

DATE ISSUED: October 10, 2001 REPORT NO. 01-209

ATTENTION: Honorable Mayor and City Council
Docket of October 16, 2001

SUBJECT: Sewer Revenue Fund, Sewer Service Charges

REFERENCE: City Manager=s Report No. 99-03, issued January 7, 1999
City Manager=s Report No. 99-11, issued January 15, 1999
Deputy City Manager=s memo to Mayor and Council, dated December 3, 1999

SUMMARY

Issues:

Should the City Council adopt Sewer Service Charges for Fiscal Years 2002, 2003, 2004 and 2005 which will increase sewer system revenues by 7.5% per year for four successive years, effective March 1st of each year, to fund the continued upgrade and expansion of the wastewater system which is required to comply with federal and state mandates including the Clean Water Act, the Ocean Pollution Reduction Act (OPRA), the State Ocean Plan, the National Pollutant Discharge Elimination System (NPDES) Permit, and the federal Stipulated Final Order for Injunctive Relief (Stipulated Order).

Manager=s Recommendations:

Consistent with the City Council=s direction of May 15, 2001, direct the City Manager to increase all sewer service charges by 7.5% on March 1, 2002 (FY 2002), 7.5% on March 1, 2003 (FY 2003), 7.5% on March 1, 2004 (FY 2004) and 7.5% on March 1, 2005 (FY 2005), to ensure continued compliance with the requirements of the Clean Water Act, OPRA, the State Ocean Plan, the NPDES Permit, and the Stipulated Order.

Other Recommendations - None.

Environmental Impact - This project is exempt from CEQA pursuant to Section 15060 (c)(3) as defined by the State CEQA Guidelines.

Fiscal Impact:

The cost of the Metropolitan Wastewater Department's Capital Improvement Program (CIP) from FY 2002 through FY 2005 is estimated to be \$517.2 million. Funding this effort will require issuing sewer revenue bonds as well as increasing sewer service charge revenues 7.5% per year in Fiscal Years 2002, 2003, 2004 and 2005. Additional service charge increases will be necessary to fund needed capital improvements in subsequent years. The estimated cost of the CIP from FY2006 through FY2010 is \$695.3 million, for a total estimated cost for the period from FY2002 through FY2010 of more than \$1.2 billion.

BACKGROUND

The last sewer rate increases were approved by City Council on January 19, 1999. The Council approved sewer service charge increases of 5% per year for three consecutive years, FY 1999, FY 2000 and FY 2001 to fund the continued upgrade and expansion of the wastewater system. Attachment 1 provides a summary of the key events that impacted the City's Metropolitan Sewerage System prior to that, from 1987 through 1998.

In 1999, the following changes occurred, impacting the Sewer Fund Financing Plan in a positive way: On April 30, 1999, the City accepted a NAD/Bank Grant in the amount of \$17.2 million for the South Bay Water Reclamation Plant. On October 26, 1999, the City accepted an EPA Grant in the amount of \$2.1 million for the South Bay Reclamation Sewer and Pump Station. On June 8, 1999, the City Council approved acceptance of five low interest State Revolving Fund (SRF) Loans, two for the Point Loma Wastewater Treatment Plant and three for the South Bay Water Reclamation Plant, with a total estimated value of \$80.8 million. Estimated savings in interest costs for these low interest loans was \$17.8 million on a present value basis when compared to traditional bond financing. On June 21, 1999, the City Council approved the expansion of the South Bay Water Reclamation Plant from 7 million gallons per day (mgd) to 15 mgd. With this expansion and the 30 mgd of capacity at the North City Water Reclamation Plant, the City met its requirement under OPRA to provide 45 mgd of water reclamation capacity by 2010. As a result of expanding the South Bay Water Reclamation Plant, the City was able to delete the Mission Valley Water Reclamation Plant from its Sewer Fund Capital Improvement Program, which will save the City approximately \$105 million.

In December, 1999, City staff updated the Financing Plan incorporating the above changes. The following tables compare the sewer rate increases and average single family residential monthly sewer costs for the previously approved FY1999 Financing Plan and updated FY2000 Financing Plan. From 1993 to date, a total of \$1.165 billion dollars in bonds have been issued and used to finance the wastewater capital improvement program.

Annual Rate Increases

	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08
Projected FY99	5%	5%	5%	10%	9%	4%	4%	4%	2%	2%
Projected FY00	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Average Single Family Residential Monthly Sewer Costs

	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08
Projected FY99	\$27.03	\$28.38	\$29.80	\$32.78	\$35.73	\$37.16	\$38.65	\$40.19	\$41.00	\$41.82
Projected FY00	\$27.03	\$28.38	\$29.80	\$31.29	\$32.85	\$34.50	\$36.22	\$38.03	\$39.93	\$41.93

DISCUSSION

Through 1999, the emphasis had been on the maintenance, repair, upgrade and expansion of the Metropolitan System (treatment facilities and outfalls) in order to ensure compliance with OPRA and the Stipulated Order. As the City approached the completion of the major upgrades to the Metropolitan System, the emphasis shifted to the Municipal System, which consists of nearly 3,000 miles of pipeline and 80 pump stations. The Municipal System is operated and maintained by the Metropolitan Wastewater Department=s Wastewater Collection (WWC) Division.

In 1999, as part of the City=s Zero-Based Management Review (ZBMR) Program, the WWC Division began a two year assessment, benchmarking and optimization study. The study was conducted by two consultants with separate but complementary responsibilities. The ABenchmarking@ consultant reported directly to the City Optimization Program Manager and was responsible for a detailed benchmarking study and a mock bid to gauge the private sector competitive budget level for this operation. The AOptimization@ consultant was deployed to work more directly with the workforce to determine best industry practices, perform an independent operational assessment, and integrate all information from the workforce and from both consultant efforts into an optimization plan.

The AOptimization@ consultant=s two-year examination indicated in part:

- \$ The System consists of almost 3000 miles of sewer pipelines and 80 pump stations.
- \$ 800 - 1000 miles of the System are over 50 years old.
- \$ About 60% of the System is vitrified clay pipe. Clay pipes built before 1965 lack gaskets between the pipe sections, making the lines susceptible to root intrusion at the joints.
- \$ Approximately one half of spills are caused by root intrusion.
- \$ About 7% of the System is concrete pipe. These pipes are susceptible to corrosion, deterioration, and blockage. The recent Municipal CIP has focused on replacement of concrete pipes.
- \$ Between one quarter and one third of spills are caused by grease blockages.
- \$ 10 - 15 spills are caused each year by vandalism, particularly debris thrown into manholes.
- \$ Priority for cleaning of the System has focused on Ahot spots@ where grease blockages or root intrusion is known to be a problem. Half of the System is not routinely cleaned.
- \$ Lack of access to 320 miles of pipelines and their associated manholes in canyons and open space has led to minimal maintenance of the System in those areas.

The WWC Division mock bid indicated that the operating and maintenance budget for the collection system is in the competitive range. However, both the mock bid analysis and the optimization study indicated or recommended a number of measures to better utilize resources and continuously move toward best industry practices. Additionally, the AOptimization@ consultant=s assessment included an evaluation of available benchmarking data concerning the total number of Sanitary Sewer Overflows (SSO=s) or spills in the wastewater collection system of the City of San Diego compared to other cities / agencies. The data demonstrated that San Diego=s collection system spills have reduced considerably over recent history, but remain in excess of the number expected of a Agood performing@ agency. To achieve the level of good performing agencies, the AOptimization@ consultant=s summary briefing at the April 18, 2001 NR&C Committee meeting indicated that both the implementation of Best Management Operations and Maintenance Practices and the execution of an adequate Capital Improvement Program are required. These targeted reductions are intended to protect the environment and support the Mayor=s goal of reducing beach postings and closures.

In November 2000, the AOptimization@ consultant noted the deteriorated condition of the Municipal System (like many collection systems across the country) and the attendant need for an increased capital improvement program in order to fully implement some of the O&M optimization measures. The consultant emphasized that to reach the benchmarked reductions in sanitary sewer overflows, both the implementation of recommended optimization measures and an increased capital improvement program were needed.

The consultant prepared a preliminary estimate of annual capital expenditures required to bring the system up to a sustainable condition. This preliminary estimate was based on national industry standards for construction cost and life expectancy for sewer pipelines and pump stations, and resulted in a range of \$109 million to \$137 million each year over a 10 year period. A focused system condition assessment utilizing televised and other diagnostic data was also

recommended.

The Metropolitan Wastewater Department's (MWW) Engineering and Planning Section performed an independent analysis of this issue using available GIS data regarding sewer age and material. The MWW staff reached similar conclusions regarding annual capital expenditure levels required for the Municipal System.

While the current sewer spills record and ongoing televising of pipelines indicate that a significant amount of the system is in a deteriorated state, it is anticipated that some pipelines to be assessed will be in adequate condition (revised life expectancy will exceed preliminarily estimated life expectancy) and will either not require near-term replacement, or will be able to be rehabilitated using less expensive construction techniques. With this in mind, an average annual expenditure level of \$100 million (somewhat below the lower end of the consultant's estimated range) was utilized for immediate work load and financial planning. This figure will be revisited as the focused assessment of the System is executed over the next several years. It is felt unlikely that the revised level can be lower without increased risk of not attaining benchmarked reductions in sanitary sewer overflows. However, such factors as constructability and neighborhood disruption may argue against it being significantly higher. To date, 273 Municipal System projects with an estimated cost of \$322.8 million have been identified and scheduled from FY2002 through FY2005.

The proposed 10 year program includes ramping up the rehabilitation and replacement of deteriorated pipelines from the current 15 to 20 miles per year to 60 miles per year.

Based on the recommendation contained in the assessment and optimization study, the City developed what is referred to as the Accelerated Municipal Program. The Accelerated Municipal Program's objective is to achieve the goal of reducing sewer spills from 10.3 to 6.6 spills per 100 miles of sewer by the end of calendar year 2006. The Accelerated Municipal Program addresses both operation and maintenance (O&M) and capital improvement needs. The costs associated with the Accelerated Municipal Program for the period from FY2002 through FY2010 are shown in the following table. See Attachment 2 for a listing of Muni Capital Improvement Projects.

Municipal System
(Inflated Dollars in Millions)

	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	Total
O&M	\$101.3	\$112.1	\$119.1	\$123.4	\$127.6	\$133.9	\$140.3	\$143.9	\$149.9	\$1,151.5
CIP	\$58.6	\$89.2	\$87.7	\$87.3	\$108.7	\$120.0	\$128.0	\$130.0	\$133.1	\$942.6
Total	\$159.9	\$201.3	\$206.8	\$210.7	\$236.3	\$253.9	\$268.3	\$273.9	\$283.0	\$2,094.1

Although the emphasis has shifted from treatment facilities and outfalls to the collection system, the Metropolitan System still represents a significant funding requirement when considering both O&M and capital improvements, as indicated in the following table. See Attachment 3 for a

listing of Metro Capital Improvement Projects.

Metropolitan System
(Inflated Dollars in Millions)

	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	Total
O&M	\$194.6	\$203.3	\$208.6	\$217.2	\$222.3	\$230.7	\$240.3	\$246.4	\$255.5	\$2,018.9
CIP	\$69.1	\$50.7	\$41.9	\$34.5	\$27.3	\$16.4	\$14.2	\$12.8	\$7.8	\$274.7
Total	\$263.7	\$254.0	\$250.5	\$251.7	\$249.6	\$247.1	\$254.5	\$259.2	\$263.3	\$2,293.6

In summary, the funding requirements for both the Municipal System and the Metropolitan System for both O&M and capital improvements are significant, as indicated in the following table.

Municipal & Metropolitan Systems
(Inflated Dollars in Millions)

	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	Total
Muni	\$159.9	\$201.3	\$206.8	\$210.7	\$236.3	\$253.9	\$268.3	\$273.9	\$283.0	\$2,094.1
Metro	\$263.7	\$254.0	\$250.5	\$251.7	\$249.6	\$247.1	\$254.5	\$259.2	\$263.3	\$2,293.6
Total	\$423.6	\$455.3	\$457.3	\$462.4	\$485.9	\$501.0	\$522.8	\$533.1	\$546.3	\$4,387.7

To implement the combined Metropolitan and Accelerated Municipal Programs, annual rate increases of 7.5% will be required for FY2002 through FY2005. In addition, rate increases will be required for FY2006 through FY2010. The following table shows the proposed and projected rate increases, as well as the average single family residential monthly sewer costs for FY2002 through FY2010.

Annual Rate Increases
&
Average Single Family Residential Monthly Sewer Costs

PROPOSED				PROJECTED					
FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	
7.5%	7.5%	7.5%	7.5%	6.5%	5.0%	5.0%	5.0%	5.0%	
\$32.04	\$34.44	\$37.02	\$39.80	\$42.38	\$44.50	\$46.72	\$49.06	\$51.51	

The City Council=s approval of the City Manager=s recommendation that a series of four annual 7.5% increases in rates be adopted is important for these reasons:

- 1. Doing so allows the City to meet current bond covenants and supports the continued orderly execution of the capital plan for which the existing bonds were sold; and
- 2. It provides sufficient funding for needed wastewater system maintenance and improvements in compliance with federal and state mandates, and demonstrates a good faith effort and the City=s continuing commitment in the context of the Stipulated Order and the ongoing waiver renewal process.

CONCLUSION

The City has pursued a successful course of legislative, legal and financing actions that has resulted in significant reductions in the scope and cost of mandated sewer system upgrades and of projected monthly sewer service charges while continuing to responsibly protect the environment. To maintain and build upon those successes, continued funding of the wastewater capital program is essential, as is an increased level of municipal maintenance and repair. Ongoing compliance with the NPDES Permit, the waiver-enabling OPRA and the Stipulated Order associated with the Municipal System require that current and proposed increases in maintenance, repair, upgrade and replacement continue. The action requested today will allow the City to meet those requirements.

ALTERNATIVE

Consider delaying the sewer service charge increases requested for FY 2002, FY 2003, FY 2004 and FY 2005 or setting those increases at levels lower than 7.5%. These actions are not recommended because this could prevent the issuance of additional debt on a scale necessary for the construction of projects the City needs to comply with the requirements the NPDES Permit, Clean Water Act, OPRA, and the requirements of the Stipulated Order to upgrade and maintain the Municipal Sewer System.

Respectfully submitted,

SCOTT TULLOCH
Metropolitan Wastewater Department Director

GEORGE LOVELAND
Senior Deputy City Manager

Note: Attachment 3 is not available in electronic format. A copy of the attachment is available for review in the office of the City Clerk.

ATTACHMENTS:

- 1. Metropolitan Sewerage System Key Events 1987 through 1998
- 2. Metropolitan Wastewater Department FY 2002 Final Budget Muni System Appropriation Schedule

3. Metropolitan Wastewater Department FY 2002 Final Budget Metro System

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City of San Diego
Metropolitan Sewerage System
Key Events
1987 through 1998

In early 1987, the City began the planning process to upgrade and expand the sewage system to serve the region through the year 2050 and to comply with the federal Clean Water Act.

In July 1988, the City was sued by the federal and state governments for noncompliance with the Clean Water Act's requirements for secondary treatment of wastewater. A proposed Consent Decree was negotiated allowing for environmental, planning and construction schedules that would have required all water reclamation facilities to be operational by 1999 and the Point Loma Wastewater Treatment Plant (APoint Loma@) to be upgraded to full secondary treatment level by December 31, 2003. This agreement was the basis for the design configuration of the upgrade to secondary sewage treatment approved by the City Council (adopted as AAlternative IV@). The cost of the program was estimated at \$2.5 billion (capital costs excluding the costs of financing) through the year 2003. It should be noted that the program and the \$2.5 billion in estimated expenditures only addressed the upgrade and expansion of the Metro System and did not include the work on the Municipal System.

On June 19, 1990, the City Council approved a five year sewer financing plan which incorporated annual increases of 6% in monthly sewer service charges and 16% in sewer capacity charges. These increases were based on the 1990 AWastewater Financial Plan and Revenue Program@ and were predicated upon incurring bonded indebtedness to finance the majority of the Capital Improvement Program required to meet the Clean Water Act. Implementation of this financing plan was completed July 1, 1994, when the last rate increase was effective.

In September 1991, the City Council directed the City Manager to pursue a means of preserving the Point Loma Treatment Plant at advanced primary treatment. That effort focused on the pursuit of amendments to the Clean Water Act that would either allow the City to re-apply for a waiver of the Act's secondary treatment requirements, or amend the Act to provide for different discharge standards for coastal waters, thereby saving the region's ratepayers significant future capital and operating costs.

In April 1992, a rate analysis and financing package was brought to the City Council for the first issuance of bonds for projects required by the proposed Consent Decree (Alternative IV). The rate analysis reflected a requirement for annual sewer service charge increases of 15% for the period FY 1993 through FY 1997, an 8% increase in FY1998, and 1.5% increases thereafter. This analysis also included projected sewer capacity charge increases of 16% annually through FY 1997.

In light of the magnitude of these rate increases, the City Council requested development of an alternative program which was smaller in scope and resulted in lower rate increases. In

response, the Alternative system configuration was developed, then adopted by Council, to replace Alternative IV. The Financing Plan presented to Council for the Alternative included the issuance of \$1 billion of debt to finance most of the capital construction, contained no increase in capacity charges beyond FY 1995 and increased sewer service charges by 6% per year through FY 2001, a projected rate profile significantly lower than that required for Alternative IV.

In September 1993, the initial issue (\$250 million) of sewer revenue bonds was sold. As part of this issuance, Council committed to adjust future sewer charges as necessary to meet the financial tests prescribed in the bond covenants.

In April 1994, the federal court set aside the proposed Consent Decree, finding that it was not in the public interest. This action eliminated Alternative IV as a viable system configuration.

In August 1994, the U.S. District Court approved and filed an Interim Order which directed the construction of facilities consistent with the Council adopted-Alternative. This Interim Order included all of the capital projects to be constructed until the remaining issues between the Environmental Protection Agency (EPA) and the City could be resolved.

On October 31, 1994, Congress passed the Ocean Pollution Reduction Act (OPRA) of 1994 which amended the Clean Water Act to permit the City to apply for a waiver from secondary treatment standards at Point Loma. The OPRA legislation required the City to commit to the implementation of a wastewater reclamation program that, at a minimum, would achieve a system capacity of 45 million gallons of reclaimed wastewater per day (mgd) by January 1, 2010, and would result in a reduction in the quantity of suspended solids (mass emissions) discharged into the marine environment during the period of modification (waiver). In addition, the modification had to result in the removal of not less than 58% of the biological oxygen demand (on an annual average) and not less than 80% of total suspended solids (on a monthly average) in the discharge.

In February, 1995, ground was broken on the Metro Biosolids Center (MBC). In accordance with the 1981 agreement between the City and the California Coastal Commission, MBC replaced the Fiesta Island Sludge Processing Center, so that Fiesta Island could be converted to recreational use. MBC went into operations in February, 1998. The cost of MBC and its related facilities was \$332.9 million.

In April, 1995, the City filed an application with the EPA for a waiver, and in August 1995 the EPA issued a tentative decision approving the waiver and a modified National Pollutant Discharge Elimination System (NPDES) permit. On November 9, 1995, the EPA granted the City's request for a modified NPDES permit pursuant to a waiver. The permit incorporated both federal NPDES and state wastewater discharge requirements, required the upgrade at Point Loma to meet the requirements, and required construction of water reclamation facilities capable of treating 45 million gallons per day by the year 2010, all of which the Wastewater System Capital Improvement Program contemplates. The waiver does not in any way modify the court's Final

Order or the Wastewater System Capital Improvement Program. The waiver had a term of five years which ended on November 9, 2000. The City has applied for a five-year waiver extension in order to maintain its exemption from the secondary treatment standards of the Clean Water Act.

On September 13, 1996, the City and all parties to the U.S.A. v. City litigation agreed to a Stipulated Final Order from Injunctive Relief (Stipulated Order) that resolved all of the remaining issues concerning alleged violations of the Clean Water Act. The Final Order provided for specified upgrades of the sewer collection system including the replacement of sixty miles of concrete mains by June 30, 2003, a comprehensive pump station and force main audit, an upgraded information system, additional grease control, and incorporation of the capital improvement projects listed in the Interim Order. After appropriate public noticing and a hearing on public comments, the Final Order was signed and entered by the judge on June 6, 1997. With this entry, all projects listed in the Final Order became mandated by the court and the allegations regarding the Clean Water Act were resolved.

The OPRA legislation clearly results in significantly lower sewer bills than would have occurred without the legislation. However, the cost of the projects necessary to comply with OPRA and the court-ordered projects still requires rate increases.

On October 2, 1996, the City Council approved sewer service charge increases of 6% in both FY 1997 and FY 1998.