) | (38,245,300) |
| 13 | Total Debt Service | (4,058,200) | (13,543,500) | (26,832,600) | (33,579,600) | (40,462,100) |
| 14 | Transfer to Construction | (3,900,000) | 0 | 0 | 0 | 0 |
| 15 | Net Annual Balance | 8,432,995 | 6,168,195 | (3,447,305) | (6,301,705) | (8,665,405) |
| 16 | Beginning of Year Cash Balance | 7,379,800 | 15,812,795 | 21,980,990 | 18,533,685 | 12,231,980 |
| 17 | End of Year Balance | 15,812,795 | 21,980,990 | 18,533,685 | 12,231,980 | 3,566,575 |
| Capital Projects Funding | | | | | | |
| 18 | Funds Available at Beginning of Year | 75,782,300 | 57,500 | 49,400 | 15,100 | 61,600 |
| 19 | Revenue Bond Proceeds | 114,600,000 | 240,100,000 | 96,000,000 | 126,300,000 | 43,700,000 |
| 20 | Operation Fund Transfers | 3,900,000 | 0 | 0 | 0 | 0 |
| 21 | Participation by Others | 293,756,000 | 166,109,000 | 98,574,000 | 145,950,000 | 59,726,000 |
| 22 | Interest Income | 106,000 | 36,900 | 14,700 | 19,500 | 6,700 |
| 23 | Total Funds Available | 488,144,300 | 406,303,400 | 194,638,100 | 272,284,600 | 103,494,300 |
| 24 | Obligated Contracts & Capital Jobs | (38,572,800) | 0 | 0 | 0 | 0 |
| 25 | Reinvestment in Assets | (28,790,000) | (119,567,000) | (5,193,000) | (3,387,000) | (3,175,000) |
| 26 | Major Capital Additions | (418,432,000) | (281,885,000) | (187,510,000) | (266,310,000) | (99,418,000) |
| Issuance Costs | | | | | | |
| 27 | Bond Issuance Expense | (2,292,000) | (4,802,000) | (1,920,000) | (2,526,000) | (874,000) |
| 28 | Total Application of Funds | (488,086,800) | (406,254,000) | (194,623,000) | (272,223,000) | (103,467,000) |
| 29 | End of Year Balance | 57,500 | 49,400 | 15,100 | 61,600 | 27,300 |

| Assessment of East Bank Sewerage Stations | | | | | |
|--|-------------|----------------------|--------------|---------------------------------|---|
| ID | Date | Facility Name | Route | Location | Status |
| 1 | 04/09/2009 | Chickasaw | A | Chickasaw at Metropolitan | Both pumps out of service, portable pump in use |
| 2 | 04/09/2009 | K-Mart | A | Desire at Gentilly | Both pumps out of service, portable pump in use |
| 3 | 04/09/2009 | Station 23 | A | 4500 Mithra | In service |
| 4 | 04/09/2009 | Station 17 | A | 4975 Spain at Selma | In service |
| 5 | 04/09/2009 | Station 22 | A | 5705 Perlita | Both pumps out of service, portable pump in use |
| 6 | 04/09/2009 | Station 19 | A | 3730 Jumonville at Milton | In service |
| 7 | 04/09/2009 | Station 21 | A | 6670 Memphis At Filmore | In service |
| 8 | 04/09/2009 | Station 18 | A | Vicksburg at Florida | In service |
| 9 | 04/09/2009 | City Park | A | 5701 Marconi Drive | In service |
| 10 | 04/09/2009 | Station 20 | A | 328 37th Street | Both pumps out of service, portable pump in use |
| 11 | 04/09/2009 | Station 4 | A | 5899 Fleur de Leis | Both pumps out of service, portable pump in use |
| 12 | 04/09/2009 | Lakewood South | A | Country Club Drive near Marconi | Both pumps out of service, portable pump in use |
| 13 | 04/09/2009 | Station 6 | A | 242 S Solomon at Palmyra | One pump out of service |
| 14 | 04/09/2009 | Station 3 | A | 8720 Olive near Eagle | Both pumps out of service, portable pump in use |
| 15 | 04/09/2009 | Station 1 | A | 7336 Cohn | Both pumps out of service, portable pump in use |
| 16 | 04/09/2009 | Station 14 | A | 4000 Clara | Three pumps out of service |
| 17 | 04/09/2009 | Station 5 | A | 3912 Erato St | One pump out of service |

| Assessment of East Bank Sewerage Stations | | | | | |
|---|------------|--------------------------------------|-------|--------------------------------|---|
| ID | Date | Facility Name | Route | Location | Status |
| 18 | 04/09/2009 | Station 15 | A | 2431 Palmyra near Rocheblave | Three pumps out of service, four total pumps. |
| 19 | 04/09/2009 | Station 8 | A | Corner of N Broad and Toulouse | Both pumps out of service, portable pump in use |
| 20 | 04/09/2009 | Station 9 | A | 2540 Annette at Law | In service |
| 1 | 04/07/2009 | Station 16 | B | 3751 N Miro at Pauline | In service |
| 2 | 04/07/2009 | Station 24 | B | 5027 N Tonti at Forstall | Portable pump; both pumps out of service. |
| 3 | 04/07/2009 | Station 25 | B | 2245 Charbonnet | Portable pump; both pumps out of service. |
| 4 | 04/07/2009 | Station 26 | B | 2244 St Maurice at Tonti | Portable pump; both pumps out of service. |
| 5 | 04/07/2009 | Southern Scrap | B | Southern Scrap Rd Harbor Rd | Portable pump; both pumps out of service. |
| 6 | 04/07/2009 | France and Florida | B | 2701 France Road | Portable pump; both pumps out of service. |
| 7 | 04/07/2009 | MECO-Mechanical Equipment Company | B | 3855 France Road | Portable pump; both pumps out of service. |
| 8 | 04/07/2009 | Victoria at Gentilly | B | 3620 Victoria | Portable pump; both pumps out of service. |
| 9 | 04/07/2009 | American Marine | B | 4045 Jourdan Rd | Portable pump; both pumps out of service. |
| 10 | 04/07/2009 | Plum Orchard | B | 7300 Chef Menteur Highway | Portable pump; both pumps out of service. |
| 11 | 04/07/2009 | Dotd | B | 8118 Chef Menteur Highway | Portable pump; both pumps out of service. |
| 12 | 04/07/2009 | Castle Manor | B | 4950 Gwain at Dwyer | Both pumps are in service. |
| 13 | 04/07/2009 | Cerise | B | 5001 Cerise | Portable pump; both pumps out of service. |
| 14 | 04/07/2009 | McCoy | B | McCoy at Gentilly | In service |
| 15 | 04/07/2009 | Amid | B | 6800 Almonaster Road | Portable pump; both pumps out of service. |
| 16 | 04/07/2009 | Lakeland Terrace | B | 5057 Warren Drive | Portable pump; both pumps out of service. |
| 17 | 04/07/2009 | Lake Forest | B | 10451 Lake Forest Blvd | Portable pump; both pumps out of service. |
| 18 | 04/07/2009 | Wright Road | B | Wright Road at Lake Forest | Portable pump; both pumps out of service. |
| 19 | 04/07/2009 | Bullard | B | 5501 Bullard Road | Portable pump; both pumps out of service. |

| Assessment of East Bank Sewerage Stations | | | | | |
|---|------------|-----------------------------------|-------|---------------------------------|--|
| ID | Date | Facility Name | Route | Location | Status |
| 20 | 04/07/2009 | Wilson | B | 7709 Wilson Avenue | Portable pump; both pumps out of service. |
| 21 | 04/07/2009 | America | B | 6789 Dwyer Road at Westlake | Portable pump; both pumps out of service. |
| 22 | 04/07/2009 | Pines Village | B | 6155 Dwyer Road at Foch | In service |
| 23 | 04/07/2009 | Crowder | B | 5500 Crowder Road | Portable pump; both pumps out of service. |
| 24 | 04/07/2009 | Station B | B | 4725 St Claude Avenue | In service |
| 25 | 04/07/2009 | Station A Municipal Auditorium | B | 1321 Orleans Avenue | Two pumps out of service |
| 1 | 03/25/2009 | Venetian Isles # 2 | C | 20711 Old Spanish Trail | Portable pump; both pumps out of service. |
| 2 | 03/25/2009 | Industrial Parkway | C | 4200 Industrial Parkway | Portable pump; both pumps out of service. |
| 3 | 03/25/2009 | Folgers | C | 14601 Gentilly Boulevard | Portable pump; both pumps out of service. |
| 4 | 03/25/2009 | Michoud | C | 4400 Michoud Boulevard | Station being replaced, new station under construction |
| 5 | 03/25/2009 | Bldv " X" | C | 4433 Chef Menteur Highway | One pump out of service, three pumps total |
| 6 | 03/25/2009 | Alcee Fortier | C | Alcee Fortier Blvd at the Levee | In service |
| 7 | 03/25/2009 | Village De Lest | C | 11324 Dwyer | Portable pump; both pumps out of service. |
| 8 | 03/25/2009 | Willow Brook | C | Willowbrook off of Michoud | In service |
| 9 | 03/25/2009 | Oak Island | C | 14201 Michoud Blvd | One pump in service |
| 10 | 03/25/2009 | Eastover | C | 6051 Eastover Drive | In service |
| 11 | 03/25/2009 | Paris Road | C | Dwyer West of Paris Road | In service |
| 12 | 03/25/2009 | Shorewood | C | 14441 Morrison Road | Portable pump; both pumps out of service. |
| 13 | 03/25/2009 | Briarwood Station | C | 13701 Morrison Road | Portable pump; both pumps out of service. |
| 14 | 03/25/2009 | Liggett | C | 12501 Morrison Road | Portable pump; both pumps out of service. |
| 15 | 03/25/2009 | Berg | C | 11501 Morrison Road | Portable pump; both pumps out of service. |
| 16 | 03/25/2009 | Weber | C | 10141 Morrison Road | Portable pump; both pumps out of service. |
| 17 | 03/25/2009 | Burke | C | 9001 Morrison Road | Portable pump; both pumps out of service. |
| 18 | 03/25/2009 | Lawrence | C | 7900 Morrison Road | Portable pump; both pumps out of service. |

Assessment of East Bank Sewerage Stations

| ID | Date | Facility Name | Route | Location | Status |
|-----------|-------------|----------------------|--------------|-----------------------------|---|
| 19 | 03/25/2009 | Lamb | C | 6450 Morrison Road | Portable pump; both pumps out of service. |
| 20 | 03/25/2009 | Gentilly Oaks | C | 5000 Papania Road at Vienna | In service |

Assessment of West Bank Sewerage Stations

| ID | Date | Facility Name | Location | Status |
|----|------------|------------------|-----------------------------|--|
| 1 | 03/24/2009 | Horace | 3301 Lawrence Street | Both pumps in service |
| 2 | 03/24/2009 | Holiday | 2799 Holiday Drive | In service |
| 3 | 03/24/2009 | Huntlee | 3201 Huntlee | In service |
| 4 | 03/24/2009 | Eton | 3440 Eton Street | In service |
| 5 | 03/24/2009 | Aurora | 6000 Carlisle Court | In service |
| 6 | 03/24/2009 | Blair | 3800 Blair Street | In service |
| 7 | 03/24/2009 | Lower Coast | 3700 Old Woodland | In service |
| 8 | 03/24/2009 | English Turn I | 2201 Stanton Road | In service |
| 9 | 03/24/2009 | English Turn II | 123 ½ Oak Alley | In service |
| 10 | 03/24/2009 | English Turn III | | In service |
| 11 | 03/24/2009 | Woodland | 4150 Woodland Drive | In service |
| 12 | 03/24/2009 | Park Timbers | 4100 Lennox Blvd | In service |
| 13 | 03/24/2009 | Tall Timbers | 3800 Tall Pines Drive | In service |
| 14 | 03/24/2009 | Forest Isle | 5631 West Forest Park Drive | In service |
| 15 | 03/24/2009 | Garden Oaks | 3201 Memorial Park Drive | In service |
| 16 | 03/24/2009 | Memorial | 2501 Memorial Park Drive | Portable pump |
| 17 | 03/24/2009 | Bridge Plaza | 2914 Vespasian Street | Portable pump; both pumps out of service |

Assessment of East Bank Drainage Stations

| ID | Date | Facility Name | Location | Status |
|----|------------|------------------------|---|---------------------------------------|
| 1 | 03/23/2009 | Station 6 | 345 Orpheum | One pump out of service |
| 2 | 03/23/2009 | Station 4 | 5700 Warrington Drive | In service |
| 3 | 03/23/2009 | Station 12 | Robert E Lee and Ponchartrain Boulevard | In service |
| 4 | 03/23/2009 | I-10 Pump Station | I-10 Service Road | In service |
| 5 | 03/24/2009 | St. Charles Station 16 | Danube Road at Wales | One pump out of service |
| 6 | 03/24/2009 | Citrus Station 10 | | In service |
| 7 | 03/24/2009 | Station 14 | Oneida at Haynes | One pump out of service; roof damage. |
| 8 | 03/24/2009 | Maxent | Alcee Fortier | In service |
| 9 | 03/24/2009 | Industrial Boulevard | Industrial Boulevard | One pump out of service |
| 10 | 03/24/2009 | Grant Street | Grant Street at Gentilly Boulevard | In service |
| 11 | 03/23/2009 | Amid Station 20 | 6300 Intercoastal Waterway at Terminal Road | One pump out of service |
| 12 | 03/23/2009 | Elaine | | Both pumps out of service |
| 13 | 03/23/2009 | Station 5 | Florida Avenue | In service |
| 14 | 03/23/2009 | Station 3 | 2251 N Broad Street | Two pumps out of service |
| 15 | 03/23/2009 | Station 7 | 5741 Orleans Avenue at Marconi Drive | In Service |
| 16 | 03/23/2009 | Station 2 | 444 N Broad Street | In service |
| 17 | 03/23/2009 | Station 1 | 2501 S Broad Street | Two pumps out of service |
| 18 | 03/23/2009 | Canal Boulevard | 5500 Canal Boulevard | In service |
| 19 | 03/24/2009 | Oleander | 9400 Oleander | Two pumps out of service |
| 20 | 03/24/2009 | Pritchard | 2901 Monticello | In service |
| 21 | 03/24/2009 | Station 19 | 4500 Florida Avenue | One pump out of service |
| 22 | 03/24/2009 | Station 17 | 2801 Florida Avenue | In service |

Assessment of West Bank Drainage Stations

| ID | Date | Facility Name | Location | Status |
|-----------|-------------|----------------------|------------------------|-------------------------|
| 1 | 03/24/2009 | Station 11 | 5301 East Sixth Street | In service |
| 2 | 03/24/2009 | Station 13 | 4201 Tall Spruce Drive | One pump out of service |