

Louisville and Jefferson County  
Metropolitan Sewer District

**COMPREHENSIVE  
ANNUAL FINANCIAL REPORT**

Fiscal Years Ended June 30, 2016 and 2015



# **Comprehensive Annual Financial Report**

**Louisville and Jefferson County Metropolitan Sewer District  
Louisville, Kentucky**

**A Component Unit of Louisville/Jefferson County Metro Government  
Commonwealth of Kentucky**



**Fiscal Years Ended June 30, 2016 and 2015**

**Prepared by the Department of Finance, Louisville MSD  
Chad Collier, CFO, Secretary/Treasurer**

# Table of Contents

## Introductory Section

Letter of Transmittal .....	i
Government Finance Officers Association Certificate of Achievement .....	iv
Organization Chart .....	v
List of Board Members and Principal Officers.....	vi

## Financial Section

Independent Auditor's Report .....	1
Management's Discussion and Analysis.....	3
Basic Financial Statements:	
Comparative Statement of Net Position .....	10
Comparative Statement of Revenues, Expenses, and Changes in Net Position .....	11
Comparative Statement of Cash Flow .....	12
Notes to the Comparative Financial Statement .....	13
Required Supplementary Information .....	40

## Statistical Section

Schedule of Debt Service Coverage.....	42
Ten Year Comparative Statement of Net Position .....	43-44
Ten Year Comparative Statement of Revenues, Expenses, and Changes in Net Assets .....	45
Ten Year Comparative Statement of Cash Flows .....	46
Ten Year Comparative Summary of Operating Revenue .....	47
Ten Year Comparative Summary of Service and Administration Costs .....	48
Ten Year Comparative Schedule of Plant, Lines, and Other Facilities.....	49
Wastewater Treatment Plant Capacity .....	50
Ten Year Comparative Summary of Employers of One Thousand or More in Greater Louisville.....	51
Principal Employers – Current Year and Nine Years Ago .....	52
Outstanding Debt and Miscellaneous Demographic Information.....	53
Top 10 Customers.....	54



***INTRODUCTORY SECTION***



700 West Liberty Street | Louisville, KY 40203-1911  
Phone: 502.540.6000 | LouisvilleMSD.org

December 19, 2016

To the customer and investors of Louisville and Jefferson County Metropolitan Sewer District,

As Controller of Louisville and Jefferson County Metropolitan Sewer District (MSD) it is my pleasure to present the Comprehensive Annual Financial Report (CAFR) for the fiscal year ended June 30, 2016.

Responsibility for the accuracy, completeness and fairness of the data presented herein, including all disclosures, rests with MSD. To provide a reasonable basis for making these representations, the management of MSD has established a comprehensive internal control framework that is designed to both protect its assets from loss, theft, or misuse and to compile sufficient reliable information for the preparation of MSD's financial statements in conformity with Generally Accepted Accounting Principles (GAAP).

MSD's comprehensive framework of internal controls has been designed to provide reasonable rather than absolute assurance that the financial statements will be free from material misstatement. To the best of MSD's knowledge and belief, the accompanying data is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of MSD. All disclosures necessary to enable the reader to understand MSD's financial activities have been included. GAAP requires that management provide a narrative to accompany the basic financial statements in the form of Management's Discussion and Analysis which is found beginning on page 3. This letter of transmittal is intended to be read in conjunction with that analysis.

MSD was created in 1946 as a public body corporate and subdivision of the Commonwealth of Kentucky. MSD has complete control, possession and supervision of the sewer and drainage systems within the majority of Louisville Metro, which now comprises all of Jefferson County, Kentucky. Chapter 76 of the Kentucky Revised Statutes authorizes MSD to construct additions, betterments, and extensions within its service area and to recover the cost of its services in accordance with rate schedules adopted by its Board.

MSD is considered a component unit of the Louisville/Jefferson County Metro Government. The Louisville Metro Mayor appoints, with the approval of the Louisville Metro Council, the members to MSD's governing Board, its Executive Director, Chief Engineer and Secretary/Treasurer. The Board, which has statutory authority to enter into contracts and agreements for the management, regulation and financing of MSD, manages its business and activities. The Board has full statutory responsibility for approving and revising MSD's annual budgets, for financing deficits and for disposition of surplus funds. MSD has no special financial relationship with the Louisville Metro Government; however, effective July 1, 2006, MSD began providing free sewer and drainage services to the Metro government. The value of these services in 2016 was \$4.2 million.

MSD is required by law and by its Revenue Bond Resolution to undergo an annual independent audit of its financial statements. The goal of the independent audit was to provide reasonable assurance that the financial statements of MSD for the fiscal years ended June 30, 2016 and 2015 are free of material misstatement. The independent audit involved examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements; assessing the accounting principles used and significant estimates made by management; and evaluating the overall financial statement presentation. The independent auditors report is at the beginning of the financial section of this report.

**Customer Base:**

MSD's revenue is derived from sewer and drainage service charges collected from residential, commercial, and industrial customers. Sewer service charges are distributed to respective customer classes on the basis of actual costs incurred to collect and treat wastewater. For FY 2016 fifty-five percent (55%) of MSD's sewer service charge revenue came from residential customers, thirty-two percent (32%) came from commercial customers and eleven percent (11%) from industrial customers. MSD bills for stormwater services using equivalent service units (ESUs). An ESU is defined by MSD as 2,500 square feet of impervious area. For FY 2016 thirty-seven percent (37%) of MSD's stormwater service charge revenue came from residential customers, fifty-seven percent (57%) came from commercial customers and six percent (6%) from industrial customers.

**Local Economy:**

A Louisville Metro Demographic and Economic Projection study published in December 2015 by the University of Louisville, the Urban Studies Institute and the Kentucky State Data Center projects that the Louisville Metropolitan Statistical Area (MSA) will grow by 315,834 people or 26% between 2010 and 2040. Jefferson County is forecast to experience the largest numeric gain over this period accounting for 42% of the predicted growth in the MSA.

A separate University of Louisville population study completed in February 2015 forecasts that Jefferson County will experience employment growth in the professional, healthcare, social assistance, transportation, warehousing and hospitality sectors between the years 2020 and 2040.

The United States Department of Labor listed the unemployment rate for Jefferson County as 4.3 percent in June 2016 which was slightly below the United States overall unemployment rate of 4.9 percent for the same time period.

**Major Initiatives:**

Fiscal year 2016 was an exciting and active year for MSD. Listed below are some of the major initiatives that we focused on during the year:

- *New Executive Director:* On September 14, 2015 James A. “Tony” Parrott began his tenure as Executive Director of Louisville MSD. Parrot comes to Louisville from Cincinnati where he served as Executive Director of Greater Cincinnati Water Works and Metropolitan Sewer District of Greater Cincinnati. Parrot replaces Greg Heitzman who served as Executive Director of Louisville MSD from December 2011 until his retirement on September 30, 2015.
- *One Water Initiative:* In 2012 the mayor of Louisville/Jefferson County Metro Government, Greg Fischer, formed the One Water Advisory Council to examine the operations of MSD and the Louisville Water Company. The Advisory Council was tasked to determine if synergies existed between the two entities that would allow for improved service or reduced costs. The Council found opportunities existed for cost reduction, revenue enhancement and service improvement and recommended a comprehensive inter-local approach to take advantage of these opportunities. In 2015 the Board of MSD and the Board of Waterworks of the Louisville Water Company entered into an inter-local agreement which was approved by the Kentucky Attorney General in September 2015. A One Water Board of Directors has now been appointed and contains two members of the Board of Waterworks, two members of the MSD Board of Directors, and one member of Louisville/Jefferson County Metro Government.

At the August 2016 One Water Board meeting it was reported that the One Water initiative is expected to produce a \$9.3 million net benefit by the end of 2016. Key initiatives driving this benefit included identification of lost revenue and combining the Customer Service and Information Technology departments of both organizations into shared service teams. Effective January 1, 2017, all Customer Service and IT employees who currently work for MSD will become Louisville Water Company employees. These employees will continue to work at MSD but will support both organizations. The board also passed a resolution at the August 2016 meeting to begin to integrate the Communications and Human Resources departments. A timeline for this integration will be created over the coming months.

- *20 Year Facility Plan:* A 20 Year Comprehensive Facility Plan, including a comprehensive cost-of-service evaluation, is currently being prepared for MSD’s Sewer and Drainage Systems. The scope of the Facility Plan was developed to identify long-term capital project needs and associated operating programs to improve and sustain the wastewater, stormwater and Ohio River flood protection system. Most of the recommendations of the Facility Plan are based on the community’s desire for sustained reliability of service and improvements in the level of protection for stormwater drainage, floodplain management and Ohio River flood protection. The Facility Plan is scheduled to be completed in late 2016 at which time MSD will begin a program of community outreach to explain the benefits and costs of the long-term construction recommendations. The intent is to facilitate a broad stakeholder and community dialog on the implementation approach and the schedule of the proposed infrastructure improvements.

- *Elimination of Inefficient Water Quality Treatment Centers:* MSD has completed a 36-year journey to eliminate more than 300 inefficient water quality treatment centers that were beyond their design life. In May of 2016 MSD decommissioned the final remaining such treatment facility at McNeely Lake leaving five regional water quality treatment centers to serve all of Louisville and Jefferson County. Elimination of these inefficient facilities not only reduces operational costs and maintenance issues but it also enhances water quality in our streams and in the Ohio River.
- *Morris Forman Water Quality Treatment Center Power Failure and Flood:* On April 8, 2015 the Morris Forman Treatment Plant experienced an explosion, power outage and subsequent flood. One of two primary power supplies was destroyed in the explosion and the second backup power feed tripped offline due to the explosion. It was approximately eight hours before power was restored and during that time the plant was flooded with wastewater coming in from the combined sewer system.

The below-ground motor control center was damaged beyond repair and had to be completely replaced. MSD's insurance carrier strongly recommended that all electrical equipment be moved above ground which would put Morris Forman in compliance with the Ten State Standard, an industry best practice strategy that applies to the construction of Wastewater Treatment Plants in the United States. This recommendation necessitated the construction of a new electrical building to house the new electrical equipment which supplies power to the plant's secondary process area. Recovery efforts are ongoing at this date.

- *Supplier Diversity Program Changes:* On November 21, 2015 MSD's Supplier Diversity Program was realigned under the Finance division's Procurement department. This change has improved communication and collaboration between Supplier Diversity and Procurement. The Supplier Diversity Program itself was changed from a Contractor Compliance Program (CCP) to an interim Good Faith Effort (GFE) policy. The interim GFE policy removes the mandatory Minority and Women-Owned Business participation requirements of 15% and 6% respectively. The Interim Policy allows prime contractors to either meet the goals of 15% minority and 6% women-owned business or submit documentation demonstrating their good faith efforts to reach these goals. The interim GFE policy became effective on December 1, 2015. MSD is currently utilizing a contractor to complete a comprehensive disparity study to determine if we should continue with the interim GFE policy or if we should establish a new policy and/or goals for participation of minority and woman-owned business entities in future MSD procurement activities.

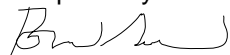
### **Awards**

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to MSD for its comprehensive annual financial report for the fiscal year ended June 30, 2015. This was the 26th consecutive year that MSD has achieved this prestigious award. In order to be awarded a Certificate of Achievement, MSD must publish an easily readable and efficiently organized CAFR. The report satisfied both generally accepted accounting principles and applicable legal requirements.

### **Acknowledgements**

The Finance department of Louisville MSD has worked hard to produce the 2016 CAFR and I would like to thank them for their individual contributions. I would also like to take this opportunity to thank the MSD Board of Directors and the Executive Leadership Team for their continued support.

Respectfully Submitted,



Brad Good  
Controller





Government Finance Officers Association

Certificate of  
Achievement  
for Excellence  
in Financial  
Reporting

Presented to

**Louisville and Jefferson County  
Metropolitan Sewer District  
Kentucky**

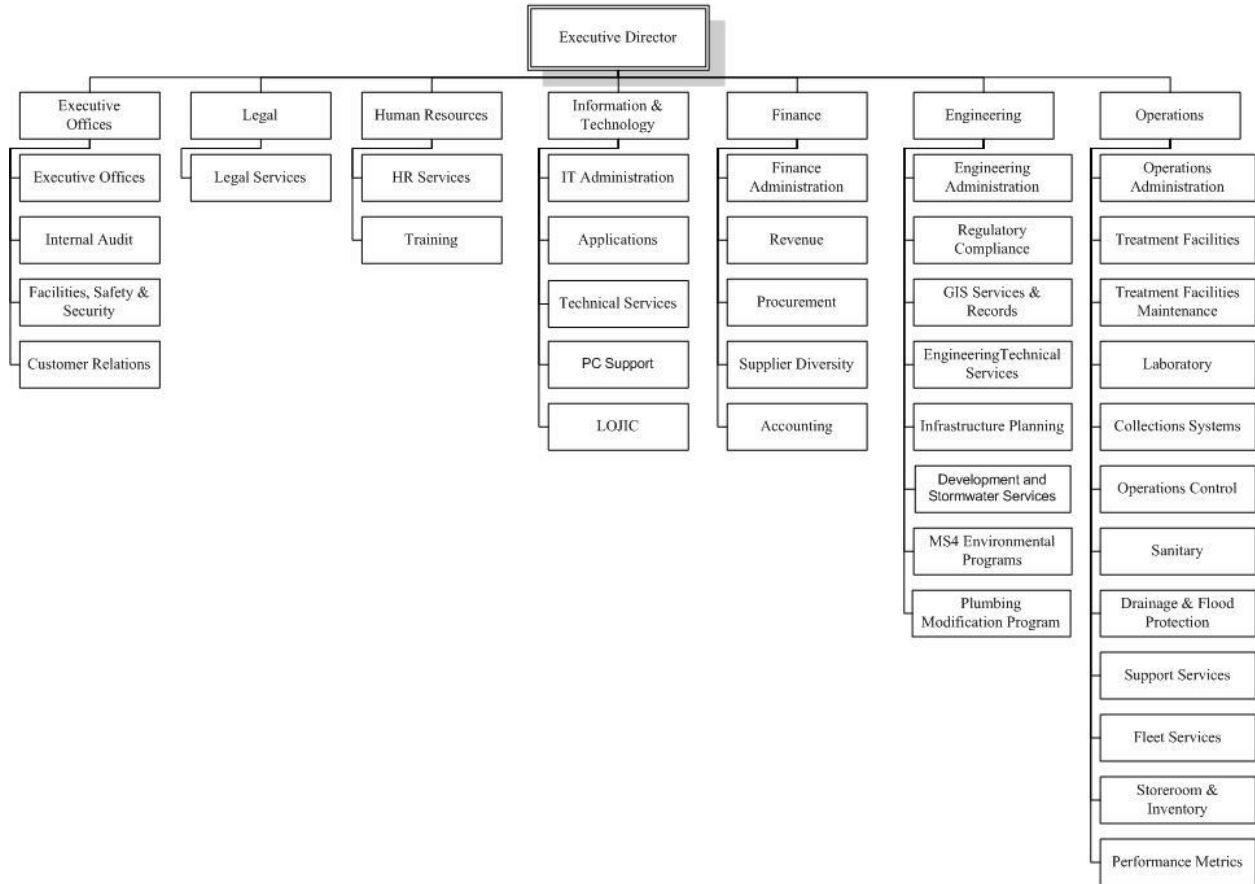
For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

**June 30, 2015**

Executive Director/CEO

# LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT ORGANIZATION CHART

Louisville and Jefferson County  
Metropolitan Sewer District  
Organization Chart



**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**



**Fiscal Year Ended June 30, 2016**

**MSD BOARD MEMBERS:**

Cyndi Caudill, Chair ..... Term expires 8/31/17  
Daniel Arbough, Vice Chair ..... Term expires 6/30/18  
Yvonne Wells-Hatfield ..... Term expires 6/30/16  
John Phelps ..... Term expires 7/31/16  
Joyce Horton Mott ..... Term expires 8/31/17  
J.T. Sims ..... Term expires 7/31/17  
Andrew Bailey ..... Term expires 7/31/18  
  
Sujata Barai Chugh ..... Resigned 5/23/16

**PRINCIPAL OFFICERS:**

Tony Parrott ..... Executive Director  
Angela Akridge ..... Chief Engineer  
Chad Collier ..... Chief Financial Officer and Secretary/Treasurer  
Paula Purifoy ..... General Counsel  
W. Brian Bingham ..... Chief of Operations  
Lynne Fleming ..... Human Resources Director  
Tom Lockett ..... One Water Chief Information Officer  
  
Greg Heitzman ..... Executive Director (retired 9/30/15)

**FINANCIAL MANAGERS:**

Brad Good ..... Controller  
Rene' Thomas ..... Director of Procurement and Supplier Diversity  
Sharon Dawson ..... Revenue Manager  
Patrick Meador ..... Budget Administrator



***FINANCIAL SECTION***

## INDEPENDENT AUDITOR'S REPORT

Board of Directors  
Louisville and Jefferson County Metropolitan Sewer District  
Louisville, Kentucky

### **Report on the Financial Statements**

We have audited the accompanying financial statements of the Louisville and Jefferson County Metropolitan Sewer District, a component unit of the Louisville-Jefferson County Metro Government, as of and for the years ended June 30, 2016 and 2015, and the related notes to the financial statements, which collectively comprise the Louisville and Jefferson County Metropolitan Sewer District's basic financial statements as listed in the table of contents.

### ***Management's Responsibility for the Financial Statements***

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

### ***Auditor's Responsibility***

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

## **Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Louisville and Jefferson County Metropolitan Sewer District, as of June 30, 2016 and 2015, and the changes in financial position and its cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

## **Other Matters**

### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis on pages 3 through 9, the schedule of proportionate share of the net pension liability and the schedule of employer contributions on page 40-41 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### *Supplementary Information*

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Louisville and Jefferson County Metropolitan Sewer District's basic financial statements. The introductory and statistical sections are presented for purposes of additional analysis and are not a required part of the basic financial statements. The introductory and statistical sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

*Crowe Horwath LLP*  
Crowe Horwath LLP

Louisville, Kentucky  
December 19, 2016

# **LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

## **MANAGEMENT'S DISCUSSION AND ANALYSIS**

As management of Louisville and Jefferson County Metropolitan Sewer District (MSD), a component unit of the Louisville/Jefferson County Metro Government, we offer readers of MSD's financial statements this narrative overview and analysis of the financial activities for the fiscal years ended June 30, 2016 and 2015. We encourage readers to consider the information presented in conjunction with the letter of transmittal which can be found on pages i-iii of this report.

### **OVERVIEW OF THE FINANCIAL STATEMENTS**

MSD's basic financial statements consist of the Statement of Net Position; Statement of Revenues, Expenses, and Changes in Net Position; Statement of Cash Flows; and Notes to the Financials.

The Statement of Net Position includes all of MSD's assets, liabilities and deferred outflow and inflow of resources. It also provides information about the nature and amounts of investments in assets and the obligations to creditors. In addition, it provides the basis for computing rate of return, evaluating the capital structure of MSD and assessing the liquidity and financial flexibility of the organization.

The Statement of Revenues, Expenses and Changes in Net Position identifies the revenues generated and expenses incurred during the fiscal year. This statement helps the user to assess the profitability of MSD during the time period for which the statement relates.

The Statement of Cash Flows provides information relating to MSD's cash receipts and cash expenditures during the fiscal year. The statement reports cash receipts, cash payments, and net changes in cash resulting from operations, investing, and financing activities.

### **FINANCIAL HIGHLIGHTS**

Total Net Position increased by \$15.5 million, or 2.7%, as a result of operations.

Operating Revenues increased by \$13.4 million, or 5.8% primarily due to a rate increase of 5.5% effective August 1, 2015.

Total Operating Expenses increased by \$14.5 million, or 10.4%. Utility expenses increased \$4.4 million. Salaries and related overhead increased \$5.0 million. The primary driver of the increase in salaries and related overhead was pension expense which increased \$4.1 million.

Total Investment Income increased \$268 thousand.

Non-Operating Expenses increased \$2.4 million or 3.4%.



**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**MANAGEMENT'S DISCUSSION AND ANALYSIS**

**STATEMENT OF NET POSITION**

A summary of MSD's Statement of Net Position is shown below in Figure 1.

**Figure 1**

	<u>FY 2016</u>	<u>FY 2015</u>	<u>% Change 2015-2016</u>	<u>FY 2014</u>
Unrestricted current assets	\$ 103,671	\$ 93,761	10.6%	\$ 111,934
Restricted current assets	20,378	16,342	24.7%	27,886
Capital assets	2,573,262	2,392,466	7.6%	2,270,502
Restricted non-current assets	149,447	138,780	7.7%	134,036
Other non-current assets	29,315	30,807	(4.8%)	33,501
Total assets	<u>2,876,073</u>	<u>2,672,156</u>	7.6%	<u>2,577,859</u>
Deferred outflows of resources	<u>23,708</u>	<u>20,407</u>	16.2%	<u>22,862</u>
Total assets and deferred outflows	2,899,781	2,692,563	7.7%	2,600,721
Current liabilities	17,420	14,936	16.6%	13,653
Current liabilities from restricted assets	85,186	74,697	14.0%	57,639
Non-current liabilities	2,087,962	1,925,627	8.4%	1,898,150
Total liabilities	<u>2,190,568</u>	<u>2,015,260</u>	8.7%	<u>1,969,442</u>
Deferred inflows of resources	<u>108,633</u>	<u>92,233</u>	17.8%	<u>82,293</u>
Total liabilities and deferred outflows	2,299,201	2,107,493	9.1%	2,051,735
Invested in capital assets, net	534,946	506,187	5.7%	418,784
Restricted, net	84,639	80,424	5.2%	148,451
Unrestricted	<u>(19,005)</u>	<u>(1,541)</u>	1133.3%	<u>(18,249)</u>
Total net position	600,580	585,070	2.7%	548,986
Total liabilities , deferred inflows & net position	<u>\$ 2,899,781</u>	<u>\$ 2,692,563</u>	7.7%	<u>\$ 2,600,721</u>

The change in MSD's net position was \$15.5 million in FY 2016 compared to \$36.1 million in FY 2015. In FY 2016 total assets and deferred outflow of resources increased by \$207 million. This overall increase can be attributed primarily to additions to plant, lines and other facilities which were financed by the issuance of \$175 million in Revenue Bonds. In FY 2015, total assets and deferred outflows or resources increased by \$91.8 which was also primarily attributable to additions to plant, lines and other facilities financed by the issuance of \$80 million in Revenue Bonds.

In FY 2016 total liabilities and deferred inflow of resources increased by \$191.7 million. This increase is due to an increase in bonds payable of \$146 million as a result of the issuance of the 2015A Revenue Bonds, a decrease in the fair value of swaps of \$23 million and an increase in net pension liability of \$16.7 million. In FY 2015 the increase in total liabilities and deferred inflow of resources was \$55.8 million due to an increase in accounts payable for construction of \$16 million, a decrease in the fair value of swaps of \$5.2 million, deferred inflows related to pension of \$5.8 million and an increase in bonds payable of \$34.6 million as a result of the issuance of the 2014A Revenue Bonds.

Unrestricted net position decreased \$17.5 million during FY 2016.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**MANAGEMENT'S DISCUSSION AND ANALYSIS**

**STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION**

A summary of MSD's Statement of Changes in Net Position is shown below in Figure 2.

**Figure 2**

**Condensed Statements of Revenues, Expenses and Changes in Net Position**  
(amounts in thousands)

	<u>FY 2016</u>	<u>FY 2015</u>	<u>% Change 2015-2016</u>	<u>FY 2014</u>
Service charges	\$ 238,480	\$ 225,462	5.8%	\$ 214,056
Other operating income	4,810	4,407	9.1%	2,576
Total operating revenues	<u>243,290</u>	<u>229,869</u>	5.8%	<u>216,632</u>
Investment income	<u>17,891</u>	<u>17,623</u>	1.5%	<u>20,330</u>
Total revenues	261,181	247,492	5.5%	236,962
Depreciation & amortization expense	62,820	63,321	(0.8%)	63,516
Service and administrative costs	87,155	76,245	14.3%	75,246
GASB 68 pension expense	4,003	(127)	(3252.0%)	-
Nonoperating expenses	73,779	71,334	3.4%	71,128
Change in fair value - swaps	<u>22,951</u>	<u>5,240</u>	338.0%	<u>1,222</u>
Total expenses	<u>250,708</u>	<u>216,013</u>	16.1%	<u>211,112</u>
Net income (loss) before contributions	10,473	31,479	(66.7%)	25,850
Contributions	<u>5,037</u>	<u>4,605</u>	9.4%	<u>8,103</u>
Increase (decrease) in net position	15,510	36,084	(57.0%)	33,953
Net position - beginning	<u>585,070</u>	<u>548,986</u>	6.6%	<u>515,033</u>
Net Position - ending	<u>\$ 600,580</u>	<u>\$ 585,070</u>	2.7%	<u>\$ 548,986</u>

Operating revenues as of June 30, 2016 were \$243.3 million compared to \$229.9 million for the same period last year and \$216.6 million in FY 2014. This represents an increase of \$13.4 million, or 5.8%, in FY 2016 and \$13.2 million, or 6.1%, in FY 2015. The increases in operating revenues are driven by Board-approved rate increases of 5.5% in FY 2016 and 5.5% in FY 2015. Wastewater service charges totaled \$183.6 million as of June 30, 2016. This represents an increase of \$9.7 million, or 5.6%, from a year ago. Wastewater services charges for FY 2015 and FY 2014 were \$173.9 million and \$165.6 million, respectively. The majority of MSD's wastewater customers are billed based on the volume of water used. Because substantially all of MSD's customers are also customers of the Louisville Water Company, this charge is billed and collected by the Louisville Water Company on behalf of MSD. Stormwater service charges were \$54.9 million as of June 30, 2016. This represents an increase of \$3.3 million, or 6.4%, from the same period one year ago. Stormwater service charges for FY 2015 and FY 2014 were \$51.6 million and \$48.5 million, respectively. Other operating income was \$4.8 million in FY 2016, which is \$403 thousand more than FY 2015. FY 2015 and FY 2014 were \$4.4 million and \$2.6 million respectively.

Gross service and administrative costs increased by \$15 million in FY 2016 from their FY 2015 level and increased by \$0.8 million in FY 2015 from their FY 2014 level. A key factor driving the increase in service and administrative costs in FY 2016 were repair expenses associated with the Morris Forman Water Quality Treatment Center flood. MSD's employee count, including vacant positions, increased from 591 in FY 2015 to 607 full-time equivalent positions in FY 2016. Labor cost was 49% of gross service and administrative costs in FY 2016, 51% in FY 2015 and 52% in FY 2014. Figure 3 shows the composition of gross service and administrative costs by major classification for the past three fiscal years.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**MANAGEMENT'S DISCUSSION AND ANALYSIS**

**Figure 3<sup>1</sup>**

**Service and Administrative Costs**

(amounts in thousands)

	<u>2016</u>	<u>2015</u>	<u>2014</u>
Labor	\$ 55,229	\$ 54,378	\$ 57,249
Utilities	18,256	13,817	14,563
Materials and supplies	4,183	9,706	8,151
Contractual services	28,376	20,943	19,483
Chemicals	4,371	3,681	3,306
Fuel	1,326	1,616	1,836
Insurance premiums & recovery	388	(960)	1,499
Bad debt	2,603	2,068	1,781
Other operating expense	2,939	1,052	945
Service & administrative costs	<u>117,671</u>	<u>106,301</u>	<u>108,814</u>
Capitalized overhead	<u>(30,516)</u>	<u>(30,056)</u>	<u>(33,568)</u>
Net service and administrative costs	<u>\$ 87,155</u>	<u>\$ 76,245</u>	<u>\$ 75,246</u>

MSD recorded a net operating income of \$89.3 million in FY 2016 which is a decrease of \$1.1 million, or 1.2%, compared to FY 2015. Net operating income in FY 2015 and FY 2014 was \$90.4 million and \$77.9 million, respectively.

**STATEMENT OF CASH FLOWS**

A summary of MSD's Statement of Cash Flows is shown below in Figure 4.

**Figure 4**

**Condensed Statement of Cash Flows**

(amounts in thousands)

	<u>FY 2016</u>	<u>FY 2015</u>	<u>% Change 2015-2016</u>	<u>FY 2014</u>
Cash flows from:				
Operating activities	\$ 155,163	\$ 152,718	1.6%	\$ 140,040
Capital and related financing activities	(142,129)	(184,324)	(22.9%)	(119,711)
Investing activities	<u>(6,909)</u>	<u>5,289</u>	<u>(230.6%)</u>	<u>(24,667)</u>
Change in cash and temporary investments	6,125	(26,317)	(123.3%)	(4,338)
Cash and temporary investments, Beginning of year	<u>97,970</u>	<u>124,287</u>	<u>(21.2%)</u>	<u>128,625</u>
Cash and temporary investments, End of year	<u>\$ 104,095</u>	<u>\$ 97,970</u>	<u>6.3%</u>	<u>\$ 124,287</u>

Cash and Temporary Investments were \$104 million at the end of FY 2016 which is an increase of \$6 million from FY 2015 or 6.3%. Cash from Operating Activities in FY 2016 was \$155 million which is an

<sup>1</sup> GASB 68 pension expense has been excluded from this chart of Service and Administrative Costs.

## LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT

### MANAGEMENT'S DISCUSSION AND ANALYSIS

increase of \$2.4 million compared to FY 2015. Cash from Operating Activities in FY 2015 was \$153 million which was an increase of \$12.7 million compared to FY 2014. Cash used by Capital and Related Financing Activities in FY 2016 and FY 2015 was \$142 million and \$184 million, respectively. Cash used by Investing Activities was \$7 million in FY 2016 compared to \$5 million provided by Investing Activities in FY 2015.

#### **CAPITAL ASSETS**

MSD's total gross capital assets (additions) increased by \$377.9 million in FY 2016. Major additions include \$140 million worth of wastewater treatment facilities and \$101 million worth of sewer line installations.

Readers are encouraged to review Note 5 on page 21 of this report and the Comparative Schedules of Plant, Lines, and Other Facilities found on page 45 of this report for additional information regarding changes to capital assets.

Depreciation expense was \$62.8 million or \$0.5 million less than FY 2015. These expenses are expected to increase in future years as MSD adds additional capital assets to its wastewater and stormwater systems.

#### **DEBT ADMINISTRATION**

A summary of significant debt transactions follows:

On October 6, 2015, MSD issued \$175 million of Sewer and Drainage System Revenue Bonds, Series 2015A. Proceeds of the 2015A bonds, net of issuance cost were used to pay the cost of improvements to MSD's sewer and drainage system.

On October 6, 2015, MSD issued \$81.7 million of Sewer and Drainage System Revenue Bonds, Series 2015B. Proceeds of the 2015B bonds, net of issuance cost and together with funds released from the Reserve Account were used to currently refund \$87.3 million of MSD's outstanding Sewer and Drainage System Revenue Bonds, Series 2006A. The refunded bonds are considered defeased and the liability was removed from MSD's Statement of Net Position. The refunding reduced debt service payments over the next 23 years by \$18.4 million and resulted in a net present value savings of \$12.3 million.

MSD ended fiscal year 2016 with \$2.1 billion in outstanding long-term debt compared to \$2.0 billion in outstanding long-term debt at the end of fiscal year 2015. Additional information on MSD's long-term debt can be found in Note 7 on pages 23-27 of this report.

Short term debt outstanding payable from restricted assets at the end of fiscal year 2016 totaled \$85.1 million compared to \$74.7 million at the end of fiscal year 2015.

Net interest expense totaled \$73.8 million in FY 2016, an increase of \$2.5 million from FY 2015.

**Debt Service Ratio:** Although net operating income is the most significant component of determining MSD's debt service coverage ratio, other sources, including investment income and current period payments of property owner assessments, are also included in "available revenues" and "net revenues" for purposes of demonstrating MSD's compliance with debt service ratio tests of the 1993 Sewer and Drainage System Revenue Bond Resolution. MSD's debt service coverage, calculated on the foregoing basis, was 187% in 2016 and 188% in 2015 (see Figure 5).

The 1993 Resolution and its supplements require MSD to provide available revenues sufficient to pay 110% of each year's aggregate net debt service on Revenue Bonds and 100% of operating expenses. Available revenues, as used for purposes of the Resolution, means all revenues and other amounts received by MSD and pledged as security for payment of bonds issued pursuant to the Resolution, but excludes interest income which is capitalized in accordance with generally accepted accounting principles.

# LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT

## MANAGEMENT'S DISCUSSION AND ANALYSIS

Operating expenses include all reasonable, ordinary, usual or necessary current expenses of maintenance, repair and operation determined in accordance with generally accepted accounting principles and the enterprise basis of accounting. Operating expenses do not include reserves for extraordinary maintenance and repair or administrative and engineering expenses of MSD which are necessary or incidental to capital improvements for which debt has been issued and which may be paid from proceeds of such debt.

Aggregate net debt service is debt service on all bonds issued pursuant to the Resolution including principal payments, excluding (i) interest expense which, in accordance with generally accepted accounting principles, is capitalized and which may be paid from the proceeds of debt and (ii) other amounts, if any, available or expected to be available in the ordinary course of business for payment of debt service.

**Figure 5<sup>2</sup>**

**Debt Service Coverage**  
(amounts in thousands)

	<u>FY 2016</u>	<u>FY 2015</u>	<u>% Change 2015-2016</u>	<u>FY 2014</u>
Total available revenues	270,025	249,392	8.3%	239,091
Total net operating expenses	<u>87,155</u>	<u>76,245</u>	<u>14.3%</u>	<u>75,246</u>
Net revenue	182,870	173,147	5.6%	163,845
Aggregate net debt service	97,592	92,308	5.7%	90,035
Debt service coverage ratio	187%	188%	(0.1%)	182%

### FUTURE ECONOMIC FACTORS

MSD's FY17 budget projects an operating revenue increase of 6.1% over FY 2016. The MSD Board approved a 6.9% rate increase for wastewater and stormwater volume and service charges as well as optional and quality charge rates that are assessed to commercial and industrial wastewater customers effective August 1, 2016.

Moody's Investors Service affirmed MSD's Aa3 rating on the district's \$1.8 billion of outstanding sewer and drainage system revenue bonds on August 3, 2016. The outlook remains stable. The Aa3 rating reflects MSD's large service area and stable customer base as well consistent and timely rate increases. Moody's assigned a MIG1 rating to MSD's \$226.3 million Sewer and Drainage System Subordinated Bond Anticipation Notes on October 6, 2016.

S&P Global Ratings assigned its AA rating to MSD's outstanding debt on August 2, 2016. The outlook is positive. Their rating reflects a broad and diverse service area with low industry risk. S&P assigned its SP-1+ short term rating to MSD's 2015 sewer and drainage system bond anticipation notes on October 6, 2016.

One Water is a key strategy which will shape MSD's economic future. In 2014 MSD executed an Interlocal Agreement with Louisville Water Company and MSD that is known as One Water. One Water's long term objectives are to maintain the quality of our community's water, provide cost savings that can be used to reinvest in infrastructure and reduce the level of rate increases, and to provide new revenue opportunities.

<sup>2</sup> Excludes GASB 68 pension expense

## **LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

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### **MANAGEMENT'S DISCUSSION AND ANALYSIS**

#### **CONSENT DECREE**

In April 2009, MSD agreed to enter into an Amended Consent Decree with the Commonwealth of Kentucky's Environmental and Public Protection Cabinet (KEPPC) and the U.S. Environmental Protection Agency (EPA). The agreement calls for MSD to design and implement projects within specified deadlines that will eliminate sewer overflows in its service area. The cost of the projects is estimated to be \$850 million over the next two decades. MSD has submitted plans to finance the projects through additional bonds and future rate increases. In a letter dated June 6, 2014, MSD requested approval from the KEPPC and the EPA for the Integrated Overflow Abatement Plan (IOAP) 2012 Modifications, dated May 2014. The IOAP 2012 Modifications represents a revision to 28 separate projects set forth in the original IOAP, dated September 30, 2009. The IOAP Modifications were approved and will supersede and replace the 2009 IOAP. To date, MSD has complied with all submittals and reports requirements contained in the Amended Consent Decree. For additional information on the Consent Decree see Note 13 to the financial statements.

#### **REQUESTS FOR ADDITIONAL INFORMATION**

This report is intended to provide readers with a general overview of MSD's finances and to provide information regarding the receipts and uses of funds. If you need clarification regarding a statement(s) made in the report or need additional information, please contact the Louisville and Jefferson County Metropolitan Sewer District, 700 West Liberty Street, Louisville Kentucky 40203. You can also submit a request for additional information via MSD's website. [www.msdlouky.org](http://www.msdlouky.org)

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**  
**COMPARATIVE STATEMENT OF NET POSITION**  
**YEARS ENDED JUNE 30, 2016 AND 2015**  
**DOLLARS IN THOUSANDS**

	<u>2016</u>	<u>2015</u>
<b>Current Assets</b>		
Unrestricted cash and cash equivalents	\$ 69,481	\$ 63,013
Unrestricted investments	100	100
Restricted cash and cash equivalents	5,379	16,342
Restricted investments	14,999	0
Accounts receivable, less allowance for doubtful accounts of \$986 (2016), \$913 (2015)	26,696	23,787
Inventories	4,210	3,981
Accrued interest receivable	1,193	1,193
Prepaid expenses and other current assets	1,991	1,687
Total current assets	<u>124,049</u>	<u>110,103</u>
<b>Non-current Assets</b>		
Restricted cash and cash equivalents	29,235	18,615
Restricted investments	120,212	120,165
Capital assets -pant, lines and other facilities, net	2,573,262	2,392,466
Other non-current assets	29,315	30,807
Total non-current assets	<u>2,752,024</u>	<u>2,562,053</u>
<b>Total Assets</b>	<b><u>\$ 2,876,073</u></b>	<b><u>\$ 2,672,156</u></b>
<b>Deferred Outflow of Resources</b>		
Deferred outflow - pension contributions	11,580	4,576
Unamortized loss on refunding	12,128	15,831
Total deferred outflow of resources	<u>23,708</u>	<u>20,407</u>
<b>Total Assets and Deferred Outflow of Resources</b>	<b><u>\$ 2,899,781</u></b>	<b><u>\$ 2,692,563</u></b>
<b>Current Liabilities</b>		
Current liabilities (payable from unrestricted assets):		
Accounts payable and accrued expenses	\$ 17,420	\$ 14,936
Current liabilities (payable from restricted assets):		
Accounts payable and accrued expenses (capital), includes contractor retainage of \$14,249 (2016), \$8,893 (2015)	33,271	30,607
Accrued interest payable	17,533	13,036
Refundable deposits	2,557	1,639
Current maturities of bonds payable	31,825	29,415
Total current liabilities	<u>102,606</u>	<u>89,633</u>
<b>Non-current Liabilities</b>		
Bonds payable, net	1,790,207	1,644,187
Subordinated Debt	228,412	228,508
Net pension liability	68,653	51,988
Other long term liabilities	690	944
Total non-current liabilities	<u>2,087,962</u>	<u>1,925,627</u>
<b>Total Liabilities</b>	<b><u>\$ 2,190,568</u></b>	<b><u>\$ 2,015,260</u></b>
<b>Deferred Inflow of Resources</b>		
Interest rate swaps	101,832	78,880
Deferred inflow - pension liability	145	5,803
Other deferred inflows	6,656	7,550
Total deferred inflow of resources	<u>108,633</u>	<u>92,233</u>
<b>Total Liabilities and Deferred Inflow of Resources</b>	<b><u>\$ 2,299,201</u></b>	<b><u>\$ 2,107,493</u></b>
<b>Net Position</b>		
Net investment in capital assets	\$ 534,946	\$ 506,187
Restricted net position	84,639	80,424
Unrestricted net position	(19,005)	(1,541)
Total net position	<u>600,580</u>	<u>585,070</u>
<b>Total Liabilities, Deferred Inflow of Resources and Net Position</b>	<b><u>\$ 2,899,781</u></b>	<b><u>\$ 2,692,563</u></b>

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**  
**COMPARATIVE STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION**  
**YEARS ENDED JUNE 30, 2016 AND 2015**  
**DOLLARS IN THOUSANDS**

	<u>2016</u>	<u>2015</u>
<b>Operating Revenues</b>		
Service charges	\$ 238,480	\$ 225,462
Other operating income	4,810	4,407
Total operating revenues	<u>243,290</u>	<u>229,869</u>
<b>Operating Expenses</b>		
Service and administrative costs	87,155	76,245
GASB 68 pension expense	4,003	(127)
Depreciation and amortization	62,820	63,321
Total operating expenses	<u>153,978</u>	<u>139,439</u>
<b>Income from Operations</b>	<u>89,312</u>	<u>90,430</u>
<b>Non-operating Revenue (Expenses)</b>		
Investment income	7,559	7,527
Build America Bond refund	10,332	10,096
Interest expense - bonds	(86,818)	(83,404)
Interest expense - swaps	(9,514)	(9,737)
Interest expense - other	(8,601)	(4,611)
Amortization of debt discount / premium	12,052	7,887
Amortization of loss on refunding	(1,949)	(1,980)
Capitalized interest	21,051	20,511
Change in fair value - swaps	(22,951)	(5,240)
Total non-operating revenue (expenses) - net	<u>(78,839)</u>	<u>(58,951)</u>
<b>Income before capital contributions</b>	10,473	31,479
<b>Capital contributions</b>	<u>5,037</u>	<u>4,605</u>
<b>Increase in net position</b>	15,510	36,084
<b>Net position, beginning of year</b>	585,070	548,986
<b>Net position, end of year</b>	<u>\$ 600,580</u>	<u>\$ 585,070</u>



**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**  
**COMPARATIVE STATEMENT OF CASH FLOWS**  
**YEARS ENDED JUNE 30, 2016 AND 2015**  
**DOLLARS IN THOUSANDS**

	<u>2016</u>	<u>2015</u>
<b>Cash Flows from Operating Activities</b>		
Cash received from customers	\$ 240,365	\$ 227,975
Cash paid to suppliers	(49,867)	(36,949)
Cash paid to employees	(35,335)	(38,308)
<b>Net Cash Provided by Operating Activities</b>	<u>155,163</u>	<u>152,718</u>
<b>Cash Flows from Capital and Related Financing Activities</b>		
Proceeds from issuance of revenue bonds	256,750	80,000
Proceeds from subordinated debt	226,340	226,340
Build America Bond refund	10,332	10,096
Assessments receivable proceeds	1,740	2,049
Interest received - assessments	426	340
Principal payments on revenue bonds	(114,985)	(45,420)
Interest paid on revenue bonds	(89,169)	(87,813)
Subordinated debt principal payments	(226,436)	(226,432)
Acquisition and construction of capital assets	(206,873)	(143,236)
Acquisition of non-operating property	(254)	(248)
<b>Net Cash Provided (Used) by Capital and Related Financing</b>	<u>(142,129)</u>	<u>(184,324)</u>
<b>Cash Flows from Investing Activities</b>		
Change in investments	(15,047)	1,052
Income received on investments	17,652	13,974
Interest payments - swap agreements	(9,514)	(9,737)
<b>Net Cash Provided (Used) by Investing Activities</b>	<u>(6,909)</u>	<u>5,289</u>
Net Increase (Decrease) in Cash and Cash Equivalents	6,125	(26,317)
Cash and Cash Equivalents, Beginning of Year	97,970	124,287
<b>Cash and Cash Equivalents, End of Year</b>	<u>104,095</u>	<u>97,970</u>
<b>Reconciliation of Operating Income to Net Cash provided by Operating Activities</b>		
Income from operations	89,312	90,430
Adjustments to reconcile operating income to net cash provided by operating activities		
Depreciation and amortization	62,820	63,321
Accounts receivable	(3,844)	(1,964)
Inventories	(229)	(173)
Prepaid expense	(303)	(250)
Accounts payable	1,502	1,117
Customer deposits	918	71
Accrued liabilities	4,985	166
<b>Net Cash Provided by Operating Activities</b>	<u>\$ 155,161</u>	<u>\$ 152,718</u>
<b>Non-Cash Capital Financing and Investing Activities</b>		
Contribution of plant, lines and other facilities by developers and property owners	\$ 5,037	\$ 4,605
Construction costs in accounts payable	33,270	30,607
Change in fair value of investments	786	979
Decrease in interest rate swap deferred revenue	918	932
Change in fair value - swap agreements	\$ (22,951)	\$ (5,240)

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

**NOTE 1 – SIGNIFIGANT ACCOUNTING POLICIES**

The financial statements of the Louisville and Jefferson County Metropolitan Sewer District (MSD), a component unit of Louisville/Jefferson County Metro Government, are prepared in conformity with accounting principles generally accepted in the United States of America as applied to government units. The Governmental Accounting Standards Board (GASB) is the accepted standard-setting body for establishing governmental accounting and financial reporting principles. MSD follows GASB Pronouncements as codified under GASB 62, including electing to report as a regulated operation. MSD uses proprietary fund accounting (enterprise fund). Due to the election as a regulated operation under GASB 62, to meet industry accounting standards and follow transactional intent, MSD uses, as applicable, ASC 980, Regulated Accounting.

**Reporting Entity:** MSD is a public body corporate, and political subdivision of the Commonwealth of Kentucky. MSD was created in 1946 pursuant to Chapter 76 of the Kentucky Revised Statutes, in the interest of the public health and for the purpose of providing adequate sewer and drainage facilities in the urbanized area of the Louisville Metropolitan Area. Pursuant to Chapter 76, MSD is governed by a Board which consists of eight members who are appointed by the Mayor of Louisville Metro Government, subject to approval of Louisville Metro Council. Not more than five Board members may be of the same political party. However, there is not a continuing supervisory relationship exercised by Louisville Metro Government over MSD with respect to MSD's statutory public functions.

Chapter 76 authorizes MSD to provide sewer and drainage facilities and services. MSD is further authorized by the statute to establish and collect service charges and to budget accordingly for operations and maintenance, capital outlays and debt service on obligations it is authorized by the statute to incur. No special financing relationship exists between Louisville Metro Government and MSD, nor is Louisville Metro government empowered by law or custom to approve MSD's operating or capital budgets; nor are they responsible for financing deficits or disposing of surplus funds.

MSD has complete control, possession and supervision of the sewer and drainage system in large portions of Jefferson County, and has statutory authority to construct additions, betterments and extensions within its service area. Additionally, MSD has statutory responsibility for approval of the design and proper construction of sewer and drainage facilities within the County's boundaries. There are cities within the County that, by statute, have the option of using MSD sewer services on a contractual basis. Third and fourth class cities also have the option of obtaining drainage services from MSD. MSD's enterprise business activities are managed by its Board, which has statutory authority to elect officers, enact bylaws and enter into agreements and contracts for the management and regulation of MSD's affairs.

MSD's revenue is derived from sewer and drainage service charges which are collected from residential, commercial and industrial customers. MSD controls the collection of all revenue, disbursement of payables and title to all sewer and drainage assets. Sewer service charges are distributed among customer classes on the basis of actual costs incurred to collect and treat wastewater. Drainage service charges are distributed among customer classes on the basis of actual costs of drainage services per equivalent unit of impervious surface.

Changes in MSD's service charges are implemented by MSD's Board, but no change in the service charge schedule is final within the Louisville Metro area until approval by Louisville Metro Council. However, the statute provides that such approval may not be arbitrarily withheld and that the schedule shall be sufficient to provide revenues for the operation and maintenance of the system and for debt service. By ordinance, Louisville Metro Government has provided that MSD's Board may amend its service charge schedule to maintain a debt service ratio of 1.10 for MSD's sewer and drainage revenue bonds, and that such Amendments will be effective within the Metropolitan area when adopted by MSD's

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

Board, so long as the amended rates do not generate additional revenue from service charges in excess of 7% during the twelve months succeeding the period in which the deficiency was identified.

Chapter 76 permits MSD to finance sewer and drainage system construction, acquisition and other capital improvements through the issuance of its revenue bonds and with the proceeds of governmental grants, property owner contributions in aid of construction and bonds and loans for which pledge of repayment is subordinated to the pledge of revenues given by MSD for the security of its revenue bond holders. MSD indebtedness does not constitute indebtedness of Louisville Metro Government or the Commonwealth, but Louisville Metro Government must authorize by ordinance the issuance by MSD of revenue bonds to finance projects within the Metropolitan area.

**Basis of Accounting:** The sewer and drainage system owned and operated by MSD is accounted for using a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operation of the system are included on the statement of net position. Total net position is segregated into net investment in capital assets, restricted for payment of bond principal and interest and unrestricted. Operating statements present increases (e.g., revenues) and decreases (e.g., expenses) in net position. MSD utilizes the accrual basis of accounting wherein revenues are recorded when earned and expenses are recorded at the time the liability is incurred.

**Cash and Cash Equivalents:** For purposes of the Statements of Cash Flows, MSD includes repurchase agreements and other investments with an original maturity of three months or less in cash and cash equivalents.

**Restricted and Unrestricted Funds:** Restricted funds are reserved for the purpose of bond debt service, funding of capital construction, cost of issuance, and debt service reserves. Unrestricted funds, generated from service fees and other operating income, are used to pay for operating expenses. When an expense or outlay is incurred for which both restricted and unrestricted net position is available, it is MSD's practice is to use revenue from operations to finance construction, then to reimburse from restricted net position for construction as it is needed.

**Investment Securities:** Investments are stated at fair value. Investment income consists of interest income and the change in fair value of investments<sup>1</sup>. Investment income is reduced by estimated federal arbitrage liability.<sup>2</sup>

**Operating/Non-Operating Revenues, Expenses and Receivables:** Operating revenues are those revenues that are generated directly from the primary activity of MSD. These revenues are wastewater and stormwater service charges. The Louisville Water Company is responsible for the billing and collection of these charges on behalf of MSD on a monthly basis. Operating expenses are expenses incurred through the activities of operating and maintaining MSD facilities.

Non-operating revenues and expenses are comprised of investment and financing earnings and costs, changes in the fair value of derivatives, as well as contributions from outside sources.

Accounts receivable are stated at the amount management expects to collect from outstanding customer accounts. Accounts are considered past due 30 days from the invoice date. Management provides an allowance for doubtful account that is based on historical collection experience and a review of the current status of individual accounts. Accounts that remain outstanding after management has exerted reasonable collection efforts are written off through a charge to bad debt expense and a credit to accounts receivable.

<sup>1</sup> See Note 2 – Deposits and Investments

<sup>2</sup> See Note 7 – Long-Term Debt

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

Assessment receivables represent amounts billed to residents to have sewer lines installed in their neighborhood. Assessment receivables are considered past due once the balance is 90 days in arrears. Management considers all amounts collectible on the basis that liens are placed on properties at the time of assessment.

**Inventories:** Inventories are stated at the lower of cost (principally weighted average cost) or market. They consist of supplies and parts used in the operation of MSD's treatment plants and for the maintenance of sewers, fleet vehicles and other related equipment.

**Contributed Capital and Construction Grants:** MSD finances construction of sewer and drainage plant, lines and other facilities, in part, through government grants and contributions from property owners and developers. Governmental grants in aid of construction represent the estimated portion of construction costs incurred for which grants are expected to be paid to MSD by the governmental grantor. These amounts are recorded as a receivable and revenues from contributions at the time the related expenditures are incurred. The revenues from contributions are part of the change in net position.

**Capital Assets - Plant, Lines and Other Facilities:** Plant, lines and other facilities are recorded at historical cost or, if contributed, at fair value as determined by engineering estimates on the date the contribution is received. It is MSD's policy to depreciate the costs of these assets over their estimated useful lives on a straight line basis<sup>3</sup>.

Estimated useful lives on depreciable assets are as follows:

Buildings and other structures	30 - 50 years
Land improvements	10 - 30 years
Miscellaneous machinery	10 - 20 years
Vehicles	6 - 12 years
Equipment, heavy	15 - 30 years
Equipment, light	5 - 15 years
Sewer lines and drainage channels	80 years

Costs incurred for capital construction and acquisition are carried in construction in progress until disposition or completion of the related projects. The major components of construction in progress are sewer lines, wastewater treatment and stormwater facilities. Costs relating to projects not pursued are expensed, while costs relating to completed projects are capitalized as plant, lines and other facilities.

**Capitalized Interest:** Interest capitalized on projects funded from bond proceeds is recorded as the average cumulative expenditures multiplied by the weighted average borrowing rate.<sup>4</sup> Interest is not capitalized on project costs that are reimbursed by contributions of capital from government, property owners and developers.

**Impairment of Capital Assets:** In accordance with GASB Statement No. 42, *Accounting and Financial Reporting for Impairment of Capital Assets and for Insurance Recoveries*, management evaluates prominent events or changes in circumstances affecting capital assets to determine whether impairment of a capital asset has occurred. Such events or changes in circumstances that may be indicative of impairment include evidence of physical damage, enactment or approval of laws or regulations, other changes in environmental factors, technology changes or evidence of obsolescence, changes in the manor of duration of use of a capital asset, and construction stoppage. A capital asset is generally

<sup>3</sup> See Note 5 – Capital Assets – Plant, Lines, and Other Facilities

<sup>4</sup> See Note 6 – Capitalized Interest

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

considered impaired if both (a) the decline in service utility of the capital asset is large in magnitude and (b) the event or change in circumstance is outside the normal life cycle of the capital asset. No impairment losses were recognized in the years ended June 30, 2016 and 2015.

**Bonds Payable:** Bonds payable are recorded at the principal amount outstanding, net of any applicable premium or discount<sup>5</sup>.

Bonds outstanding, which have been refunded and economically defeased, are not included in long-term debt. The related assets are not included in investments. The loss on refunding, which is the difference between the reacquisition price and the net carrying amount of the old debt, is deferred outflow of resources and amortized as a component of interest expense over the shorter of either 1) the original life of the refunded debt or 2) the life of the refunding debt.

MSD enters into interest rate swap agreements to modify interest rates on outstanding debt. MSD records the net interest expenditures resulting from these agreements and amortizes gains/losses resulting from the termination of these agreements until the original termination date of the agreement. Derivative instruments are reported at fair value as deferred inflow of resources. Changes in fair value of derivative instruments are reported in non-operating revenue (expenses) on the Statement of Revenues, Expenses and Changes in Net Position.

Bond issue costs are capitalized and amortized over the life of the respective bond issue using the straight-line method, which approximates the effective interest method, pursuant to the election of regulatory operation under GASB 62, as they are deemed recoverable through future rates.

Original issue discounts and premiums on bonds are amortized as a component of interest expense using the straight-line method, which approximates the effective interest method, over the lives of the bonds to which they relate.

**Compensated Absences:** Vacation and personal pay benefits are accrued as accumulated and vested by MSD employees.

**Allocation of Overhead:** MSD allocates overhead costs to its core business processes which are: operations and maintenance; design, construction and acquisition of plant lines and other facilities; and subsidiary business enterprises.

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

**Income Tax Status:** MSD is exempt from federal income tax under the Internal Revenue Code as a political subdivision of the Commonwealth of Kentucky.

**Adoption of New Accounting Pronouncements:** Effective July 1, 2015, MSD adopted the following GASB pronouncements:

- Statement No. 72: *Fair Value Measurement and Application*
- Statement No. 73: *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement No. 68 and Amendments to Certain Provisions of GASB Statements 67 and 68*

<sup>5</sup> See Note 7 – Long-Term Debt

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

- Statement No. 76: *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*

Statement No. 72: *Fair Value Measurement and Application* requires governments to disclose how they measure the fair value of investments and the underlying valuation techniques<sup>6</sup>.

The objective of Statement No. 73: *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement No. 68 and Amendments to Certain Provisions of GASB Statements 67 and 68* is to improve the usefulness of information about pensions included in the general purpose external financial reports of state and local governments for making decisions and assessing accountability<sup>7</sup>.

The objective of Statement No. 76: *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments* is to identify the hierarchy of generally accepted accounting principles (GAAP). This statement addresses the use of authoritative and nonauthoritative literature in the event the accounting treatment for a transaction or event is not specified within authoritative GAAP.<sup>8</sup>

**Recent Accounting Pronouncements:** The following GASB Pronouncements are being evaluated for future year implementation:

- Statement No. 74: *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans* (FY2017)
- Statement No. 75: *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* (FY2018)
- Statement No. 77: *Tax Abatement Disclosures* (FY2017)
- Statement No. 80: *Blending Requirements for Certain Component Units – an Amendment of GASB Statement No. 15* (FY2017)
- Statement No. 81: *Irrevocable Split-Interest Agreements* (FY2017)
- Statement No. 82: *Pension Issues – An Amendment of GASB Statements No. 67, No. 68, and No. 73* (FY2017)
- *Statement No. 83: Certain Asset Retirement Obligations* (FY2019)

MSD has not determined the impact these statements will have on their financial statements.

<sup>6</sup> See Note 2 – Deposits and Investments

<sup>7</sup> Government Accounting Standards Board, Statement No. 73, page 1, from the Government Accounting Standards Board website [http://www.gasb.org/jsp/GASB/Document\\_C/GASBDocumentPage?cid=1176166143097&acceptedDisclaimer=true](http://www.gasb.org/jsp/GASB/Document_C/GASBDocumentPage?cid=1176166143097&acceptedDisclaimer=true), accessed September 7, 2016.

<sup>8</sup> Government Accounting Standards Board, Statement No. 76, pages 1-2, from the Government Accounting Standards Board website [http://gasb.org/jsp/GASB/Document\\_C/GASBDocumentPage?cid=1176166147773&acceptedDisclaimer=true](http://gasb.org/jsp/GASB/Document_C/GASBDocumentPage?cid=1176166147773&acceptedDisclaimer=true), accessed September 7, 2016.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

**NOTE 2 - DEPOSITS AND INVESTMENTS**

A comparative statement of cash, cash equivalents and investments held in MSD's portfolio follows:

**June 30, 2016**

<u>Investment Type</u>	<u>Fair Value</u>	<u>Weighted Average Maturity in Years</u>	<u>Credit Rating</u>
U S Agency Discount Notes	\$ 37,728	0.24	Aaa
U S Agency Securities	5,219	1.43	Aaa
Municipal Bonds	92,264	22.53	Aa
Money Market Funds	77,201	0.10	Aaa
Commercial Paper	0		
Repurchase Agreement/Cash	26,894		
Certificate of Deposit	100		
Total	239,406	9.90	
Accrued interest	1,193		
Total cash, cash equivalents and investments	<u>\$ 240,599</u>		

**June 30, 2015**

<u>Investment Type</u>	<u>Fair Value</u>	<u>Weighted Average Maturity in Years</u>	<u>Credit Rating</u>
U S Agency Discount Notes	\$ 22,751	0.38	Aaa
U S Agency Securities	5,211	2.45	Aaa
Municipal Bonds	92,202	23.42	Aa
Money Market Funds	69,938	0.11	Aaa
Commercial Paper	19,996	0.10	A-1 / P-1
Repurchase Agreement/Cash	8,037		
Certificate of Deposit	100		
Total	218,235	10.43	
Accrued interest	1,193		
Total cash, cash equivalents and investments	<u>\$ 219,428</u>		

Section 66.480 of the Kentucky Revised Statutes and the District's bond resolutions authorize the District to invest money subject to its control in, among other securities, (i) obligations of the United States and of its agencies and instrumentalities, including obligations subject to repurchase agreements, (ii) certificates of deposit or other interest-bearing accounts of any bank or savings and loan institution which are insured by the Federal Deposit Insurance Corporation or, to the extent not so insured, collateralized by obligations described in clause (i) above, (iii) securities issued by a state or local government, or any instrumentality or agency thereof, in the United States, and rated in either of the two highest categories by a nationally recognized rating agency, and (iv) money-market mutual funds investing in any of the securities described above. MSD bond resolutions and covenants contain similar restrictions.

Investments are made based upon prevailing market conditions at the time of the transaction with the intent to hold the instrument until maturity. With this strategy, investments would be expected to reach maturity with limited realized gains or losses. If the yield of the portfolio can be improved upon by the sale of an investment, prior to its maturity, with the reinvestment of the proceeds, then this provision is also allowed.

**Concentration of Credit Risk:** MSD's Investment Policy (The Policy) requires that investments be diversified to eliminate the risk of loss resulting from over-concentration of assets in a specific maturity, a

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

specific issuer, or a specific class of securities. Section VIII of The Policy outlines the permitted investments and identifies the limitations placed on the types of investments to minimize the risk.

**Interest Rate Risk:** The Policy also requires that all investments have among the highest category of ratings by the nationally recognized rating agencies. Credit ratings of current applicable investments are shown in the preceding table. The weighted average maturity in years represents the interest rate risk for MSD.

**Custodial Credit Risk:** This is the risk that, in the event of the failure of the counterparty, MSD would not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The collateral provided by financial institutions is considered adequate to cover all balances in excess of limits set forth by the Federal Deposit Insurance Corporation. All of MSD's investments are held by MSD or in the name of MSD by a Trustee.

**Foreign Currency Risk:** This risk relates to any potential adverse effects on the fair value of an investment from changes in exchange rates. MSD did not hold any foreign currency as of June 30, 2016 and 2015.

A reconciliation of cash, cash equivalents and investments as shown on the Comparative Statement of Net Position for MSD is as follows:

	<u>June 30, 2016</u>	<u>June 30, 2015</u>
Cash and cash equivalents - unrestricted	\$ 69,481	\$ 63,013
Investments - unrestricted	100	100
Cash and cash equivalents - restricted	34,614	34,958
Investments - restricted	<u>135,211</u>	<u>120,164</u>
 Total	 <u>\$ 239,406</u>	 <u>\$ 218,235</u>

GASB 72 requires MSD to disclose how we measure the fair value of investments and the underlying valuation techniques. A comparative statement of fair value measurements and valuation techniques follows:

	<b>Fair Value Measurements at June 30, 2016 Using:</b>			
	<b>Quoted Prices in Active Markets for Identical Assets (Level 1)</b>	<b>Significant Other Observable Inputs (Level 2)</b>	<b>Significant Unobservable Inputs (Level 3)</b>	<b>Total</b>
Investments by fair value level:				
Commercial Paper	\$ -	\$ -	\$ -	\$ -
U.S. Agencies	-	5,219	-	5,219
U.S. Agency Discount Notes	-	37,728	-	37,728
State and Municipal Obligations	-	92,264	-	92,264
Repurchase Agreement/Cash	<u>26,894</u>	<u>-</u>	<u>-</u>	<u>26,894</u>
 Total investments by fair value level	 <u>\$ 26,894</u>	 <u>\$ 135,211</u>	 <u>\$ -</u>	 <u>\$ 162,105</u>



**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

	Fair Value Measurements at June 30, 2015 Using:			
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Investments by fair value level:				
Commercial Paper	\$ -	\$ 19,996	\$ -	\$ 19,996
U.S. Agencies	-	5,211	-	5,211
U.S. Agency Discount Notes	-	22,751	-	22,751
State and Municipal Obligations	-	92,202	-	92,202
Repurchase Agreement/Cash	8,037	-	-	8,037
Total investments by fair value level	<u>\$ 8,037</u>	<u>\$ 140,160</u>	<u>\$ -</u>	<u>\$ 148,197</u>

Debt and equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for these securities or repurchase agreements. Debt securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing approach. Matrix pricing is used to value securities based on the securities' relationship to the benchmark quoted prices.

**NOTE 3 - RESTRICTED CASH, CASH EQUIVALENTS AND INVESTMENTS**

MSD's revenue bond resolution provides that MSD shall maintain in a Debt Service Reserve Account a balance equal to the maximum annual aggregate gross principal and interest due on all outstanding revenue bonds; or, in lieu of cash and investments in that amount, a letter of credit or policy of bond insurance payable in that amount. Cash, cash equivalents and investments segregated as accounts restricted for authorized construction include proceeds from issuance of MSD bonds. Total restricted cash, cash equivalents, and investments at June 30, 2016 and June 30, 2015 was \$169,825 and \$155,121, respectively.

**NOTE 4 - SCHEDULE OF NET POSITION**

A comparative schedule of net position follows:

	<u>2016</u>	<u>2015</u>
Net investment in capital assets		
Plant, lines and other facilities net of depreciation	\$2,573,262	\$2,392,466
Outstanding debt that applies to plant, lines and other facilities	(2,050,444)	(1,902,110)
Deferred outflows and inflows of resources	<u>12,128</u>	<u>15,831</u>
Total	<u>534,946</u>	<u>506,187</u>
Restricted for:		
Assets restricted for debt service	169,825	155,121
Liabilities associated with restricted debt service	<u>(85,186)</u>	<u>(74,697)</u>
Net position, restricted	<u>84,639</u>	<u>80,424</u>
Unrestricted net position	<u>(19,005)</u>	<u>(1,541)</u>
Total net position	<u>\$ 600,580</u>	<u>\$ 585,070</u>

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

**NOTE 5 - CAPITAL ASSETS - PLANT, LINES AND OTHER FACILITIES**

A comparative schedule of plant, lines and other facilities follows:

Year ended June 30, 2016

	<u>Beginning Balance</u>	<u>Transfers In/ Additions</u>	<u>Retirements / Reclassifications</u>	<u>Ending Balance</u>
Capital assets:				
Sewer lines	\$ 1,277,745	\$ 9,514	\$ 91,894	\$ 1,379,153
Wastewater treatment facilities/goodwill	489,292	46	139,745	629,083
Stormwater drainage facilities	448,853	396	66,649	515,898
Pumping and lift stations	96,812	2,717	40,122	139,651
Administrative facilities	49,342	-	-	49,342
Maintenance facilities	8,037	-	467	8,504
Machinery and equipment	58,335	-	1,708	60,043
Miscellaneous	27,060	42	3,557	30,659
Capitalized interest	<u>322,312</u>	<u>21,051</u>	<u>-</u>	<u>343,363</u>
Total capital assets	<u>2,777,788</u>	<u>33,766</u>	<u>344,142</u>	<u>3,155,696</u>
Less accumulated depreciation and amortization:				
Sewer lines	(287,087)	(15,995)	-	(303,082)
Wastewater treatment facilities/goodwill	(346,625)	(20,089)	-	(366,714)
Stormwater drainage facilities	(124,842)	(5,646)	-	(130,488)
Pumping and lift stations	(50,828)	(4,844)	-	(55,672)
Administrative facilities	(33,962)	(1,728)	-	(35,690)
Maintenance facilities	(5,920)	(233)	-	(6,153)
Machinery and equipment	(55,697)	(1,672)	-	(57,369)
Miscellaneous	(20,941)	(3,296)	-	(24,237)
Capitalized interest	<u>(82,601)</u>	<u>(8,102)</u>	<u>-</u>	<u>(90,703)</u>
Total accumulated depreciation/amortization	<u>(1,008,503)</u>	<u>(61,605)</u>	<u>-</u>	<u>(1,070,108)</u>
Construction in progress	<u>623,181</u>	<u>208,792</u>	<u>(344,299)</u>	<u>487,674</u>
Net Fixed Assets	\$ <u>2,392,466</u>	\$ <u>180,953</u>	\$ <u>(157)</u>	\$ <u>2,573,262</u>

Capital assets include non-depreciable assets for land related to the facilities and pumping and lift stations. The carrying value was \$14,854 and \$14,889 at June 30, 2016 and 2015 respectively.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

Year ended June 30, 2015

	<u>Beginning Balance</u>	<u>Transfers In/ Additions</u>	<u>Retirements / Reclassifications</u>	<u>Ending Balance</u>
Capital assets:				
Sewer lines	\$ 1,274,180	\$ 3,565	\$ -	\$ 1,277,745
Wastewater treatment facilities/goodwill	489,289	4	(1)	489,292
Stormwater drainage facilities	448,899	-	(46)	448,853
Pumping and lift stations	96,819	-	(7)	96,812
Administrative facilities	49,342	-	-	49,342
Maintenance facilities	8,037	-	-	8,037
Machinery and equipment	58,335	-	-	58,335
Miscellaneous	27,060	-	-	27,060
Capitalized interest	<u>301,800</u>	<u>20,512</u>	-	<u>322,312</u>
Total capital assets	2,753,761	24,081	(54)	2,777,788
Less accumulated depreciation and amortization:				
Sewer lines	(271,417)	(15,669)	-	(287,086)
Wastewater treatment facilities	(326,465)	(20,161)	-	(346,626)
Stormwater drainage facilities	(119,717)	(5,125)	-	(124,842)
Pumping and lift stations	(46,148)	(4,680)	-	(50,828)
Administrative facilities	(32,216)	(1,746)	-	(33,962)
Maintenance facilities	(5,724)	(195)	-	(5,919)
Machinery and equipment	(52,415)	(3,281)	-	(55,696)
Miscellaneous	(17,310)	(3,632)	-	(20,942)
Capitalized interest	<u>(75,014)</u>	<u>(7,588)</u>	-	<u>(82,602)</u>
Total accumulated depreciation/amortization	(946,426)	(62,077)	-	(1,008,503)
Construction in progress	<u>463,167</u>	<u>159,960</u>	54	<u>623,181</u>
Net Fixed Assets	\$ <u>2,270,502</u>	\$ <u>121,964</u>	\$ -	\$ <u>2,392,466</u>

**NOTE 6 - CAPITALIZED INTEREST**

A comparative schedule of capitalized interest and net interest expense reported in non-operating expenses in 2016 and 2015 follows:

	<u>2016</u>	<u>2015</u>
Interest incurred	\$ 94,830	\$ 91,845
Less interest capitalization	<u>(21,051)</u>	<u>(20,511)</u>
Interest expense, net	\$ <u>73,779</u>	\$ <u>71,334</u>

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

**NOTE 7 - LONG-TERM DEBT**

A comparative schedule of long-term debt outstanding at June 30, 2016 and 2015 follows:

<u>Revenue Bonds</u>	<u>Original Issue Amount</u>	<u>Interest Rates</u>	<u>Final Payment In</u>	<u>Outstanding as of:</u>	
				<u>2016</u>	<u>2015</u>
2006 Sewer and Drainage System Revenue Bonds Series 2006A	\$ 100,000	4.00% - 5.00%	2038	\$ -	\$ 87,290
2007 Sewer and Drainage System Revenue Bonds Series 2007A	61,125	4.00% - 5.00%	2025	44,425	45,815
2008 Sewer and Drainage System Revenue Bonds Series 2008A	105,000	4.00% - 5.00%	2038	97,860	99,850
2009A Sewer and Drainage System Revenue Bonds Series 2009A	76,275	5.00%	2022	41,485	47,280
2009B Sewer and Drainage System Revenue Bonds Series 2009B	225,770	2.00% - 5.00%	2023	136,115	150,900
2009C Sewer and Drainage System Revenue Bonds Series 2009C	180,000	5.98%	2040	180,000	180,000
2010A Sewer and Drainage System Revenue Bonds Series 2010A	330,000	6.25%	2043	330,000	330,000
2011A Sewer and Drainage System Revenue Bonds Series 2011A	263,360	3.00% - 5.00%	2034	254,590	256,490
2013A Sewer and Drainage System Revenue Bonds Series 2013A	115,790	4%	2036	115,790	115,790
2013B Sewer and Drainage System Revenue Bonds Series 2013B	119,515	4.00% - 5.00%	2038	118,255	119,515
2013C Sewer and Drainage System Revenue Bonds Series 2013C	100,000	3.00% - 5.00%	2044	99,750	99,875
2014A Sewer and Drainage System Revenue Bonds Series 2014A	80,000	4.00% - 5.00%	2045	79,950	80,000
2015A Sewer and Drainage System Revenue Bonds Series 2015A	175,000	3.125% - 5.00%	2046	175,000	-
2015B Sewer and Drainage System Revenue Bonds Series 2015B	81,750	2.625% - 5.00%	2038	81,350	-
Total long-term debt				<u>1,754,570</u>	<u>1,612,805</u>
Less: current maturities				(31,825)	(29,415)
Add : unamortized premium/discount				<u>67,462</u>	<u>60,797</u>
Total long-term debt, net				<u>\$ 1,790,207</u>	<u>\$ 1,644,187</u>

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

A schedule of future debt service requirements after June 30, 2016 follows:

Year Ending June 30,	Revenue Bonds		
	Principal	Interest	Total
2017	\$ 31,825	\$ 87,597	\$ 119,422
2018	33,415	86,016	119,431
2019	35,100	84,353	119,453
2020	36,875	82,601	119,476
2021	39,655	80,840	120,495
2022-2026	209,680	373,205	582,885
2027-2031	217,810	315,706	533,516
2032-2036	292,755	272,094	564,849
2037-2041	504,965	180,248	685,213
2042-2046	352,490	40,585	393,075
	<u>\$ 1,754,570</u>	<u>\$ 1,603,245</u>	<u>\$ 3,357,815</u>

A comparative summary of current and long-term revenue bond activity for the years ended June 30, 2016 and 2015 follows:

	2016	2015
Revenue Bonds - beginning of year, net	\$ 1,612,805	\$ 1,578,225
Bonds issued	256,750	80,000
Principal paid on bonds and bond refunding	<u>(114,985)</u>	<u>(45,420)</u>
Revenue Bonds - end of year, net	<u>\$ 1,754,570</u>	<u>\$ 1,612,805</u>

MSD long-term debt is issued to provide sufficient funding for sewer and drainage projects approved for construction.

Federal tax regulations generally require the periodic payment to the U.S. Treasury of investment earnings on the proceeds of an issue of tax-exempt municipal bonds to the extent those earnings exceed the yield on the bonds. Such payments, known as arbitrage rebate, are normally payable every fifth year following the issuance of a series of bonds and upon the retirement of the bond issue. MSD has arbitrage calculations performed as needed by an independent third party to comply with these regulations. As of June 30, 2016 and 2015, MSD's accrued liability for arbitrage rebate was \$760 and \$667, respectively.

A summary of significant debt transactions follows:

On October 6, 2015, MSD issued \$175,000 of Sewer and Drainage System Revenue Bonds, Series 2015A. Proceeds of the 2015A bonds, net of issuance cost were used to pay the cost of improvements to MSD's sewer and drainage system.

On October 6, 2015, MSD issued \$81,750 of Sewer and Drainage System Revenue Bonds, Series 2015B. Proceeds of the 2015B bonds, net of issuance cost and together with funds released from the

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

reserve account were used to currently refund \$87,290 of MSD's outstanding Sewer and Drainage System Revenue Bonds, Series 2006A. The refunded bonds are considered defeased and the liability was removed from MSD's Statement of Net Position. The refunding reduced debt service payments over the next 23 years by \$18,420 and resulted in a net present value savings of \$12,278.

On November 4, 2014, MSD issued \$80,000 of Sewer and Drainage System Revenue Bonds, Series 2014A. Proceeds of the 2014A bonds, net of issuance cost were used to pay the cost of improvements to MSD's sewer and drainage system.

**Debt Service Covenant:** A debt service coverage ratio covenant has been established under the 1993 Sewer and Drainage System Revenue Master Bond Resolution. MSD was in compliance with the ratio covenant as of June 30, 2016 and 2015.

**Derivatives:** At June 30, 2016 MSD had the following derivative instruments outstanding:

<u>Item</u>	<u>Counter-Party</u>	<u>Initial Notional Amount</u>	<u>Current Notional Amount</u>	<u>MSD Payment Terms</u>	<u>6/30/2016 Fair Value</u>	<u>6/30/2015 Fair Value</u>	<u>Bond Issue to which Swap Relates</u>	<u>Change in Fair Value</u>
A	Wells Fargo	\$180,716	\$180,716	4.4215%	\$ (81,445)	\$(63,086)	1999	\$ (18,359)
B	Bank of America	56,433	45,284	4.4215%	(20,386)	(15,794)	1999	(4,592)
	Total	<u>\$237,149</u>	<u>\$226,000</u>		<u>\$(101,832)</u>	<u>\$(78,880)</u>		<u>\$ (22,952)</u>

Both swaps have termination dates of May 15, 2033. Payments are due on the fifteenth of each month beginning December 15, 2009. MSD receipt terms are 67% of 30-day LIBOR.

A comparative summary of the change in fair value of the swaps for the years ended June 30, 2016 and 2015 follows:

	<u>2016</u>	<u>2015</u>
Fair value - beginning of year	\$ (78,880)	\$ (73,640)
Change in fair value	<u>(22,952)</u>	<u>(5,240)</u>
Fair value - end of year	<u>\$(101,832)</u>	<u>\$ (78,880)</u>

MSD's swaps are measured at fair value using significant other observable inputs (level 2) with a mid-market derivative valuation using a 67% of LIBOR Fixed Payer Swap rate.

MSD originally entered into interest rate swaps as a hedging derivative instrument. The interest rate swaps were found to be ineffective as of June 30, 2010, based on evaluation and consideration of consistent critical terms and quantitative methods. The swaps remain in the portfolio to lower interest rate risk associated with the Bond Anticipation Note. The total of investment derivatives are reported as interest rate swaps on the Statement of Net Position. All changes in fair value of the derivatives are recorded as a separate component of non-operating revenue (expense). MSD's two outstanding swaps consist of two Floating-to-Fixed swaps described as follows:

Floating-to-Fixed Swaps are structured so that the notional amount of the swap decreases over time corresponding to the maturity and sinking fund schedule of the actual or expected bond

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

issue being hedged. The Floating-to-Fixed swaps have been done on a forward basis with the swap payments starting at a future date when MSD anticipates refunding outstanding debt, which can be issued as variable rate bonds or short-term notes. In 2001, MSD entered into two swaps (A and B) for a synthetic advance refunding of its Series 1999A Bonds. In August 2009 MSD issued Bond Anticipation Notes to refund a portion of its Series 1999A Bonds. In conjunction with the refunding MSD entered into reversal swaps which offset the refunded portion of the A and B swaps. The non-reversed portions of the fixed-to-floating A and B swaps provide a hedge against future higher rates on any long term debt or renewal Bond Anticipation Notes used to refinance MSD's Bond Anticipation Note.

**Credit Risk:** MSD has implemented steps to safeguard it against the risks associated with the aforementioned swap transactions. If the counter-party does not maintain A1/A+ ratings from Moody's and Standard and Poor's, the swaps contain provisions that require them to be marked to market weekly with monthly statements sent to MSD and the value will be collateralized with U.S. Treasury and Agency securities with the securities held by a tri-party custodian approved by MSD.

All costs of collateralization will be borne by the downgraded party who must post the collateral. In addition, the October 2002 (A and B) swaps were awarded to multiple firms to further mitigate the credit risk associated with the transactions. The credit ratings as of 6/30/2016 for the counter-parties are as follows:

	<b>Credit Ratings</b>	
	<b>Moody's</b>	<b>Standard &amp; Poor's</b>
Bank of America, N.A.	P-1(cr)	A
Wells Fargo Bank, N.A.	Aa1(cr)	AA -

The agreements also provide for automatic termination if MSD's unenhanced bond rating is downgraded below BBB/Baa. MSD's obligations under all of its outstanding swap agreements are unsecured and subordinate to all bonds issued and outstanding. The positive and negative fair values of the swap agreements were provided by a third-party financial advisor. The net swap payments made in FY 2016 and FY 2015 were \$9,514 and \$9,737, respectively.

MSD secured a \$10,000 line of credit in October 2015. As of June 30, 2016 MSD does not owe anything on its line of credit.

**Swap Terminations:** MSD enters into swaps and other derivative contracts to lock in long term rates in advance of issuing long term debt to create and manage variable rate exposure in its debt portfolio and to take advantage of market opportunities to hedge embedded interest rate risk and tax regulation risk that exists on its statement of net position.

Upon a termination of a swap, any termination receipt or payment is amortized into income or expense until the original expiration date of that swap. Any unamortized portion of the receipt or payment is recorded as a deferred debit or credit in long-term liabilities. MSD has swap agreement terminations with deferred inflow of resources balances accreting to non-operating revenue as follows:

- On January 24, 2001, MSD terminated a nineteen-year interest rate swap agreement for \$100,000 of its fixed-rate 1999 Series Sewer and Drainage Revenue Bonds. The termination of this swap agreement resulted in the receipt of a payment in the amount of \$7,935. This payment will be amortized annually into income until 2019, the original termination date on the agreement.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

- In April 2006, MSD entered into a swap agreement with Deutsche Bank AG for an initial notional amount of \$171,405 which provided that beginning May 15, 2006, a net payment will be made based on MSD paying 78.78% of the 3-month LIBOR Index on the notional amount and receiving 73.45% of the 5-year LIBOR Index on the notional amount. On January 23, 2008, MSD terminated this swap agreement and received a termination payment of \$4,170 that will be amortized until 2023, the original termination date of the agreement.
- On January 25, 2008, MSD terminated a twenty-seven year Floating to Floating (Basis) Interest Rate Swap agreement with a notional amount of \$282,165. MSD entered into this agreement with Morgan Stanley in April 2006 and paid 67% of the 1-Month LIBOR index and received 62.2% of the 5-Year LIBOR Index. The termination of this Swap agreement resulted in the receipt of a payment in the amount of \$5,756. This payment will be amortized annually into income until 2033, the original termination date of the agreement.
- In May and June of 2013, MSD terminated two Floating to Fixed Interest Rate swap agreements, two Basis swap agreements and three Reversal swap agreements. Additionally, MSD partially terminated two Floating to Fixed Interest Rate swap agreements. The termination value of all swap agreements resulted in a net payment by MSD of \$152. This action will result in a savings of \$13.5 million over the next ten years.

**NOTE 8 – BOND ANTICIPATION NOTE**

On November 3, 2015 MSD issued \$226,340 of Sewer and Drainage System Subordinated Bond Anticipation Notes, Series 2015 Notes with a coupon rate of 5.00% and an effective interest rate of 0.49%. The proceeds of the notes were used to refinance the 2014 Notes. The 2015 Notes matured on November 22, 2016, and were refinanced with Series 2016 Notes described in Note 13 – Subsequent Events.

On November 4, 2014 MSD issued \$226,340 of Sewer and Drainage System Subordinated Bond Anticipation Notes, Series 2014 Notes with a coupon rate of 2.00% and an effective interest rate of 0.28%. The proceeds of the notes were used to refinance the 2013 Notes. The 2014 Notes matured on November 24, 2015.

A comparative summary of subordinated debt for the years ended June 30, 2016 and 2015 follows:

	<u>June 30, 2016</u>	<u>June 30, 2015</u>
Subordinated debt - beginning of year	\$ 228,508	\$ 228,601
Debt incurred	226,340	226,340
Principal paid on debt	<u>(226,436)</u>	<u>(226,433)</u>
Subordinated debt - end of year	<u>\$ 228,412</u>	<u>\$ 228,508</u>

Under GASB 62, the Bond Anticipation Note (BAN) is considered a noncurrent liability because the Series 2015 BAN was replaced with a new BAN (Series 2016) in November 2016 which extends the debt to November 2017. The BAN is used to finance capital projects.



**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

**NOTE 9 - RETIREMENT PLAN AND POSTRETIREMENT BENEFITS**

**General Information about the Pension Plan:** All full-time and eligible part-time employees of MSD participate in County Employee Retirement System (CERS), a cost-sharing, multiple-employer defined benefit pension plan administered by the Kentucky Retirement System (KRS), an agency of the Commonwealth. Under the provisions of Kentucky Revised Statute Section 78.520, the Board of Trustees (the Board) of KRS administers CERS, Kentucky Employee Retirement System, and State Police Retirement System. Although the assets of the systems are invested as a whole, each system's assets are used only for the payment of benefits to members of that plan, and a pro rata share of administrative costs.

The plan provides for retirement, disability and death benefits to plan members. Retirement benefits may also be extended to beneficiaries of plan members under certain circumstances. Under the provisions of Kentucky Revised Statute Section 61.701, the Board of KRS also administers the Kentucky Retirement Systems Insurance Fund. The statutes provide for a single insurance fund to provide group hospital and medical benefits to retirees drawing a benefit from the three pension funds administered by KRS. The assets of the insurance fund are invested as a whole. KRS and the Commonwealth have statutory authority to determine Plan benefits and employer contributions.

KRS issues a publicly available financial report that includes financial statements and required supplementary information for CERS. The report may be obtained by writing to Kentucky Retirement System, Perimeter Park West, 1260 Louisville Road, Frankfort, Kentucky 40601, or it may be found at the KRS website at [www.kyret.ky.gov](http://www.kyret.ky.gov).

**Basis of Accounting:** For purposes of measuring the net pension liability, deferred outflow of resources and deferred inflow of resources related to pensions, and pension expense, information about the fiduciary net position of CERS and additions to/deductions from CERS's fiduciary net position have been determined on the same basis as they are reported by CERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

**Benefits Provided:** The information below summarizes the major retirement benefit provisions of CERS. It is not intended to be, nor should it be interpreted as, a complete statement of all benefit provisions:

**Nonhazardous Normal Retirement:**

**Members whose participation began before 8/1/2004:**

Age and Service Requirement: Age 65 with at least one month of Nonhazardous duty service credit, or at any age with 27 or more years of service credit.

Benefit: If a member has at least 48 months of service, the monthly benefit is 2.20% times final average compensation times years of service depending on participation and retirement dates. Final compensation is calculated by taking the average of the highest five (5) fiscal years of salary. If the number of months of service credit during the five (5) year period is less than forty-eight (48), one (1) or more additional fiscal years shall be used. If a member has less than 48 months of service, the monthly benefit is the actuarial equivalent of two times the member's contributions with interest.

**Members whose participation began on or after 8/1/2004, but before 9/1/2008:**

Age and Service Requirement: Age 65 with at least one month of Nonhazardous duty service credit, or at any age with 27 or more years of service credit.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

Benefit: If a member has at least 48 months of service, the monthly benefit is 2.00% multiplied by final average compensation, multiplied by years of service. Final compensation is calculated by taking the average of the highest five (5) fiscal years of salary. If the number of months of service credit during the five (5) year period is less than forty-eight (48), one (1) or more additional fiscal years shall be used. If a member has less than 48 months of service, the monthly benefit is the actuarial equivalent of two times the member's contributions with interest.

***Members whose participation began on or after 9/1/2008 but before 1/1/2014:***

Age and Service Requirement: Age 65 with 60 months of Nonhazardous duty service credit, or age 57 if age plus service equals at least 87.

Benefit: The monthly benefit is the following benefit factor based on service credit at retirement plus 2.00% for each year of service greater than 30 years, multiplied by final average compensation, multiplied by years of service.

<u>Service Credit</u>	<u>Benefit Factor</u>
10 years or less	1.10%
10+ - 20 years	1.30%
20+ - 26 years	1.50%
26+ - 30 years	1.75%

Final compensation is calculated by taking the average of the last (not highest) five (5) complete fiscal years of salary. Each fiscal year used to determine final compensation must contain twelve (12) months of service credit.

***Members whose participation began on or after 1/1/2014:***

Age and Service Requirement: Age 65 with 60 months of Nonhazardous duty service credit, or age 57 if age plus service equals at least 87.

Benefit: Each year that a member is an active contributing member to the System, the member contributes 5% of creditable compensation, and the member's employer contributes 4.00% of creditable compensation, which is a portion of the total employer contribution, into a hypothetical retirement account. The hypothetical account will earn interest annually on both the member's and employer's contribution at a minimum rate of 4%. If the System's geometric average net investment return for the previous five years exceeds 4%, then the hypothetical account will be credited with an additional amount of interest equal to 75% of the amount of the return which exceeds 4%. All interest credits will be applied to the hypothetical account balance on June 30 based on the account balance as of June 30 of the previous year.

Upon retirement the hypothetical account which includes member contributions, employer contributions and interest credits can be withdrawn from the System as a lump sum or annuitized into a single life annuity option.

**Contributions:** MSD was required to contribute at an actuarially determined rate determined by Statute. Per Kentucky Revised Statute Section 78.545(33) normal contribution and past service contribution rates shall be determined by the KRS Board on the basis of an annual valuation last preceding July 1 of a new biennium. The KRS Board may amend contribution rates as of the first day of July of the second year of a biennium, if it is determined on the basis of a subsequent actuarial valuation that amended contribution rates are necessary to satisfy requirements determined in accordance with actuarial bases adopted by

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

the KRS Board.

For the fiscal years ended June 30, 2016 and 2015, participating employers contributed 17.06% and 17.67% as set by KRS, respectively, of each Nonhazardous employee's creditable compensation. These percentages are inclusive of both pension and insurance payments for employers. Administrative costs of KRS are financed through employer contributions and investments earnings.

MSD has met 100% of its contribution funding requirement for the fiscal years ended June 30, 2016, 2015, and 2014. Employer pension contributions were \$4,767 and \$4,576 for the years ended June 30, 2016 and 2015.

***Members whose participation began before 9/1/2008:***

Nonhazardous contributions equal 5% of all creditable compensation. Interest paid on the members' accounts is currently 2.5%; and per statute shall not be less than 2.0%. Member entitled to a full refund of contributions with interest.

***Members whose participation began on or after 9/1/2008:***

Nonhazardous contributions equal to 6% of all creditable compensation, with 5% being credited to the member's account and 1% deposited to the KRS 401(h) Account. Interest paid on the members' accounts will be set at 2.5%. Member entitled to a full refund of contributions and interest in their individual account, however, the 1% contributed to the insurance fund is non-refundable.

***Members whose participation on or after 1/1/2014***

Nonhazardous contribution equal to 6% of all creditable compensation, with 5% being credited to the member's account and 1% deposited to the KRS 401(h) Account. Members entitled to a full refund of contributions and interest on the member's portion of the hypothetical account, however, the 1% contributed to the insurance fund is non-refundable.

***Healthcare Plan:*** The Kentucky Retirement Systems Insurance Fund ("Fund") was established to provide hospital and medical insurance for members receiving benefits from CERS, the Kentucky Employees Retirement System and the State Police Retirement System. The Fund pays a prescribed contribution for whole or partial payment of required premiums to purchase hospital and medical insurance. For the fiscal years ended June 30, 2015 and 2014, insurance premiums withheld from benefit payments for members of CERS were \$22.6 and \$24.2, respectively.

**Plan Information for June 30, 2016 Financial Statements:**

***Total Pension Liability:*** The total pension liability ("TPL") was determined by an actuarial valuation as of June 30, 2015, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.25 percent
Salary increases	4.00 percent, average, including inflation
Investment rate of return	7.50 percent, net of pension plan investment expense, including inflation

The mortality table used for active members is RP-2000 Combined Mortality Table projected with Scale BB to 2013 (multiplied by 50% for males and 30% for females). For healthy retired members and beneficiaries, the mortality table used is the RP-2000 Combined Mortality Table projected with Scale BB to 2013 (set back 1 year for females). For disabled members, the RP-2000 Combined Disabled Mortality Table projected with Scale BB to 2013 (set back 4 years for males) is used for the period after disability

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

retirement. There is some margin in the current mortality tables for possible future improvement in mortality rates and that margin will be reviewed again when the next experience investigation is conducted. The actuarial assumptions used in the June 30, 2015 valuation were based on the results of an actuarial experience study for the period July 1, 2008 – June 30, 2013.

Discount rate assumptions:

- (a) Discount rate: The discount rate used to measure the total pension liability was 7.50%. The discount rate changed from 7.75% since the last measurement period.
- (b) Projected cash flows: The projection of cash flows used to determine the discount rate assumed that local employers would contribute the actuarially determined contribution rate of projected compensation over the remaining 28 year amortization period of the unfunded actuarial accrued liability. The actuarial determined contribution rate is adjusted to reflect the phase in of anticipated gains on actuarial value of assets over the first four years of the projection period.
- (c) Long-term rate of return: The long-term expected return on plan assets is reviewed as part of the regular experience studies prepared every five years for the System. The most recent analysis, performed for the period covering fiscal years 2008 through 2013 is outlined in a report dated April 30, 2014. Several factors are considered in evaluating the long-term rate of return assumption including long term historical data, estimates inherent in current market data, and a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected return, net of investment expense and inflation) were developed by the investment consultant for each major asset class. These ranges were combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and then adding expected inflation. The capital market assumptions developed by the investment consultant are intended for use over a 10-year horizon and may not be useful in setting the long-term rate of return for funding pension plans which covers a longer timeframe. The assumption is intended to be a long term assumption and is not expected to change absent a significant change in the asset allocation, a change in the inflation assumption, or a fundamental change in the market that alters expected returns in future years.
- (d) Municipal bond rate: The discount rate determination does not use a municipal bond rate.
- (e) Periods of projected benefit payments: Projected future benefit payments for all current plan members were projected through 2117. The long-term assumed investment rate of return was applied to all periods of projected benefit payments to determine the total pension liability.
- (f) Assumed Asset Allocation: The target asset allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

<u>Asset Class</u>	<u>Long-Term Target Allocation</u>	<u>Expected Real Rate of Return</u>
Combined equity	44.00%	5.40%
Combined Fixed Income	19.00%	1.50%
Real Return (Diversified Inflation Strategies)	10.00%	3.50%
Private equity	10.00%	8.50%
Real estate	5.00%	4.50%
Absolute Return (Diversified Hedge Funds)	10.00%	4.25%
Cash Equivalent	<u>2.00%</u>	-0.25%
 Total	 <u>100.00%</u>	

The long-term expected rate of return on pension plan assets was established by the KRS Board of Trustees at 7.50% based on a blending of the factors described above.

- (g) Sensitivity Analysis: This paragraph requires disclosure of the sensitivity of the net pension liability to changes in the discount rate. The following presents MSD's allocated portion of the net pension liability ("NPL") of the System, calculated using the discount rate of 7.50 percent, as well as what MSD's allocated portion of the net pension liability would be if it were calculated using a discount rate that is one percentage point lower (6.50 percent) or one percentage-point higher (8.50 percent) than the current rate:

	1% Decrease ( <u>6.50%</u> )	Current Discount Rate ( <u>7.50%</u> )	1% Increase ( <u>8.50%</u> )
Authority's net position liability - Nonhazardous	\$ 87,645	\$ 68,653	\$ 52,389

**Employer's Portion of the Collective Net Pension Liability:** MSD's proportionate share of the Plan's net pension liability, as indicated in the prior table, is \$68,653. MSD's proportionate share of the CERS plan was approximately 1.597% for Nonhazardous service employees. The liability was distributed based on 2015 actual employer contributions to the plan.

**Measurement Date:** June 30, 2015 is the actuarial valuation date upon which the total pension liability is based. No update procedures were used to determine the total pension liability.

**Changes in Assumptions and Benefit Terms:** Since the prior measurement date, the demographic and economic assumptions that affect the measurement of the total pension liability have been updated as described in Schedule D of the CERS actuary report. The changes are noted below:

- The assumed investment rate of return was decreased from 7.75% to 7.50%.
- The assumed rate of inflation was reduced from 3.50% to 3.25%.
- The assumed rate of wage inflation was reduced from 1.00% to 0.75%.
- Payroll growth assumption was reduced from 4.50% to 4.00%.
- The mortality table used for active members is RP-2000 Combined Mortality Table projected with Scale BB to 2013 (multiplied by 50% for males and 30% for females).
- For healthy retired members and beneficiaries, the mortality table used is the RP-2000 Combined Mortality Table projected with Scale BB to 2013 (set back 1 year for females). For disabled members, the RP-2000 Combined Disabled Mortality Table projected with Scale BB to 2013 (set back 4 years for males) is used for the period after disability retirement. There is some margin in

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

the current mortality tables for possible future improvement in mortality rates and that margin will be reviewed again when the next experience investigation is conducted.

- The assumed rates of Retirement, Withdrawal and Disability were updated to more accurately reflect experience.

**Changes Since Measurement Date:** There were no changes between the measurement date of the collective net pension liability and the employer's reporting date.

**Pension Expense:** MSD's proportionated share of Plan pension expense was \$7,474 for Nonhazardous service employees.

**Deferred Outflows and Deferred Inflows:** Since certain expense items are amortized over closed periods each year, the deferred portions of these items must be tracked annually. If the amounts serve to reduce pension expense they are labeled as deferred inflows. If they will increase pension expense they are labeled deferred outflows. The amortization of these amounts is accomplished on a level dollar basis, with no interest included in the deferred amounts. Experience gains/losses and the impact of changes in actuarial assumptions, if any, are amortized over the average remaining service life of the active and inactive System members at the beginning of the fiscal year. Investment gains and losses are amortized over a fixed five year period. The table below provides a summary of the deferred inflows and outflows as of the Measurement Date.

**For year ending June 30, 2016:**

	<u>Deferred Outflow of Resources</u>	<u>Deferred Inflow of Resources</u>
Difference between expected and actual experience	\$ 571	\$ -
Change of assumptions	6,923	-
Changes in proportion and differences between employer contributions and proportionate shares of contributions	-	(145)
Differences between expected and actual investment earning on plan investments	<u>615</u>	<u>-</u>
	8,109	(145)
Contributions subsequent to the measurement date	<u>4,767</u>	<u>-</u>
Total	<u>\$ 12,876</u>	<u>\$ (145)</u>

Deferred outflows of resources resulting from employer contributions subsequent to the measurement date will be recognized as a reduction of net pension liability in the year ending June 30, 2017. The remainder of the deferred outflow of resources is amortized over five years with remaining amortization as follows:

2017	\$ 2,720
2018	2,720
2019	1,286
2020	1,238

**Pension Plan Fiduciary Net Position:** Detailed information about the pension plans' fiduciary net position is available in the separately issued pension plan financial reports.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

**Plan Information for June 30, 2015 Financial Statements:**

**Total Pension Liability:** The total pension liability ("TPL") was determined by an actuarial valuation as of June 30, 2014, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.5 percent
Salary increases	4.5 percent, average, including inflation
Investment rate of return	7.75 percent, net of pension plan investment expense, including inflation

The rates of mortality for the period after service retirement are according to the 1983 Group Annuity Mortality Table for all retired members and beneficiaries as of June 30, 2006 and the 1994 Group Annuity Mortality Table for all other members. The Group Annuity Mortality Table set forward 5 years is used for the period after disability retirement. The actuarial assumptions used in the June 30, 2014 valuation were based on the results of an actuarial experience study for the period July 1, 2005 - June 30, 2008.

Discount rate assumptions:

- (a) Discount rate: The discount rate used to measure the total pension liability was 7.75%.
- (b) Projected cash flows: The projection of cash flows used to determine the discount rate assumed the local employers and plan members would contribute the statutorily determined contribution rate of projected compensation over the remaining 29 year amortization period of the unfunded actuarial accrued liability. The statutorily determined contribution rate is adjusted to reflect the phase in of anticipated gains on actuarial value of assets over the first four years of the projection period.
- (c) Long term rate of return: The long-term expected return on plan assets is reviewed as part of the regular experience studies prepared every five years for the System. The most recent analysis prepared as of June 30, 2008, performed for the period covering fiscal years 2005 through 2008, is outlined in a report dated August 25, 2009. Several factors are considered in evaluating the long-term rate of return assumption including long term historical data, estimates inherent in current market data, and a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected return, net of investment expense and inflation) were developed by the investment consultant for each major asset class. These ranges were combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and then adding expected inflation. The capital market assumptions developed by the investment consultant are intended for use over a 10-year horizon and may not be useful in setting the long-term rate of return for funding pension plans which covers a longer timeframe. The assumption is intended to be a long term assumption and is not expected to change absent a significant change in the asset allocation, a change in the inflation assumption, or a fundamental change in the market that alters expected returns in future years.
- (d) Municipal bond rate: The discount rate determination does not use a municipal bond rate.
- (e) Periods of projected benefit payments: Projected future benefit payments for all current plan members were projected through 2116.
- (f) Assumed Asset Allocation: The target asset allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Domestic equity	30.00%	8.45%
International equity	22.00%	8.85%
Emerging market equity	5.00%	10.50%
Private equity	7.00%	11.25%
Real estate	5.00%	7.00%
Core U.S. fixed income	10.00%	5.25%
High-Yield U.S. fixed income	5.00%	7.25%
Non-U.S. fixed income	5.00%	5.50%
Commodities	5.00%	7.75%
Treasury Inflation Protected Securities	5.00%	5.00%
Cash	1.00%	3.25%
Total	<u>100.00%</u>	

The long-term expected rate of return on pension plan assets was established by the KRS Board of Trustees at 7.75% based on a blending of the factors described above.

- (g) Sensitivity Analysis: This paragraph requires disclosure of the sensitivity of the net pension liability to changes in the discount rate. The following presents MSD's allocated portion of the net pension liability ("NPL") of the System, calculated using the discount rate of 7.75 percent, as well as what MSD's allocated portion of the net pension liability would be if it were calculated using a discount rate that is one percentage point lower (6.75 percent) or one percentage-point higher (8.75 percent) than the current rate:

	1% Decrease (6.75%)	Current Discount Rate (7.75%)	1% Increase (8.75%)
Authority's net position liability - Nonhazardous	\$ 68,413	\$ 51,988	\$ 37,476

**Employer's portion of the collective Net Pension Liability:** MSD's proportionate share of the Plan's net pension liability is \$51,988. MSD's proportionated share of the CERS plan was approximately 1.602% for Nonhazardous service employees. The liability was distributed based on 2014 actual employer contributions to the plan.

**Measurement date:** June 30, 2014 is the actuarial valuation date upon which the total pension liability is based. No update procedures were used to determine the total pension liability. An expected total pension liability is determined as of July 1, 2013 using standard roll back techniques. The roll back calculation subtracts the annual normal cost (also called the service costs), adds the actual benefit payments and refunds for the plan year and then applies the expected investment rate of return for the year. The procedure was used to determine the total pension liability as of July 1, 2013, is shown in the GASB 67 report for CERS submitted on November 17, 2014.

**Changes in assumptions and benefit terms:** There were no changes in assumptions or benefit terms since the prior measurement date.

**Changes since measurement date:** There were no changes between the measurement date of the collective net pension liability and the employer's reporting date.

**Pension expense:** MSD's proportionated share of Plan pension expense was \$4,161 for Nonhazardous service employees.



**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

**Deferred Outflows and Deferred Inflows:** Since certain expense items are amortized over closed periods each year, the deferred portions of these items must be tracked annually. If the amounts serve to reduce pension expense they are labeled as deferred inflows. If they will increase pension expense they are labeled deferred outflows. The amortization of these amounts is accomplished on a level dollar basis, with no interest included in the deferred amounts. Experience gains/losses and the impact of changes in actuarial assumptions, if any, are amortized over the average remaining service life of the active and inactive System members at the beginning of the fiscal year.

The table below provides a summary of the deferred inflows and outflows as of the Measurement Date of June 30, 2015.

	<u>Deferred Outflow of Resources</u>	<u>Deferred Inflow of Resources</u>
Differences between projected and actual investment earnings on Plan investments	\$ -	\$ 5,803
Employer contributions subsequent to the measurement date	<u>4,576</u>	<u>-</u>
Total	<u>\$ 4,576</u>	<u>\$ 5,803</u>

Deferred inflows of resources resulting from the differences between projected and actual investment earnings on Plan investments are amortized over a 5 year period. Deferred outflows of resources resulting from employer contributions subsequent to the measurement date will be recognized as a reduction of net pension liability in the year ending June 30, 2016.

**Pension Plan Fiduciary Net Position:** Detailed information about the pension plans' fiduciary net position is available in the separately issued pension plan financial reports.

**NOTE 10 - RISK MANAGEMENT**

MSD is exposed to various risks of loss related to torts; theft of, damage to and destruction of assets; errors and omissions; natural disasters; and injuries to MSD's employees. These risks are provided for through various programs.

MSD participates in the Louisville Area Governmental Self-Insurance Trust (LAGIT). LAGIT, which is certified by the Kentucky Department of Insurance to practice as a group liability self-insurance trust, was created on January 1, 1987. LAGIT members currently include Louisville Metro Government, six smaller cities, and six government agencies. LAGIT was formed to provide better risk protection and lower cost liability insurance by sharing the risk with all of its members. MSD's payments to LAGIT are reflected on the financial statements as an expense. LAGIT provides, after a \$300 deductible, various liability coverages up to \$5,000 per occurrence. Excess insurance may provide an additional \$2,000 of coverage, above the LAGIT \$5 million, to MSD. The amount of coverage available to MSD could be limited by the total assets of LAGIT and/or claims of other Members under the excess insurance policy. For fiscal year 2016 LAGIT did not make any MSD claim payments.

MSD has chosen to self-insure the basic worker's compensation insurance. Claims administration is handled by a third-party administrator and includes claims monitoring check issuance, settlement negotiations and loss control services. Liabilities are reported when it is probable that a loss has occurred and the amount of the loss can be reasonably estimated. A separate insurance policy provides maximum coverage of \$1,000 per occurrence and aggregate.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

A roll forward of worker's compensation claims follows:

	<u>June 30, 2016</u>	<u>June 30, 2015</u>	<u>June 30, 2014</u>
Liability - beginning of year	\$ 1,755	\$ 1,728	\$ 1,832
Claims and changes in estimates	474	1,063	760
Payments	<u>(959)</u>	<u>(1,036)</u>	<u>(864)</u>
Liability - end of year	<u>\$ 1,270</u>	<u>\$ 1,755</u>	<u>\$ 1,728</u>

MSD joined the Louisville Area Governmental General Insurance Trust (LAGGIT) in September 2002. LAGGIT was created to provide lower cost to participants and broader coverage for property risks.

MSD is responsible for covered property damage up to \$100, except for flood and vehicle collision coverage, which have separate deductibles. LAGGIT provides coverage for the next \$1,000 per occurrence, except for Flood Zone A locations. An excess insurance policy with a third-party carrier covers claims in excess of \$1,100.

In the past three fiscal years the LAGGIT Trust paid \$112 on a MSD hail claim and \$1,000 on a lightning/flood claim, both of which exceeded MSD's deductibles under the Trust. Additionally, FM Global insurance company has advanced payments totaling \$2,750 on the lightning/flood claim. There have been no changes in MSD's self-insurance coverage from the prior year.

**NOTE 11 - DEFERRED COMPENSATION**

MSD offers its employees deferred compensation plans created in accordance with Internal Revenue Service Code Sections 401(k) and 457. These plans, available to all MSD employees, permit them to defer the payment of a portion of their salary until future years. Participation in these plans is voluntary and MSD makes no contributions to these plans on behalf of the employee. The deferred compensation is not available to employees until termination, retirement, death, or unforeseen emergency. All amounts of compensation deferred, including the investments and earnings thereon, vest with the employee and are not subject to the claims of MSD's general creditors.

**NOTE 12 - COMMITMENTS AND CONTINGENCIES**

**Sale of Sewer Assessments:** MSD has entered into agreements to sell sanitary sewer assessments to a local bank. These assessments reflect the portion of the cost that residents pay to have sewer lines installed in their neighborhood. Residents are given the opportunity to pay the assessment in full or to finance it over a twenty-year period at 7% interest per annum. The original agreement called for the bank to accept up to \$25,000 of outstanding assessments and for MSD to receive 104% of the face value of the assessments.

The subsequent agreement allows an additional \$5,000 of assessments to be sold to the bank at face value. These agreements give the bank the option to place the assessments back with MSD if the property owner's payments are ninety days in arrears or the property owner does not respond to the bank's demand for payment within a ninety day period after the issuance of the assessment. Sales to the bank are net of any subsequent repurchases of warrants by MSD. The unpaid principal balance of loans held by the bank at June 30, 2016 and 2015 was \$1,728 and \$2,063, respectively.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

**EPA Consent Decree:** In April 2005, MSD agreed to enter into a Consent Decree with the Commonwealth of Kentucky's Environmental and Public Protection Cabinet (The Cabinet) and the U.S. Environmental Protection Agency (EPA).

The Consent Decree called for MSD to submit a final Long-Term Control Plan (LTCP) to The Cabinet/EPA for review and joint approval by December 31, 2008, which was completed. The final LTCP includes schedules, deadlines, and timetables for projects to be completed by December 31, 2020. In addition, a Sanitary Sewer Discharge Plan (SSDP) was due by December 31, 2008, which was completed. The SSDP includes schedules and deadlines for capital projects to be completed by the end of 2024. The cost of the projects is estimated to be \$850,000.

Also, MSD agreed to pay a civil penalty to the Commonwealth of Kentucky in the amount of one million dollars (\$1,000) to resolve the violations alleged in The Cabinet's and EPA's complaints up through the date of entry of the Consent Decree. The agreement also calls for MSD to perform supplemental environmental projects (SEPS) at an amount of not less than \$2,250. MSD neither admitted nor denied the alleged violations but acknowledged that discharges occurred and accepted the obligations imposed in the Consent Decree. The Consent Decree, as negotiated, was entered by the U.S. District Court Judge on August 12, 2005. In April 2009, MSD agreed to enter into an Amended Consent Decree with the Commonwealth of Kentucky's Environmental and Public Protection Cabinet (KEPPC) and the EPA. The agreement called for MSD to design and implement projects within specified deadlines that will eliminate sewer overflows in its service area. In a letter dated June 6, 2014, MSD requested approval from the KEPPC and the EPA for the IOAP 2012 Modifications, dated May 2014. The IOAP 2012 Modifications represent a revision to 28 separate projects set forth in the original IOAP, dated September 30, 2009. The IOAP Modifications were approved and will supersede and replace the 2009 IOAP. To date, MSD has complied with all submittals and reports requirements contained in the Amended Consent Decree. The enforcement actions initiated by the EPA are not unique in the wastewater treatment industry. Several wastewater utilities have signed, or are in the process of signing, Consent Decrees. In the opinion of MSD, the resolution of any violations will not result in material adverse effect on the operation, property or finances of MSD.

**Claims and Litigation:** Whittenberg Construction Company v. MSD; In the Jefferson County Circuit Court; Case No. 13-CI-000742. This is a breach of contract case stemming from the construction of a wastewater pump station and screening building at the Derek R. Guthrie Water Quality Treatment Center. Among other claims, Whittenberg contends MSD violated the terms of the construction contract pertaining to withholding of superior knowledge and that MSD's contract violates Kentucky's Fairness in Construction Act, KRS 371.425. Extensive discovery has been conducted and is on-going. Although the outcome is not certain, MSD believes it is probable that MSD could lose on these two claims and has, as such, accrued for a loss contingency as of June 30, 2016.

MSD is a defendant in various other lawsuits. Although the outcome of these lawsuits is not presently determinable, it is the opinion of the MSD's management that resolution of these matters will not have a material adverse effect on the financial statements of MSD.

**Construction Commitments:** The value of construction contracts signed where work has not yet been performed amounted to \$148,748 at June 30, 2016 and was \$169,112 at June 30, 2015.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

**NOTE 13 - SUBSEQUENT EVENTS**

On August 1, 2016, MSD's rates for wastewater and stormwater service charges increased by 6.9%.

On August 30, 2016, MSD issued \$150,000 of Revenue Bonds (Series 2016A). The proceeds of the Series 2016A Bonds will be used to: (i) pay the costs of issuing the Series 2016A Bonds; (ii) make a deposit to the Reserve Account; and (iii) make a deposit to the Construction and Acquisition fund to pay the costs of improvements to MSD's sewer and drainage system.

On August 30, 2016, MSD issued \$30,875 of Revenue Refunding Bonds (Series 2016B). The proceeds of the Series 2016B Bonds, together with certain amounts in the Reserve Account, will be used to: (i) refund in advance of maturity the outstanding principal amount of MSD's Sewer and Drainage System Revenue Bonds, Series 2008A maturing May 15, 2019 through May 15, 2026, the proceeds of which were used to finance the costs of improvements to MSD's sewer and drainage system, and (ii) pay the cost of issuance of the Series 2016B Bonds. The refunding reduced debt service payments over the next 20 years by \$7,790 and resulted in a net present value savings of \$5,349.

On August 30, 2016 MSD issued \$71,755 of Revenue Refunding Bonds (Series 2016C). The proceeds of the Series 2016C Bonds, together with certain amounts in the Reserve Account, will be used to: (i) refund in advance of maturity a portion of the outstanding principal amount of MSD's Sewer and Drainage System Revenue Bonds, Series 2009A maturing May 15, 2020 through May 15, 2022 and a portion of the outstanding principal amount of MSD's Sewer and Drainage System Revenue Bonds, Series 2009B maturing May 15, 2020 through May 15, 2023, the proceeds of which were used to refund an earlier series of bonds, which in turn were used to finance or refinance the costs of improvements to MSD's sewer and drainage system and (ii) pay the cost of issuance of the Series 2016C Bonds. The refunding reduced debt service payments over the next 7 years by \$7,754 and resulted in a net present value savings of \$4,774.

On November 15, 2016 MSD issued \$226,340 of Bond Anticipation Notes. The proceeds of the Series 2016 Notes were used to: (i) pay the costs of issuing the Series 2016 Notes and (ii) refund and retire the Series 2015 Bond Anticipation Notes (see Note 8).

***REQUIRED SUPPLEMENTARY INFORMATION***

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT  
REQUIRED SUPPLEMENTARY INFORMATION  
SCHEDULE OF PROPORTIONATE SHARE OF THE NET PENSION LIABILITY  
COUNTY EMPLOYEES' RETIREMENT SYSTEM - NONHAZARDOUS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

	<u>2016</u>	<u>2015</u>
MSD's proportion of the net pension liability	1.597%	1.602%
MSD's proportionate share of the net pension liability	\$ 68,653	\$ 51,988
MSD's covered employee payroll	\$ 37,900	\$ 37,100
MSD's proportion of the net pension liability as a percentage of its covered employee payroll	181.1%	140.1%
Plan fiduciary net position as a percentage of the total pension liability	59.97%	66.80%

**Notes:**

- 1) The amounts presented for each fiscal year were determined as of the prior year end.
- 2) This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, governments should present information for those years, which information is available.

**Changes in Assumptions and Benefit Terms:** Since the prior measurement date, the demographic and economic assumptions that affect the measurement of the total pension liability have been updated as described in Schedule D of the CERS actuary report. The changes are noted below:

- The assumed investment rate of return was decreased from 7.75% to 7.50%.
- The assumed rate of inflation was reduced from 3.50% to 3.25%.
- The assumed rate of wage inflation was reduced from 1.00% to 0.75%.
- Payroll growth assumption was reduced from 4.50% to 4.00%.
- The mortality table used for active members is RP-2000 Combined Mortality Table projected with Scale BB to 2013 (multiplied by 50% for males and 30% for females).
- For healthy retired members and beneficiaries, the mortality table used is the RP-2000 Combined Mortality Table projected with Scale BB to 2013 (set back 1 year for females). For disabled members, the RP-2000 Combined Disabled Mortality Table projected with Scale BB to 2013 (set back 4 years for males) is used for the period after disability retirement. There is some margin in the current mortality tables for possible future improvement in mortality rates and that margin will be reviewed again when the next experience investigation is conducted.
- The assumed rates of Retirement, Withdrawal and Disability were updated to more accurately reflect experience.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT  
REQUIRED SUPPLEMENTARY INFORMATION  
SCHEDULE OF EMPLOYER CONTRIBUTIONS  
COUNTY EMPLOYEES' RETIREMENT SYSTEM - NONHAZARDOUS  
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015  
DOLLARS IN THOUSANDS**

	<u>2016</u>	<u>2015</u>
Statutorily required contribution for pension	\$ 4,767	\$ 4,576
MSD contribution in relation to the statutorily required contribution	\$ (4,767)	\$ (4,576)
Annual contribution deficiency (excess)	<u>-</u>	<u>-</u>
MSD contributions as a percentage of statutorily required contribution for pension	100%	100%
MSD covered employee payroll	\$ 39,596	\$ 37,900
Contributions as a percentage of MSD's covered employee payroll	12.04%	12.07%

*Notes:*

- 1) This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, governments should present information for those years, which information is available.





## **STATISTICAL SECTION**

This section of the Louisville & Jefferson County Metropolitan Sewer District's (MSD) Comprehensive Annual Financial Report presents detailed information as a supplement to the information presented in the financial statements and note disclosures to assist readers in assessing MSD's overall financial health.

Debt Service Coverage .....	42
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This schedule presents information to help readers assess MSD's debt burden and MSD's ability to issue additional debt in the future.

Financial Trends .....	43
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These schedules contain trend information to help readers understand how MSD's financial performance and position have changed over time. The information presented includes changes in net assets, an analysis of revenues and expenses and a comparative statement of cash flows

Revenue Capacity .....	47
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This schedule contains information to help readers assess MSD's most significant revenue sources.

Operating Information .....	48
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These schedules contain service and infrastructure data to help the reader understand how the information in MSD's financial report relates to the services that it provides. The information provided includes service and administration costs, project schedules, and water treatment capacity.

Demographic and Economic Information .....	51
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These schedules offer demographic and economic indicators to help readers understand the environment within which MSD operates.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**  
**COMPARATIVE SCHEDULE OF DEBT SERVICE COVERAGE**  
**YEARS ENDED JUNE 30**  
**DOLLARS IN THOUSANDS**

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
<b>Revenues:</b>										
Service charges	\$ 238,480	\$ 225,462	\$ 214,056	\$ 205,222	\$ 190,482	\$ 183,297	\$ 168,610	\$ 163,004	\$ 156,889	\$ 126,490
Other operating income	4,810	4,407	2,576	4,823	1,756	2,379	2,980	4,552	4,394	5,966
Assessments	9,457	1,901	2,129	2,392	2,405	2,740	7,093	4,387	2,251	8,237
Investment income	17,278	17,623	20,330	20,119	40,687	33,700	36,045	25,568	6,085	8,417
Less: capitalized investment income	-	-	-	(3,817)	(1,851)	(12,134)	(5,990)	-	(1,190)	(3,747)
<b>Total revenues</b>	<b>270,025</b>	<b>249,393</b>	<b>239,091</b>	<b>228,739</b>	<b>233,479</b>	<b>209,982</b>	<b>208,738</b>	<b>197,511</b>	<b>168,429</b>	<b>145,363</b>
<b>Operating expenses:</b>										
Service and administrative costs <sup>1</sup>	117,671	106,301	108,814	108,041	108,325	107,307	101,068	93,935	96,845	89,194
Less: capitalized overhead	(30,516)	(30,056)	(33,568)	(33,110)	(33,200)	(30,308)	(28,129)	(25,257)	(26,510)	(25,715)
Capitalization Rate	26%	28%	31%	31%	31%	28%	28%	27%	27%	29%
<b>Total operating expenses</b>	<b>87,155</b>	<b>76,118</b>	<b>75,246</b>	<b>74,931</b>	<b>75,125</b>	<b>76,999</b>	<b>72,939</b>	<b>68,678</b>	<b>70,335</b>	<b>63,479</b>
<b>Net revenues</b>	<b>182,870</b>	<b>173,275</b>	<b>163,845</b>	<b>153,808</b>	<b>158,354</b>	<b>132,983</b>	<b>135,799</b>	<b>128,833</b>	<b>98,094</b>	<b>81,884</b>
<b>Aggregate debt service:</b>										
Current maturities of long-term debt	31,825	29,415	28,525	27,035	25,740	24,840	23,785	23,105	21,255	18,190
Interest expense	86,818	83,404	80,613	92,616	89,243	78,954	69,949	72,776	66,918	70,548
Less: capitalized interest expense	(21,051)	(20,511)	(19,103)	(26,358)	(26,384)	(25,195)	(13,910)	-	(10,530)	(14,140)
<b>Aggregate net debt service</b>	<b>\$ 97,592</b>	<b>\$ 92,308</b>	<b>\$ 90,035</b>	<b>\$ 93,293</b>	<b>\$ 88,599</b>	<b>\$ 78,599</b>	<b>\$ 79,824</b>	<b>\$ 95,881</b>	<b>\$ 77,643</b>	<b>\$ 74,598</b>
<b>Debt service coverage ratio<sup>2</sup></b>	<b>187%</b>	<b>188%</b>	<b>182%</b>	<b>165%</b>	<b>179%</b>	<b>169%</b>	<b>170%</b>	<b>134%</b>	<b>126%</b>	<b>110%</b>

<sup>1</sup>Excludes GASB 68 pension expense

<sup>2</sup>Excludes GASB 68 pension expense

This table has been prepared using the definitions of revenue, expense and debt service contained in MSD's 1993 Sewer & Drainage System Revenue Bond Resolution.

The 1993 Resolution and its supplements require MSD to provide "Available Revenues", as defined in the Resolution, sufficient to pay 110% of each fiscal year's "Aggregate Net Debt Service" on Revenue Bonds and 100% of "Operating Expenses". "Available Revenues", as used only for purposes of the Resolution, means all revenues and other amounts received by MSD and pledged as security for payment of Bonds issued pursuant to the Resolution, but excludes any interest income which is capitalized in accordance with generally accepted accounting principles. "Operating Expenses" includes all reasonable, ordinary, usual or necessary current expenses of maintenance, repair and operation determined in accordance with generally accepted accounting principles and the enterprise basis of accounting. "Operating Expenses" does not include reserves for extraordinary maintenance and repair, nor does it include administrative and engineering expenses of MSD which are necessary or incidental to capital improvements for which debt has been issued and which may be paid from the proceeds of such debt. "Aggregate Net Debt Service" is aggregate current principal and interest requirements on all Bonds issued pursuant to the Resolution, excluding (i) interest expense, which in accordance with generally accepted accounting principles, is capitalized and which may be paid from the proceeds of debt, and (ii) other amounts, if any, available, or expected to become available in the ordinary course for payment of principal and interest, and not included in "Available Revenues".

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**  
**COMPARATIVE STATEMENT OF NET POSITION**  
**ASSETS AND DEFERRED OUTFLOW OF RESOURCES**  
**YEARS ENDED JUNE 30**  
**DOLLARS IN THOUSANDS**

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
<b>Current Assets:</b>										
Unrestricted cash and cash equivalents	\$ 69,481	\$ 63,013	\$ 84,780	\$ 66,376	\$ 12,040	\$ 34,508	\$ 24,700	\$ 22,552	\$ 10,524	\$ 1,912
Unrestricted investments	100	100	100	100	100	100	100	7,733	14,379	24,935
Restricted cash and cash equivalents	5,379	16,342	27,886	62,249	227,327	112,559	58,923	35,988	105,299	3,133
Restricted investments	14,999	-	-	90,574	94,639	294,868	394,880	61,303	27,202	73,801
Accounts receivable	26,696	23,787	21,809	18,465	16,666	17,789	15,779	18,065	16,732	15,398
Inventories	4,210	3,981	3,808	3,579	3,484	3,435	3,110	3,027	3,020	3,091
Prepaid expenses and other current assets	3,184	2,880	2,636	2,110	1,862	2,841	2,513	1,965	2,020	1,181
<b>Total current assets</b>	<b>124,049</b>	<b>110,103</b>	<b>141,019</b>	<b>243,453</b>	<b>356,118</b>	<b>466,100</b>	<b>500,005</b>	<b>150,633</b>	<b>179,176</b>	<b>123,451</b>
<b>Plant, Lines and Other facilities:</b>										
Completed projects	3,155,696	2,777,788	2,753,762	2,702,448	2,560,403	2,498,355	2,445,755	2,314,406	2,281,413	2,149,779
Less: Accumulated depreciation	(1,070,108)	(1,008,503)	(946,427)	(884,199)	(825,205)	(768,423)	(734,552)	(680,380)	(628,296)	(578,643)
	2,085,588	1,769,285	1,807,335	1,818,249	1,735,198	1,729,932	1,711,203	1,634,026	1,653,117	1,571,136
<b>Construction in progress</b>	<b>487,674</b>	<b>623,181</b>	<b>463,167</b>	<b>371,816</b>	<b>370,350</b>	<b>272,850</b>	<b>140,134</b>	<b>182,711</b>	<b>136,695</b>	<b>193,420</b>
<b>Net plant, lines and other facilities</b>	<b>2,573,262</b>	<b>2,392,466</b>	<b>2,270,502</b>	<b>2,190,065</b>	<b>2,105,548</b>	<b>2,002,782</b>	<b>1,851,337</b>	<b>1,816,737</b>	<b>1,789,812</b>	<b>1,764,556</b>
<b>Other Non-current assets</b>	<b>178,762</b>	<b>169,587</b>	<b>167,537</b>	<b>36,262</b>	<b>35,876</b>	<b>36,611</b>	<b>35,945</b>	<b>99,623</b>	<b>59,039</b>	<b>28,749</b>
<b>Total non-current assets</b>	<b>2,752,024</b>	<b>2,562,053</b>	<b>2,438,039</b>	<b>2,226,327</b>	<b>2,141,424</b>	<b>2,039,393</b>	<b>1,887,282</b>	<b>1,916,360</b>	<b>1,848,851</b>	<b>1,793,305</b>
<b>Total assets</b>	<b>2,876,073</b>	<b>2,672,156</b>	<b>2,579,058</b>	<b>2,469,780</b>	<b>2,497,542</b>	<b>2,505,493</b>	<b>2,387,287</b>	<b>2,066,993</b>	<b>2,028,027</b>	<b>1,916,756</b>
<b>Deferred outflow of resources</b>	<b>23,708</b>	<b>20,407</b>	<b>22,862</b>	<b>13,511</b>	<b>15,176</b>	<b>16,842</b>	<b>18,507</b>	<b>14,743</b>	<b>16,020</b>	<b>19,859</b>
<b>Total assets and deferred outflows</b>	<b>\$ 2,899,781</b>	<b>\$ 2,692,563</b>	<b>\$ 2,600,721</b>	<b>\$ 2,483,291</b>	<b>\$ 2,512,718</b>	<b>\$ 2,522,335</b>	<b>\$ 2,405,794</b>	<b>\$ 2,081,736</b>	<b>\$ 2,044,047</b>	<b>\$ 1,936,615</b>

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**  
**COMPARATIVE STATEMENT OF NET POSITION**  
**LIABILITIES, DEFERRED INFLOW OF RESOURCES AND NET POSITION**  
**YEARS ENDED JUNE 30**  
**DOLLARS IN THOUSANDS**

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
<b>Liabilities:</b>										
<b>Current liabilities (payable from current assets):</b>										
Accounts payable and accrued expenses	\$ 17,420	\$ 14,936	\$ 13,653	\$ 12,693	\$ 16,470	\$ 15,732	\$ 11,141	\$ 11,035	\$ 10,548	\$ 16,639
<b>Total current liabilities (payable from current assets)</b>	<b>17,420</b>	<b>14,936</b>	<b>13,653</b>	<b>12,693</b>	<b>16,470</b>	<b>15,732</b>	<b>11,141</b>	<b>11,035</b>	<b>10,548</b>	<b>16,639</b>
<b>Current liabilities (payable from restricted assets):</b>										
Accounts payable and accrued expenses	33,271	30,607	14,712	16,168	12,656	15,105	13,692	7,735	5,250	4,239
Accrued interest	17,533	13,036	12,834	12,458	13,959	12,360	14,701	8,143	8,597	10,824
Current maturities of bonds payable	31,825	29,415	28,525	27,035	25,740	24,840	23,785	23,105	21,255	18,190
Refundable Deposits	2,557	1,639	1,568	1,137	1,013	1,341	1,622	3,478	4,209	-
<b>Total current liabilities (payable from restricted assets)</b>	<b>85,186</b>	<b>74,697</b>	<b>57,639</b>	<b>56,798</b>	<b>53,368</b>	<b>53,646</b>	<b>53,800</b>	<b>42,461</b>	<b>39,311</b>	<b>33,253</b>
<b>Non-current liabilities:</b>										
Bonds payable	1,722,745	1,583,390	1,549,700	1,478,225	1,536,770	1,591,670	1,302,000	1,385,185	1,421,825	1,327,095
Subordinated Debt	228,412	228,508	228,601	228,691	226,340	226,340	452,680	-	-	-
Unamortized debt premium/discount	67,462	60,797	60,263	56,764	45,841	25,646	9,562	8,912	16,685	14,312
Net Pension Liability	68,653	51,988	58,825	-	-	-	-	-	-	-
Other long-term liabilities	690	944	761	973	5,663	5,561	1,630	2,114	2,375	2,632
<b>Total long-term debt</b>	<b>2,087,962</b>	<b>1,925,627</b>	<b>1,898,150</b>	<b>1,764,653</b>	<b>1,814,614</b>	<b>1,849,217</b>	<b>1,765,872</b>	<b>1,396,211</b>	<b>1,440,885</b>	<b>1,344,039</b>
<b>Total liabilities</b>	<b>2,190,568</b>	<b>2,015,260</b>	<b>1,969,442</b>	<b>1,834,144</b>	<b>1,884,452</b>	<b>1,918,595</b>	<b>1,830,813</b>	<b>1,449,707</b>	<b>1,490,744</b>	<b>1,393,931</b>
<b>Deferred inflow of resources</b>	<b>108,633</b>	<b>92,233</b>	<b>82,293</b>	<b>82,233</b>	<b>119,680</b>	<b>67,948</b>	<b>82,185</b>	<b>74,942</b>	<b>2,784</b>	<b>(8,690)</b>
<b>Net position:</b>										
Invested in plant, lines, & other facilities, net of related debt	534,946	506,187	418,784	365,225	313,575	363,334	450,753	470,445	478,833	479,305
Restricted for payment of bond principal & interest	84,639	80,424	148,451	136,939	157,002	141,217	334,186	100,225	135,537	7,034
Unrestricted	(19,005)	(1,541)	(18,249)	64,750	38,009	31,241	(292,143)	(13,583)	(63,851)	65,035
<b>Total net assets</b>	<b>600,580</b>	<b>585,070</b>	<b>548,986</b>	<b>566,914</b>	<b>508,586</b>	<b>535,792</b>	<b>492,796</b>	<b>557,087</b>	<b>550,519</b>	<b>551,374</b>
<b>Total liabilities, deferred inflows and net position</b>	<b>\$ 2,899,781</b>	<b>\$ 2,692,563</b>	<b>\$ 2,600,721</b>	<b>\$ 2,483,291</b>	<b>\$ 2,512,718</b>	<b>\$ 2,522,335</b>	<b>\$ 2,405,794</b>	<b>\$ 2,081,736</b>	<b>\$ 2,044,047</b>	<b>\$ 1,936,615</b>

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**  
**COMPARATIVE STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION**  
**YEARS ENDED JUNE 30**  
**DOLLARS IN THOUSANDS**

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
<b>Operating revenue:</b>										
Wastewater service charges	\$ 183,592	\$ 173,895	\$ 165,599	\$ 159,791	\$ 149,626	\$ 145,880	\$ 133,853	\$ 130,661	\$ 125,782	\$ 96,594
Stormwater service charges	54,888	51,567	48,457	45,431	40,856	37,417	34,757	32,343	31,107	29,896
Other operating income	4,810	4,407	2,576	4,823	1,756	2,379	2,980	4,552	4,394	5,956
<b>Total operating revenue</b>	<b>243,290</b>	<b>229,869</b>	<b>216,632</b>	<b>210,045</b>	<b>192,238</b>	<b>185,676</b>	<b>171,590</b>	<b>167,556</b>	<b>161,283</b>	<b>132,446</b>
<b>Operating expenses:</b>										
Service and administrative costs	121,674	106,174	108,814	108,041	108,326	107,307	101,068	93,935	96,845	90,157
Capitalization/recovery of cost	(30,516)	(30,056)	(33,568)	(32,200)	(30,860)	(30,472)	(28,129)	(24,401)	(26,510)	(26,678)
Capitalized overhead (over) under applied	-	-	-	(910)	(2,340)	164	(2,988)	(856)	-	-
Depreciation and amortization	62,820	63,321	63,516	60,335	60,527	58,741	58,513	56,727	55,363	52,177
<b>Total operating expenses</b>	<b>153,978</b>	<b>139,439</b>	<b>138,762</b>	<b>135,266</b>	<b>135,653</b>	<b>135,740</b>	<b>128,464</b>	<b>125,405</b>	<b>125,698</b>	<b>115,656</b>
<b>Income (loss) from operations</b>	<b>89,312</b>	<b>90,430</b>	<b>77,870</b>	<b>74,779</b>	<b>56,585</b>	<b>49,936</b>	<b>43,126</b>	<b>42,151</b>	<b>35,585</b>	<b>16,790</b>
<b>Non-operating revenue (expense):</b>										
Gain (loss) on disposal of assets	614	-	-	45	(19)	194	-	(64)	(122)	-
Investment Income	17,278	17,623	20,330	16,301	40,687	33,700	36,045	25,568	4,895	4,670
Interest expense - bonds	(86,818)	(83,404)	(80,613)	(92,616)	(89,243)	(78,954)	(69,949)	(69,893)	(56,388)	(56,408)
Interest expense - swaps	(9,514)	(9,737)	(9,733)	(10,200)	(11,235)	(11,627)	(8,815)	(2,883)	-	-
Interest expense - other	1,501	1,296	115	241	437	(1,833)	(3,723)	-	-	-
Capitalized Interest	21,051	20,511	19,103	26,358	26,384	25,195	13,910	-	-	-
Decrease upon hedge termination	-	-	-	-	-	-	(58,556)	-	-	-
Change in fair values - swaps	(22,951)	(5,240)	(1,222)	36,286	(52,897)	22,638	(19,889)	-	-	-
<b>Total non-operating revenue (expenses), net</b>	<b>(78,839)</b>	<b>(58,951)</b>	<b>(52,020)</b>	<b>(23,585)</b>	<b>(85,886)</b>	<b>(10,687)</b>	<b>(110,977)</b>	<b>(47,272)</b>	<b>(51,615)</b>	<b>(51,738)</b>
<b>Net income / (loss) before contributions</b>	<b>10,473</b>	<b>31,479</b>	<b>25,850</b>	<b>51,194</b>	<b>(29,301)</b>	<b>39,249</b>	<b>(67,851)</b>	<b>(5,121)</b>	<b>(16,030)</b>	<b>(34,948)</b>
<b>Contributions</b>										
Property owner assessments	-	-	-	-	-	334	(545)	2,239	164	7,634
All other	5,037	4,605	8,103	7,134	2,095	3,413	4,105	9,450	15,011	9,225
<b>Increase (decrease) in net position</b>	<b>15,510</b>	<b>36,084</b>	<b>33,953</b>	<b>58,328</b>	<b>(27,206)</b>	<b>42,996</b>	<b>(64,291)</b>	<b>6,568</b>	<b>(855)</b>	<b>(18,089)</b>
<b>Net position, beginning of year</b>	<b>585,070</b>	<b>548,986</b>	<b>515,033</b>	<b>508,586</b>	<b>535,792</b>	<b>492,796</b>	<b>557,087</b>	<b>550,519</b>	<b>551,374</b>	<b>569,463</b>
<b>Net position, end of year</b>	<b>\$ 600,580</b>	<b>\$ 585,070</b>	<b>\$ 548,986</b>	<b>\$ 566,914</b>	<b>\$ 508,586</b>	<b>\$ 535,792</b>	<b>\$ 492,796</b>	<b>\$ 557,087</b>	<b>\$ 550,519</b>	<b>\$ 551,374</b>

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**  
**COMPARATIVE STATEMENTS OF CASH FLOWS**  
**YEARS ENDED JUNE 30**  
**DOLLARS IN THOUSANDS**

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
<b>Cash flows from operating activities:</b>										
Cash received from customers	\$ 240,365	\$ 227,976	\$ 213,215	\$ 207,905	\$ 193,446	\$ 182,976	\$ 171,641	\$ 166,123	\$ 159,539	\$ 134,160
Cash paid to suppliers and employees	(85,202)	(75,258)	(73,175)	(79,926)	(76,077)	(72,566)	(72,426)	(66,297)	(72,227)	(69,536)
<b>Net cash provided by operating activities</b>	<b>155,163</b>	<b>152,718</b>	<b>140,040</b>	<b>127,979</b>	<b>117,369</b>	<b>110,410</b>	<b>99,215</b>	<b>99,826</b>	<b>87,312</b>	<b>64,624</b>
<b>Cash flows from capital and related financing activities:</b>										
Proceeds from issuance of revenue bonds	256,750	80,000	100,000	115,790	263,360	330,000	405,770	76,275	166,125	-
Proceeds from subordinated debt	226,340	226,340	226,340	228,735	226,340	226,340	452,680	-	-	-
Capital contributed by governments, property owners & developers	5,037	4,605	8,103	7,134	2,095	3,747	3,560	11,689	15,174	16,861
Build America Bond Interest Income	10,332	10,096	10,096	10,986	10,986	7,978	2,260	-	-	-
Assessments receivable	1,740	2,050	1,695	1,833	1,930	1,676	2,998	557	2,703	(645)
Interest income - assessments	426	340	687	731	852	994	1,588	1,471	1,405	1,670
Principal paid on revenue bonds	(114,985)	(45,420)	(27,035)	(173,040)	(317,360)	(39,275)	(488,275)	(95,045)	(84,350)	(17,250)
Interest paid on revenue bonds	(89,169)	(87,813)	(91,719)	(98,944)	(94,240)	(86,191)	(70,192)	(69,063)	(69,145)	(70,180)
Acquisition and construction of capital assets	(211,910)	(147,842)	(121,237)	(113,144)	(119,988)	(167,816)	(86,590)	(75,970)	(80,614)	(65,702)
Acquisition of non-operating property	(254)	(247)	(211)	(223)	(213)	(221)	(484)	(261)	(257)	(258)
Principal paid on subordinated debt	(226,436)	(226,433)	(226,430)	(226,384)	(226,340)	(452,680)	-	-	-	-
<b>Net cash (used in) provided from capital and related financing activities</b>	<b>(142,129)</b>	<b>(184,324)</b>	<b>(119,711)</b>	<b>(246,526)</b>	<b>(252,578)</b>	<b>(175,448)</b>	<b>223,315</b>	<b>(150,347)</b>	<b>(48,959)</b>	<b>(135,504)</b>
<b>Cash flows from investing activities:</b>										
Restricted Investments	(15,047)	1,052	(30,642)	4,064	200,229	100,012	(333,577)	(34,101)	45,656	65,108
Unrestricted Investments	-	-	-	-	-	-	7,633	6,646	10,555	-
Income received on investments	17,652	13,974	15,708	13,941	38,515	40,097	37,329	24,859	16,214	7,642
Interest expense - swap agreements	(9,514)	(9,737)	(9,733)	(10,200)	(11,235)	(11,627)	(8,832)	(4,166)	-	-
<b>Net cash (used in) provided from investing activities</b>	<b>(6,909)</b>	<b>5,289</b>	<b>(24,667)</b>	<b>7,805</b>	<b>227,509</b>	<b>128,482</b>	<b>(297,447)</b>	<b>(6,762)</b>	<b>72,425</b>	<b>72,750</b>
<b>Net increase (decrease) in cash and cash equivalents</b>	<b>6,125</b>	<b>(26,317)</b>	<b>(4,338)</b>	<b>(110,742)</b>	<b>92,300</b>	<b>63,444</b>	<b>25,083</b>	<b>(57,283)</b>	<b>110,778</b>	<b>1,870</b>
<b>Cash and cash equivalents, beginning of year</b>	<b>97,970</b>	<b>124,287</b>	<b>128,625</b>	<b>239,367</b>	<b>147,067</b>	<b>83,623</b>	<b>58,540</b>	<b>115,823</b>	<b>5,045</b>	<b>3,176</b>
<b>Cash and cash equivalents, end of year</b>	<b>\$ 104,095</b>	<b>\$ 97,970</b>	<b>\$ 124,287</b>	<b>\$ 128,625</b>	<b>\$ 239,367</b>	<b>\$ 147,067</b>	<b>\$ 83,623</b>	<b>\$ 58,540</b>	<b>\$ 115,823</b>	<b>\$ 5,045</b>

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**  
**COMPARATIVE SUMMARIES OF OPERATING REVENUE**  
**YEARS ENDED JUNE 30**  
**DOLLARS IN THOUSANDS**

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
<b>Service charges:</b>										
<b>Wastewater service charges:</b>										
Residential	\$ 101,405	\$ 96,563	\$ 89,691	\$ 86,409	\$ 80,779	\$ 78,552	\$ 73,228	\$ 71,159	\$ 64,978	\$ 48,338
Commercial	58,343	62,257	58,812	57,192	53,116	46,598	42,741	42,312	38,935	28,892
Industrial	19,878	17,605	19,738	19,536	18,063	21,498	18,948	18,216	21,324	18,431
Other - net	8,186	2,806	2,611	2,267	2,219	1,847	1,756	1,601	2,382	1,993
Free sewer to Metro Government	(4,220)	(5,336)	(5,253)	(5,613)	(4,551)	(2,615)	(2,820)	(2,627)	(1,837)	(1,060)
<b>Total wastewater service charges</b>	<b>183,592</b>	<b>173,895</b>	<b>165,599</b>	<b>159,791</b>	<b>149,626</b>	<b>832,503</b>	<b>133,853</b>	<b>130,661</b>	<b>125,782</b>	<b>96,594</b>
<b>Stormwater service charges:</b>										
Residential	20,439	20,090	18,522	17,372	15,907	14,776	13,613	12,709	12,198	11,617
Commercial	32,971	28,936	27,910	26,123	23,017	20,862	19,433	18,012	17,276	16,741
Industrial	3,219	3,030	3,112	2,956	2,575	2,351	2,189	2,064	1,988	1,930
Free drainage to Metro Government	(1,741)	(489)	(1,087)	(1,020)	(643)	(572)	(478)	(442)	(355)	(392)
<b>Total stormwater service charges</b>	<b>54,888</b>	<b>51,567</b>	<b>48,457</b>	<b>45,431</b>	<b>40,856</b>	<b>37,417</b>	<b>34,757</b>	<b>32,343</b>	<b>31,107</b>	<b>29,896</b>
<b>Total service charges</b>	<b>238,480</b>	<b>225,462</b>	<b>214,056</b>	<b>205,222</b>	<b>190,482</b>	<b>869,920</b>	<b>168,610</b>	<b>163,004</b>	<b>156,889</b>	<b>126,490</b>
<b>Other operating income:</b>										
Capacity charges	2,087	2,667	1,620	1,624	335	446	564	820	2,521	2,538
Connection fees	1,118	379	133	93	64	71	68	47	172	146
Regional facilities fees	16	34	-	-	-	-	-	-	-	(11)
Reserve capacity charges	-	-	-	64	-	-	11	28	37	5
Wastewater miscellaneous	1,589	1,327	823	2,984	1,299	1,804	2,279	3,599	1,606	3,220
Stormwater miscellaneous	-	-	-	58	58	58	58	58	58	58
<b>Total other operating income</b>	<b>4,810</b>	<b>4,407</b>	<b>2,576</b>	<b>4,823</b>	<b>1,756</b>	<b>2,379</b>	<b>2,980</b>	<b>4,552</b>	<b>4,394</b>	<b>5,956</b>
<b>Total operating revenue</b>	<b>\$ 243,290</b>	<b>\$ 229,869</b>	<b>\$ 216,632</b>	<b>\$ 210,045</b>	<b>\$ 192,238</b>	<b>\$ 872,299</b>	<b>\$ 171,590</b>	<b>\$ 167,556</b>	<b>\$ 161,283</b>	<b>\$ 132,446</b>

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**  
**COMPARATIVE SUMMARIES OF SERVICE AND ADMINISTRATIVE COSTS**  
**YEARS ENDED JUNE 30**  
**DOLLARS IN THOUSANDS**

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
<b>Service and administrative costs:</b>										
Labor	\$ 55,229	\$ 54,378	\$ 57,249	\$ 55,028	\$ 55,010	\$ 56,358	\$ 52,945	\$ 49,354	\$ 49,431	\$ 47,079
Utilities	18,256	13,817	14,563	12,821	14,555	13,853	11,879	10,818	12,989	10,976
Materials and supplies	4,183	9,706	8,151	8,990	8,972	9,043	9,031	8,742	8,707	8,197
Professional services	4,169	2,839	1,932	3,942	2,416	2,624	2,363	2,730	3,126	2,797
Maintenance and repairs	10,007	7,915	9,096	10,866	11,090	10,054	8,847	9,675	8,926	8,035
Billing and collections	4,853	4,327	4,095	4,904	4,309	4,318	4,461	3,623	5,319	2,889
Chemicals and fuel	5,697	5,297	5,143	5,907	5,714	5,702	6,099	5,687	5,148	4,825
Biosolids disposal	2,245	1,967	1,795	1,709	1,759	2,035	2,186	2,063	1,661	1,412
All other	13,960	6,520	7,238	4,369	4,901	3,694	3,638	2,817	2,800	3,947
<b>Service and administrative costs<sup>1</sup></b>	<b>118,599</b>	<b>106,766</b>	<b>109,262</b>	<b>108,536</b>	<b>108,726</b>	<b>107,681</b>	<b>101,449</b>	<b>95,509</b>	<b>98,107</b>	<b>90,157</b>
<b>Less: Recovery of cost</b>										
Capitalized project cost	(30,516)	(30,056)	(33,568)	(33,110)	(33,200)	(30,472)	(28,129)	(24,401)	(26,510)	(25,715)
Revenue recoveries	(928)	(465)	(448)	(495)	(400)	(374)	(381)	(1,574)	(1,262)	(963)
<b>Recovery of cost</b>	<b>(31,444)</b>	<b>(30,521)</b>	<b>(34,016)</b>	<b>(33,605)</b>	<b>(33,600)</b>	<b>(30,846)</b>	<b>(28,510)</b>	<b>(25,975)</b>	<b>(27,772)</b>	<b>(26,678)</b>
<b>Net service and administrative costs</b>	<b>\$ 87,155</b>	<b>\$ 76,245</b>	<b>\$ 75,246</b>	<b>\$ 74,931</b>	<b>\$ 75,126</b>	<b>\$ 76,835</b>	<b>\$ 72,939</b>	<b>\$ 69,534</b>	<b>\$ 70,335</b>	<b>\$ 63,479</b>

<sup>1</sup>Excludes GASB 68 pension expense



**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**  
**COMPARATIVE SCHEDULES OF PLANT, LINES AND OTHER FACILITIES**  
**YEARS ENDED JUNE 30**  
**DOLLARS IN THOUSANDS**

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
<b>Completed projects</b>										
Sewer lines	\$ 1,379,153	\$ 1,277,745	\$ 1,274,180	\$ 1,265,437	\$ 1,179,685	\$ 1,159,437	\$ 1,134,637	\$ 1,042,742	\$ 1,022,859	\$ 963,798
Wastewater treatment facilities	629,083	489,292	489,289	479,998	479,226	471,190	470,527	459,238	456,955	422,483
Stormwater drainage facilities	515,898	448,853	448,899	443,577	437,139	434,943	427,431	400,118	390,699	366,745
Pumping and lift stations	139,651	96,812	96,819	89,503	73,023	71,122	70,643	69,301	66,990	60,877
Administrative facilities	49,342	49,342	49,342	49,317	46,068	46,078	45,561	45,561	45,561	45,347
Maintenance facilities	8,504	8,037	8,037	8,037	8,037	8,037	7,827	7,827	7,833	7,313
Machinery, equipment and other	90,702	85,395	85,395	83,882	77,068	71,923	93,240	74,975	75,872	62,526
Capitalized interest	343,363	322,312	301,800	282,697	260,157	235,624	222,564	214,644	214,644	220,690
<b>Total completed projects</b>	<b>3,155,696</b>	<b>2,777,788</b>	<b>2,753,761</b>	<b>2,702,448</b>	<b>2,560,403</b>	<b>2,498,354</b>	<b>2,472,430</b>	<b>2,314,406</b>	<b>2,281,413</b>	<b>2,149,779</b>
<b>Less accumulated depreciation</b>	<b>(1,070,108)</b>	<b>(1,008,503)</b>	<b>(946,426)</b>	<b>(884,199)</b>	<b>(825,205)</b>	<b>(768,423)</b>	<b>(734,552)</b>	<b>(680,380)</b>	<b>(628,296)</b>	<b>(578,643)</b>
<b>Total completed projects - net</b>	<b>2,085,588</b>	<b>1,769,285</b>	<b>1,807,335</b>	<b>1,818,249</b>	<b>1,735,198</b>	<b>1,729,931</b>	<b>1,737,878</b>	<b>1,634,026</b>	<b>1,653,117</b>	<b>1,571,136</b>
<b>Total construction in progress</b>	<b>487,674</b>	<b>623,181</b>	<b>463,167</b>	<b>371,816</b>	<b>370,350</b>	<b>272,850</b>	<b>140,134</b>	<b>182,711</b>	<b>136,695</b>	<b>193,420</b>
<b>Total net plant, lines and other facilities</b>	<b>\$ 2,573,262</b>	<b>\$ 2,392,466</b>	<b>\$ 2,270,502</b>	<b>\$ 2,190,065</b>	<b>\$ 2,105,548</b>	<b>\$ 2,002,781</b>	<b>\$ 1,878,012</b>	<b>\$ 1,816,737</b>	<b>\$ 1,789,812</b>	<b>\$ 1,764,556</b>

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT  
WASTEWATER TREATMENT PLANT CAPACITY  
2016**

Plant	Design Capacity MGD	Avg Daily Flow MGD	Eventual Capacity MGD	Customer Base			Total	Year Built	Treatment Process
				Residential	Commercial	Industrial			
Morris Forman	120.0	103.4	120.0	131,304	15,594	365	147,263	1958	Secondary added in 1972.
Derek R. Guthrie*	30.0	42.3	65.0	65,530	3,933	24	69,487	1986	Secondary
Jeffersontown**	4.0	3.5	-	-	-	-	-	1956	Secondary
Hite Creek	6.0	4.8	9.0	10,427	630	8	11,065	1970	Tertiary: sand filter
Cedar Creek	7.5	4.5	11.3	17,248	1,119	9	18,376	1995	Tertiary: sand filter
Floyd's Fork	6.5	2.9	9.8	8,337	378	1	8,716	2001	Tertiary: sand filter
<b>Total treatment system</b>	<b>174.0</b>	<b>161.4</b>	<b>215.0</b>	<b>232,846</b>	<b>21,654</b>	<b>407</b>	<b>254,907</b>		

\* Formerly known as the West County WTP

\*\* Jeffersontown was eliminated in December 2015

Source: MSD Engineering Department

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT  
 GREATER LOUISVILLE, KENTUCKY / INDIANA  
 EMPLOYERS OF 1,000 EMPLOYEES OR MORE**

Employers	2016 Rank	2016 Employees	2015 Rank	2015 Employees	2014 Rank	2014 Employees	2013 Rank	2013 Employees	2012 Rank	2012 Employees	2011 Rank	2011 Employees	2010 Rank	2010 Employees	2009 Rank	2009 Employees	2008 Rank	2008 Employees	2007 Rank	2007 Employees	Type of business
United Parcel Service, Inc.	1	22,080	1	22,189	1	20,931	1	20,047	1	20,117	1	20,388	1	20,125	1	20,513	1	20,560	1	20,674	P Air cargo transport and distribution
Jefferson County, KY Public Schools	2	14,739	2	14,719	2	14,676	2	14,269	2	14,366	2	13,840	2	13,964	2	13,326	2	13,917	2	13,593	G Primary and secondary education
Ford Motor Company	3	12,990	5	9,028	5	8,987	6	8,512	5	8,696	11	3,847	9	5,397	8	5,624	6	5,929	5	7,586	P Vehicle manufacturing
Humana, Inc.	4	12,500	3	12,900	3	12,371	3	11,235	3	11,000	3	10,017	3	9,400	3	10,096	3	9,854	3	8,775	P Group health insurance/HMOs
Norton Healthcare (formerly Alliant Health)	5	11,389	4	10,739	4	10,245	4	9,666	4	9,658	4	9,421	4	8,698	4	8,142	4	7,978	4	7,690	N Hospital and health care facilities
Amazon.com	6	6,500	7	6,000	NR																P Logistics & Customer Service
University of Louisville	7	6,375	6	6,264	7	6,161	7	6,187	6	6,273	6	5,746	5	6,352	6	6,135	7	5,866	7	5,763	G Higher education
Louisville-Jefferson County Metro Government	8	6,095	8	5,584	8	5,654	9	5,651	8	5,689	7	5,706	7	5,765	7	5,811	8	5,639	8	5,698	G City/County Government
General Electric Company	9	6,000	7	6,000	6	6,230	8	6,000	9	5,000	10	3,988	11	4,100	11	4,000	9	5,000	9	5,000	P Appliance manufacturing
Kentucky One Health Inc (formerly Jewish Hosp)	9	6,000	7	6,000	9	5,602	5	8,893	7	5,898	5	5,819	6	5,782	5	6,500	5	6,203	6	6,229	N Hospital and health care facilities
Baptist Healthcare System	10	4,995	9	5,116	11	5,339	11	4,854	11	4,219	12	3,752	12	3,889	12	3,305	12	3,089	12	3,536	N Hospital and health care facilities
The Kroger Company	11	4,626	10	4,892	10	5,417	10	5,152	n/a												P Grocery Retailer
Manna Inc	12	3,120	13	2,400	16	2,250	NR														P Food service provider
Commonwealth of Kentucky	13	2,514	11	3,794	12	4,042	12	4,161	10	4,232	9	4,488	10	4,361	10	4,253	11	4,498	11	4,535	G General purpose government
ResCare Inc	14	2,435	28	1,312	35	1,054	NR														P Health care provider
U.S. Federal Government	15	2,406	14	2,397	15	2,252	15	2,191	12	2,676	13	2,855	13	3,575	13	2,985	13	2,853	14	2,822	G General purpose government
Kindred Healthcare (formerly Vencor Inc.)	16	2,381	16	2,244	17	2,249	17	2,130	15	2,252	18	2,297	16	2,224	18	2,153	19	2,079	13	3,033	P Long-term health care, facilities
Roman Catholic Archdiocese of Louisville	17	2,263	17	2,237	14	2,260	14	2,345	13	2,352	15	2,416	17	2,142	17	2,343	15	2,351	17	2,348	N Religious, educational, social services
LG&E and KU Energy (formerly EON)	18	2,211	18	1,993	18	2,178	16	2,131	16	2,066	19	1,976	19	1,976	20	1,902					P Gas & Electric Utility
Papa John's International	19	2,088	30	1,279	25	1,503	35	1,143	NR	918											P Quick service restaurant
Floyd Memorial Hospital & Health Services	20	1,950	20	1,756	19	1,769	19	1,711	20	1,612	24	1,546	29	1,473	32	1,338	33	1,316	30	1,409	P Hospital and health services provider
Robley Rex VA Medical Center	21	1,900	19	1,800	20	1,703	18	1,799	18	1,728	22	1,671	24	1,596							N Hospital and health care facilities
Bullitt County Public Schools	22	1,739	21	1,671	22	1,633	21	1,629	n/a												G Primary and secondary education
U.S. Postal Service	23	1,659	12	2,401	13	2,546	13	2,509	n/a	n/a	14	2,653	18	1,991	14	2,626	14	2,651	15	2,653	G Mail distribution
Oldham County Public Schools	24	1,604	15	2,300	23	1,576	22	1,602	19	1,690	21	1,689	28	1,500	25	1,568	25	1,519	28	1,448	G Primary and secondary education
New Albany - Floyd County Schools	25	1,600	22	1,622	21	1,648	20	1,640	n/a												G Primary and secondary education
PNC Bank	26	1,500	23	1,569	NR																P Financial Services
Publishers Printing Company	27	1,400	25	1,413	28	1,432	24	1,516	24	1,450	27	1,367	27	1,500	23	1,600	20	1,860	21	1,689	P Trade, professional, special printing
Yum! Brands Inc. (formerly Tricon)	28	1,343	32	1,226	30	1,270	23	1,544	22	1,558	23	1,640	21	1,757	19	2,076	18	2,243	18	2,219	P Food service provider
Anthem, Inc.	29	1,300	26	1,350	32	1,139	37	1,100	34	1,122	35	1,150	36	1,276	29	1,358	31	1,381	29	1,438	P Health Insurance sales and services
Brown-Forman Corp.	29	1,300	31	1,266	31	1,256	32	1,244	31	1,196	34	1,184	37	1,240	37	1,081	35	1,256	34	1,317	P Distilled spirits manufacturing
Horseshoe Southern IN (formerly Caesars*)	30	1,252	29	1,303	29	1,404	26	1,418	25	1,437	31	1,244	26	1,540	22	1,697	21	1,858	19	1,895	P Gaming and entertainment resort
Greater Clark County, IN School Corp.	31	1,247	24	1,447	24	1,303	30	1,357	27	1,346	28	1,364	30	1,395	27	1,409	27	1,491	23	1,600	G Primary and secondary education
Clark Memorial Hospital	32	1,225	33	1,225	30	1,270															P Health care provider
Charter Communications	33	1,200	35	1,131	34	1,200															P Call Center
Seven Counties Services	34	1,165	34	1,168	33	1,129	36	1,111	30	1,215	32	1,202	40	1,187	36	1,118	40	1,110	39	1,100	N Health care provider
Al J Schneider Co	35	1,047	37	1,000	36	1,050	NR														P Hotel / Restaurants
Securitas Security Services USA Inc.	NR		27	1,328	26	1,476	25	1,476	21	1,598	33	1,191	41	1,150	35	1,150					P Security Services
American Commercial Lines	NR		36	1,100	NR																P Marine Transportation Service
<b>Total employees</b>		<b>158,138</b>		<b>155,163</b>		<b>144,205</b>		<b>136,223</b>		<b>121,364</b>		<b>114,457</b>		<b>115,355</b>		<b>114,109</b>		<b>112,501</b>		<b>114,050</b>	

P=for-profit organization N=not-for-profit organization G=governmental organization  
 Source: Business First of Louisville, KY

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT  
LOUISVILLE/JEFFERSON COUNTY PRINCIPAL EMPLOYERS**

Employer	Employees	2016 Rank	Percentage of Total Employment
United Parcel Service, Inc.	22,080	1	3.36%
Jefferson County, KY Public Schools	14,739	2	2.24%
Ford Motor Company	12,990	3	1.98%
Humana, Inc.	12,500	4	1.90%
Norton Healthcare (formerly Alliant Health)	11,389	5	1.73%
Amazon.com	6,500	6	0.99%
University of Louisville	6,375	7	0.97%
Louisville-Jefferson County Metro Government	6,095	8	0.93%
General Electric Company	6,000	9	0.91%
Kentucky One Health Inc (formerly Jewish Hosp)	6,000	9	0.91%
Baptist Healthcare System	4,995	10	0.76%
<b>Total</b>	<b>109,663</b>		<b>16.68%</b>

Total Employment (MSA) Louisville, KY-IN 657,300

Source: U.S. Census Bureau (census.gov)

Source: Workforce Kentucky Website (www.workforcekentucky.ky.gov)

Employer	Employees	2007 Rank	Percentage of Total Employment
United Parcel Service, Inc.	20,674	1	3.36%
Jefferson County, KY Public Schools	13,593	2	2.21%
Humana, Inc.	8,775	3	1.43%
Norton Healthcare (formerly Alliant Health)	7,690	4	1.25%
Ford Motor Company	7,586	5	1.23%
Kentucky One Health Inc (formerly Jewish Hosp)	6,229	6	1.01%
University of Louisville	5,763	7	0.94%
Louisville-Jefferson County Metro Government	5,698	8	0.93%
General Electric Company	5,000	9	0.81%
Commonwealth of Kentucky	4,535	10	0.74%
<b>Total</b>	<b>85,543</b>		<b>13.90%</b>

Total Employment (MSA) Louisville, KY-IN 615,500

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT  
ROLE OF OUTSTANDING DEBT AND MISCELLANEOUS DEMOGRAPHIC INFORMATION**

<b>Fiscal Year</b>	<b>Revenue Bond</b>	<b>Population</b>	<b>Personal Income</b>	<b>Percentage of Personal Income</b>	<b>Unemployment Rate</b>	<b># of MSD Employees</b>	<b># of MSD Service Connections</b>	<b>Miles of Sewer Line</b>
2007	\$ 1,345,285	723,040	\$ 29,594,360	4.55%	5.1%	614	224,654	3,133
2008	\$ 1,443,080	730,194	\$ 30,196,557	4.78%	6.4%	625	226,430	3,200
2009	\$ 1,408,290	736,705	\$ 29,191,601	4.82%	10.4%	633	226,711	3,197
2010	\$ 1,325,785	742,324	\$ 29,921,911	4.43%	9.8%	651	228,580	3,207
2011	\$ 1,616,510	746,372	\$ 31,154,544	5.19%	9.9%	655	230,240	3,200
2012	\$ 1,562,510	750,828	\$ 32,592,092	4.79%	8.4%	666	235,136	3,232
2013	\$ 1,505,260	756,832	\$ 33,314,513	4.52%	8.2%	649	239,334	3,240
2014	\$ 1,578,225	760,026	\$ 34,609,792	4.56%	6.4%	606	240,174	3,263
2015	\$ 1,612,805	763,623	N/A	N/A	4.9%	591	253,462	3,288
2016	\$ 1,754,570	N/A	N/A	N/A	4.6%	617	280,063	3,293

Source: U.S. Census Bureau (census.gov)

Source: Workforce Kentucky Website (www.workforcekentucky.ky.gov)

Source: Bureau of Economic Analysis website (www.bea.gov)

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT  
TOP 10 WASTEWATER AND STORMWATER CUSTOMERS**

Rank	Customer Name	FY '16 Wastewater Billed	Percent Total Wastewater Revenue
1	Lubrizol Advanced Material	\$ 2,619,739	1.43%
2	Heaven Hill Distilleries	\$ 2,238,317	1.22%
3	Ford Motor Co	\$ 1,437,109	0.78%
4	Early Times Distillery	\$ 1,280,739	0.70%
5	General Electric	\$ 1,126,387	0.61%
6	Swift Pork Co	\$ 921,314	0.50%
7	Unites Parcel Service	\$ 646,401	0.35%
8	Rohm & Haas	\$ 550,815	0.30%
9	Louisville Metro Housing Auth	\$ 513,223	0.28%
10	Parallel Products	\$ 499,133	0.27%
<b>Total</b>		<b>\$ 9,213,439</b>	<b>5.02%</b>
Total Revenue:		\$ 183,592,113	

Customer Name	FY '15 Wastewater Billed	Percent Total Wastewater Revenue
Lubrizol Advanced Material**	\$ 2,403,315	1.38%
Early Times Distillery	\$ 1,993,992	1.15%
Swift & Company	\$ 1,671,739	0.96%
Heaven Hill Distilleries	\$ 1,479,429	0.85%
Ford Motor Co.	\$ 1,448,638	0.83%
Louisville Metro Housing Authority	\$ 1,297,997	0.75%
UPS Air District	\$ 1,108,602	0.64%
Sunopta Ingredients Group	\$ 957,081	0.55%
General Electric	\$ 824,136	0.47%
BYK Additives Inc	\$ 444,961	0.26%
<b>Total</b>	<b>\$ 13,629,890</b>	<b>7.84%</b>
Total FY '15 Wastewater Revenue:	\$ 173,895,000	

Rank	Customer Name	FY '16 Stormwater Billed	Percent Total Stormwater Revenue
1	Regional Airport Auth	\$ 1,282,627	2.34%
2	United Parcel Service	\$ 571,955	1.04%
3	Ford Motor Co	\$ 412,279	0.75%
4	Lit Industrial Limited Partner	\$ 260,106	0.47%
5	Kentucky State Fair	\$ 221,565	0.40%
6	Seaboard System	\$ 220,606	0.40%
7	The U of L Campus	\$ 199,824	0.36%
8	Lou Jeff City Redev Auth	\$ 172,925	0.32%
9	UPS Supply Chain	\$ 163,223	0.30%
10	Norfolk Southern	\$ 145,622	0.27%
<b>Total</b>		<b>\$ 3,650,733</b>	<b>6.65%</b>
Total Revenue:		\$ 54,888,331	

Customer Name	FY '15 Stormwater Billed	Percent Total Stormwater Revenue
Regional Airport Authority	\$ 1,152,439	2.23%
United Parcel Service	\$ 611,250	1.19%
Jeff Co Board of Education	\$ 498,098	0.97%
Ford Motor Company	\$ 397,235	0.77%
KY State Fair Board	\$ 248,975	0.48%
Churchill Downs	\$ 226,679	0.44%
LIT Industrial Limited Partnership*	\$ 200,558	0.39%
U of L Belknap Campus	\$ 179,562	0.35%
Seaboard Syst RR-00822	\$ 168,402	0.33%
Lou/Jeff Cty Redev Auth	\$ 165,284	0.32%
<b>Total</b>	<b>\$ 3,848,482</b>	<b>7.46%</b>
Total FY '15 Stormwater Revenue:	\$ 51,567,000	

\* LIT Industrial Limited was formerly known as Trammell Crow Co.

\*\*Lubrizol Advanced Material was formerly known as Oxy Vinyls



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