

**City of Chicago  
Department of Water Management  
Water Fund**

**Comprehensive Annual Financial Report  
For the Years Ended December 31, 2017 and 2016**



**Rahm Emanuel, Mayor  
Carole Brown, Chief Financial Officer  
Erin Keane, City Comptroller  
Alfonzo Conner, Jr., Commissioner**

**Water Fund**  
An Enterprise Fund of  
The City of Chicago

**Comprehensive Annual Financial Report  
For the Years Ended December 31, 2017 and 2016**



**Prepared By:**  
**The Department of Water Management**  
**Bureau of Administrative Support**

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## **INTRODUCTORY SECTION**



**DEPARTMENT OF WATER MANAGEMENT  
CITY OF CHICAGO**

June 29, 2018

To the Honorable Mayor Rahm Emanuel,  
Members of the City Council and Citizens of the City of Chicago:

I am pleased to submit to you the Comprehensive Annual Financial Report (CAFR) for the City of Chicago Department of Water Management, Water Fund, for the year ended December 31, 2017. Responsibility for both the accuracy of the data and completeness and fairness of the presentation, including all disclosures, rests with management. The purpose of the CAFR is to provide complete and accurate information, which complies with the requirements of the Municipal Code of the City of Chicago.

The financial section includes management's discussion and analysis (MD & A). This letter of transmittal is designed to complement the MD & A and should be read in conjunction with it.

**REPORTING ENTITY**

The Department of Water has been accounted for as a separate enterprise fund of the City of Chicago (City) which operates and maintains the City's water system. Effective January 1, 2003, the Water Department merged with the Sewer Department to form the Department of Water Management. The water system treats and distributes water to the City's residential and commercial businesses, and suburban customers. The water system provides water intake, filtration and treatment. Water is then distributed through over 4,295 miles of mains which covers a service area of roughly 806 square miles and is inhabited by approximately 5.3 million people or 44% of the State of Illinois.

**ECONOMIC CONDITION AND OUTLOOK**

Department of Water Management's primary source of revenue is a water service charge which is set by City ordinance. The water service charge covers the costs of operations, maintenance and debt service.

As of January 1, 2017, the metered water rate is set at \$28.52 per 1,000 cubic feet or \$3.81 per 1,000 gallons. The metered rate is also applicable to the system's suburban customers. It is not expected that there will be a significant change in the population, either industrial or suburban that would lead to a significant change in revenues. Effective June 1, 2017 the rate was increased to \$29.04 per 1,000 cubic feet or \$3.88 per 1,000 gallons.

## **MAJOR INITIATIVE**

The Department of Water Management's, Water Division's Five-Year Capital Improvement Program (CIP) for the years 2018 – 2022 is forecasted to be approximately \$1.9 billion. The CIP addresses the renewal and replacement of the water system's infrastructure, and continues to focus on three major areas: purification plants, pumping stations and water distribution system.

The primary capital expenditures are for the annual water main replacement program. The department is planning to replace 90 miles in 2018 with proposed increases annually bringing the 5 year total to over 420 miles of water mains to be replaced during this period. The Meter Save Program will target installation of meters and automatic meter reading devices to non-metered customers on a volunteer basis. The department is planning to install 15,000 meters each year from 2018 to 2022.

The CIP includes work for the rehabilitation and upgrade of the two purification plants – the world's two largest purification facilities. The work will include replacement of the dehumidification equipment; full replacement of filter backwash controls; filter underdrain replacement; and roof replacement at the Sawyer Water Purification Plant. At the Jardine Water Purification Plant the medium voltage electrical switchgear will be upgraded; the upgrade of existing sediment pumping system; and the laboratory will be modernized.

The 5 year CIP also includes design and construction work on three of the departments' steam powered pumping station to convert them to electric power. During this period construction will be completed on one of these stations, and two will be in the design phase. Additionally, the 5 year CIP includes work for upgrades of pumps and motors at various existing electric powered stations.

The Department of Water Management may revise the list of specific improvements and revise cost allocations among improvements, as well as make substitutions to meet current needs and to provide for the most efficient operation of the water system. In all, the 5-year CIP Program is annually updated to ensure continued economic and reliable delivery of water to all customers.

## **PROPRIETARY OPERATIONS**

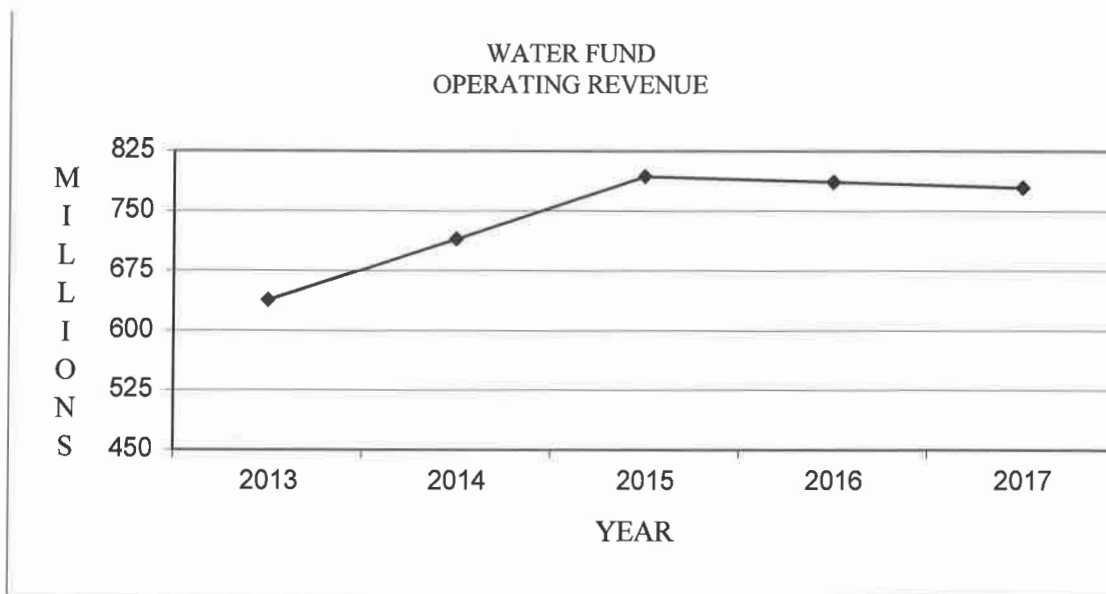
The Department of Water Management, Water Fund, is responsible for implementing and maintaining an internal control structure to ensure the integrity of the Water Fund's operations and to allow for the preparation of financial statements in conformity with accounting principles generally accepted in the United States of America. The internal control structure is designed to provide reasonable, rather than absolute assurance that the assets, resources and operations of the Department of Water Management, Water Fund, are handled in a manner that protects against waste, theft or neglect that may hinder or impair the financial operations of the Fund and are free from any material misstatements. This objective is being met by adequate supervision of employees, segregation of duties and multiple approval and budgetary controls over all expenditures.

The Water Fund's budget is developed and implemented along with the City's annual budget based upon an analysis of its historical operations and maintenance costs. The Commissioner of the Department of Water Management recommends the final proposed budget to the Budget Director. After approval by the Budget Director, the proposed budget is recommended to the Mayor for submission to the City Council for its approval following public hearings.

The budget process is designed to ensure that Department of Water Management, Water Fund, will have adequate funding to meet its operational objectives. The Department of Water Management, Water Fund, cannot by law, exceed the level of funding as established by the City Council-approved budget. The Budget Director uses an allotment system to manage each department's expenditures against its respective annual appropriation. The Budget Director, through the allotment system, has the authority to institute economic measures for Department of Water Management, Water Fund, to insure that its expenditures do not exceed its revenues collections. The Water Fund uses encumbrances to control expenditures by preventing appropriated dollars from being used for any purpose other than that which they have been legally appropriated.

### OPERATING REVENUES

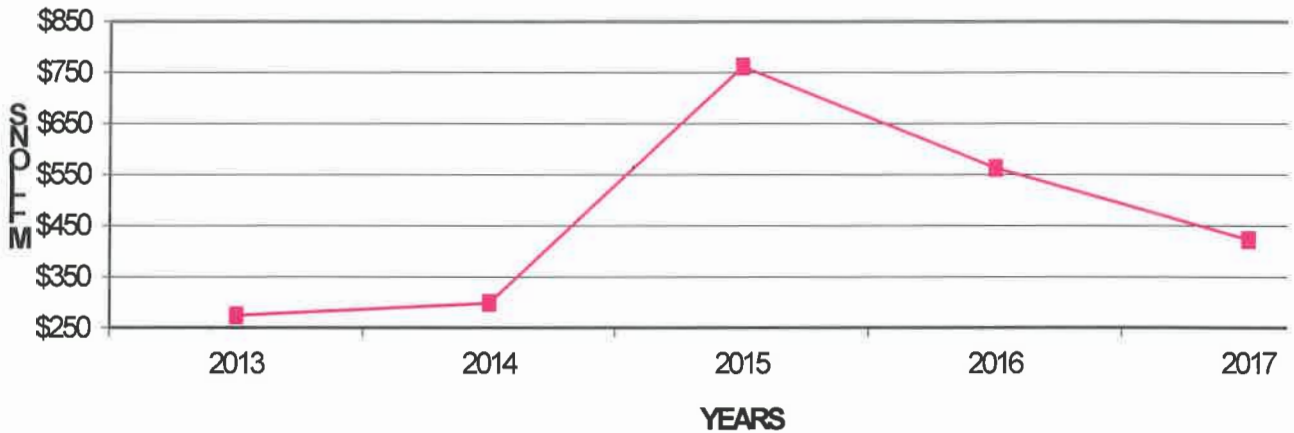
Gross operating revenue for 2017 reflect a decrease of 0.9% over 2016 due to a decrease in water fees resulting from conversion of non-metered account to metered, offset by an increase in penalties and other revenues related to water fees. Effective June 1, 2017 the water rate increase was 1.83%. There was no rate increase in 2016 thru May 31, 2017. For the years 2015, 2014 and 2013 the rate increases were 15% for each year. Below is a graph representing gross operating revenues for the years 2013 through 2017.



## OPERATING EXPENSES

Operating expenses for the year ended December 31, 2017 decreased by 25.0% compared to the year ended December 31, 2016. This decrease is primarily due to a decrease in pension expenses resulting from the change in the funding policy P.A 100-0023 for both municipal and laborers pension plans:

### WATER FUND OPERATING EXPENSES



## DEBT ADMINISTRATION

The Department of Water Management, Water Fund, issues bonds to finance its capital improvements program. The City has covenanted to establish, maintain and collect at all times the fees, charges and rates sufficient to produce net revenues available for bonds, as adjusted, at least equal the greater of (A) 120 percent of the aggregate current annual debt service on the senior lien revenue bonds, or (B) the sum of the aggregate current annual debt service on the senior lien revenue bonds plus 110 percent of the aggregate current annual second lien revenue bonds debt service, and that the City management maintain all covenant reserve account balances at specified amounts. The City conducts an annual review of the water service charge to ensure revenue is being generated to comply with the covenant. The ordinances authorizing the issuances of revenue bonds provide for the creation of separate accounts into which net revenues, as defined, or bond proceeds are to be credited, as appropriate. Any net revenues remaining after providing sufficient funds for all required deposits into bond accounts may be transferred to the Water Rate Stabilization Fund to be used for any lawful purpose of the Water Fund. The Department of Water Management, Water Fund, has provided certain annual financial information disclosure for its revenue bonds in the Statistical Section of this report.



## LONG TERM FINANCIAL PLANNING

The Department of Water Management, Water Fund's capital activities are funded through Water Fund revenue bonds and Water fund revenue. The Department of Water Management, Water Fund has realized savings through advance refunding as interest rates have changed.

## INDEPENDENT AUDIT

City ordinances require the Department of Water Management's, Water Fund, financial statements to be audited by independent certified accountants. The audit was conducted by Deloitte & Touche, LLP and a consortium of Chicago-based minority and women-owned certified public accounting firms. An unmodified audit opinion, rendered by Deloitte & Touche, LLP, is included in the financial section of this report.

## AWARD

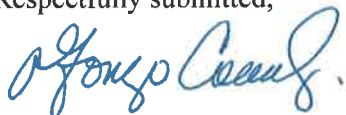
The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Water Fund, an Enterprise Fund of the City of Chicago, for its CAFR for the fiscal year ended December 31, 2016. This was the eighteenth year that the government unit has achieved this prestigious award, which is the highest form of recognition for excellence in state and local government financial reporting. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized CAFR. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. I believe that our current CAFR continues to meet the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

## ACKNOWLEDGMENTS

This report could not have been prepared without the dedication and effective assistance of the entire staff of Department of Water Management and Department of Finance. I wish to express my appreciation to them, and particularly those who contributed directly to the preparation of the report.

Respectfully submitted,



**ALFONZO CONNER, JR.**  
Commissioner



Government Finance Officers Association

Certificate of  
Achievement  
for Excellence  
in Financial  
Reporting

Presented to

**Water Fund, an Enterprise Fund  
of the City of Chicago, Illinois**

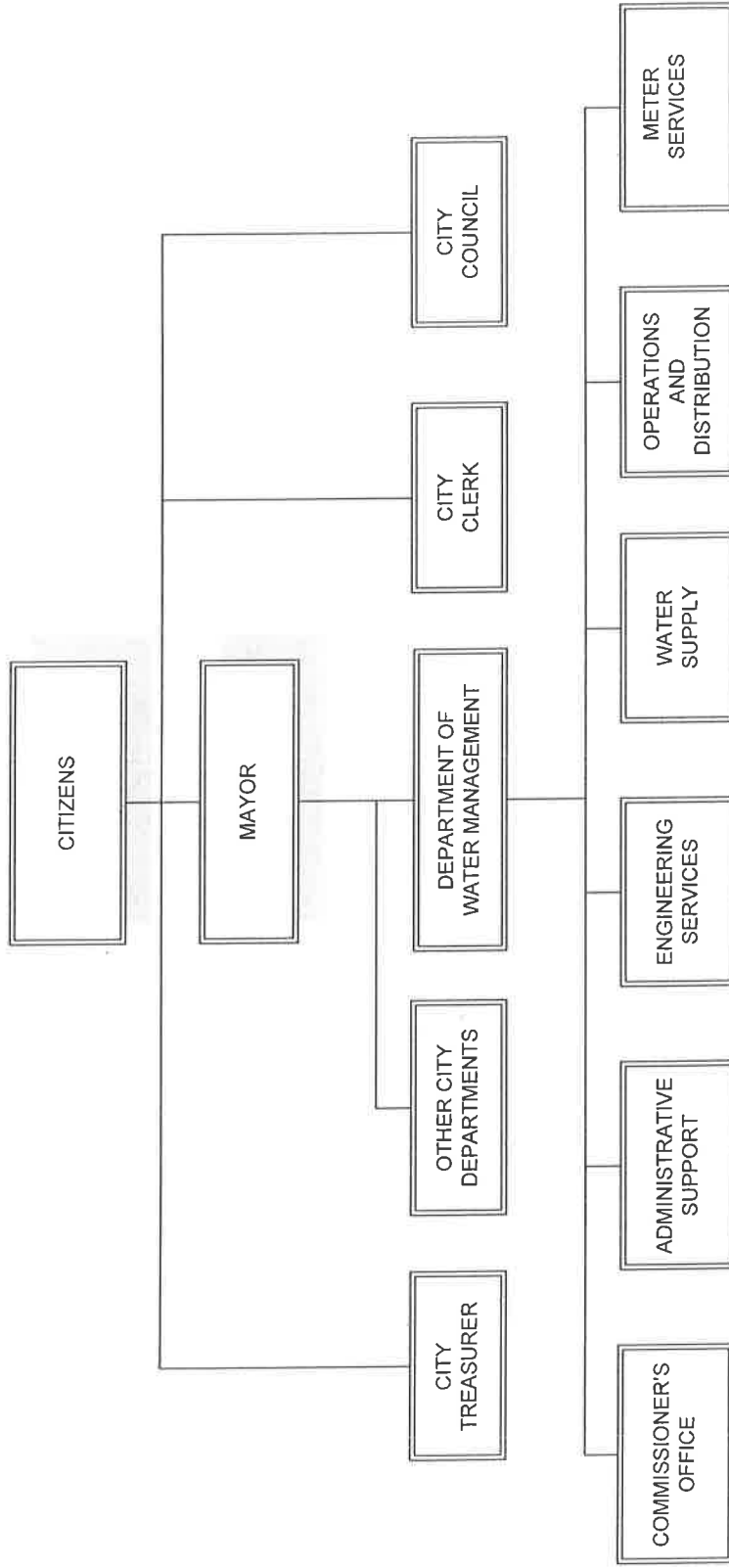
For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

**December 31, 2016**

*Christopher P. Morill*

Executive Director/CEO

CITY OF CHICAGO  
 DEPARTMENT OF WATER MANAGEMENT  
 As of 12/31/17



List of Principal Officials

Rahm Emanuel	Mayor
Alfonzo Conner, Jr.	Commissioner

## **FINANCIAL SECTION**

## **INDEPENDENT AUDITORS' REPORT**

To the Honorable Rahm Emanuel, Mayor  
And Members of the City Council  
City of Chicago, Illinois

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

We have audited the accompanying financial statements of the Water Fund ("Water Fund"), an enterprise fund of the City of Chicago, Illinois (the "City"), as of and for the years ended December 31, 2017 and 2016, and the related notes to the financial statements, which collectively comprise the Water Fund'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.

### **Auditors' 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. 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 Water Fund, as of December 31, 2017 and 2016, and the changes in its financial position, and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

## **Emphasis of Matter**

As discussed in Note 1 to the basic financial statements, the basic financial statements referred to above present only the Water Fund, an enterprise fund of the City, and do not purport to, and do not, present the financial position of the City as of December 31, 2017 and 2016, changes in its financial position, or, where applicable, its cash flows, thereof, in conformity with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

## **Other Matters**

### ***Required Supplementary Information***

Accounting principles generally accepted in the United States of America require that Management's Discussion and Analysis, the Schedule of Changes in the Net Pension Liability and Related Ratios, the Schedule of Contributions, and the Schedule of Other Postemployment Benefits Funding Progress, as listed in the table of contents, 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.

### ***Other Information***

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Water Fund's basic financial statements. The introductory section, additional supplementary information, and statistical section are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The additional supplementary information as listed in the table of contents is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America by us. In our opinion, the additional supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The introductory section and statistical section 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.

*Deloitte & Touche LLP*

June 29, 2018

# **CITY OF CHICAGO, ILLINOIS WATER FUND**

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

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The following discussion and analysis of the City of Chicago, Illinois (the "City"), Water Fund's ("Water Fund") financial performance provides an introduction and overview of the Water Fund's financial activities for the years ended December 31, 2017 and 2016. Please read this discussion in conjunction with the Water Fund's basic financial statements and the notes to basic financial statements following this section.

### **FINANCIAL HIGHLIGHTS**

#### **2017**

- Gross operating revenues for 2017 decreased by \$7.0 million compared to 2016 operating revenues. This decrease is primarily due to the decrease in water fees of \$10.8 million due to the continued conversion of non-metered accounts to metered accounts, offset by an increase in penalties and other revenues related to water fees of \$3.8 million.
- Operating expenses before depreciation and amortization for 2017 decreased by \$136.2 million compared to 2017 mainly due to decreases in pension expenses as a result of the changes under Public Act 100-0023 (P.A. 100-0023) which requires increased future contributions to the two single-employer defined benefit pension plans, the Municipal Employees' Annuity and Benefit Fund of Chicago (Municipal Employees'); and the Laborers' and Retirement Board Employees' Annuity and Benefit Fund of Chicago (Laborers') (collectively, the "Plans"). The increase in future required contributions increased the discount rate used to determine the total pension liability and decreased the current year pension expense.
- The Water Fund's net position at December 31, 2017, was \$1,084.5 million. This is an increase of \$188.8 million over net position at December 31, 2016.
- Utility plant additions in 2017 were \$425.8 million due to the continuing capital improvement program.

#### **2016**

- Gross operating revenues for 2016 decreased by \$6.8 million compared to 2015 operating revenues. This decrease is primarily due to the decrease in water fees of \$13.1 million due to the continued conversion of non-metered accounts to metered accounts, offset by an increase in penalties and other revenues related to water fees of \$6.3 million. There was no water rate increase in 2016.
- Operating expenses before depreciation and amortization for 2016 decreased by \$199.4 million compared to 2015 mainly due to decreases in pension expenses resulting from decreases in pension liabilities, for both Municipal Employees' and Laborers' calculated under the Governmental Accounting Standards Board ("GASB") Statement No. 68. *"Accounting and Financial Reporting for Pensions—an amendment of GASB Statement No. 27"* ("GASB 68") and decreases in workmen's compensation costs, offset by increases in salaries and indirect costs.



- The Water Fund's net position at December 31, 2016, was \$895.7 million. This is a decrease of \$55.8 million over net position at December 31, 2015.
- Utility plant additions in 2016 were \$395.3 million due to the continuing capital improvement program.

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

This discussion and analysis is intended to serve as an introduction to the Water Fund's basic financial statements. The Water Fund's basic financial statements comprise the financial statements and the notes to basic financial statements. In addition to the basic financial statements, this report also presents additional information after the notes to basic financial statements.

The statements of net position present all of the Water Fund's assets, deferred outflows, liabilities, and deferred inflows using the accrual basis of accounting. The difference between assets, deferred outflows, liabilities, and deferred inflows is reported as net position. The increase or decrease in net position may serve as an indicator, over time, as to whether the Water Fund's financial position is improving or deteriorating.

The statements of revenues, expenses, and changes in net position present all current-year revenues and expenses, regardless of when cash is received or paid, and the ensuing change in net position.

The statements of cash flows report how cash and cash equivalents are provided and used by the Water Fund's operating, capital financing, and investing activities. These statements present the cash received and disbursed, the net increase or decrease in cash and cash equivalents for the year, and the cash and cash equivalents balance at year-end.

The notes to basic financial statements are an integral part of the basic financial statements; accordingly, such disclosures are essential for a full understanding of the information provided in the basic financial statements.

In addition to the basic financial statements, this report includes statistical data. The statistical data section presents unaudited debt service coverage calculation and includes certain unaudited information related to the Water Fund's historical financial and nonfinancial operating results and capital activities.

## FINANCIAL ANALYSIS

At December 31, 2017, the Water Fund's financial position continued to be strong with total assets and deferred outflows of \$5,796.3 million, total liabilities and deferred inflows of \$4,711.8 million, and net position of \$1,084.5 million. A comparative condensed summary of the Water Fund's net position at December 31, 2017, 2016, and 2015, is as follows (in thousands):

	<b>Net Position</b>		
	<b>2017</b>	<b>2016</b>	<b>2015</b>
Current assets	\$ 960,727	\$ 907,109	\$ 806,467
Restricted and other assets—noncurrent	2,962	44,323	145,667
Utility plant—net	<u>4,467,289</u>	<u>4,131,632</u>	<u>3,822,825</u>
Total assets	5,430,978	5,083,064	4,774,959
Deferred outflows	<u>365,315</u>	<u>473,223</u>	<u>751,081</u>
Total assets and deferred outflows	<u>\$ 5,796,293</u>	<u>\$ 5,556,287</u>	<u>\$ 5,526,040</u>
Current liabilities	\$ 508,951	\$ 390,995	\$ 383,371
Long-term liabilities	<u>3,568,837</u>	<u>4,194,609</u>	<u>4,180,106</u>
Total liabilities	4,077,788	4,585,604	4,563,477
Deferred inflows	<u>634,009</u>	<u>74,957</u>	<u>11,050</u>
Total liabilities and deferred inflows	<u>\$ 4,711,797</u>	<u>\$ 4,660,561</u>	<u>\$ 4,574,527</u>
Net position:			
Net investment in capital assets	\$ 1,949,409	\$ 1,621,976	\$ 1,514,009
Restricted for capital projects	527	411	677
Unrestricted	<u>(865,440)</u>	<u>(726,661)</u>	<u>(563,173)</u>
Total net position	<u>\$ 1,084,496</u>	<u>\$ 895,726</u>	<u>\$ 951,513</u>

### 2017

Current assets of \$960.7 million at December 31, 2017, increased by \$53.6 million (5.9%) over 2016 as a result of increases in cash and cash equivalents of \$44.8 million and accounts receivable of \$20.6 million offset by a decrease in investments of \$12.7 million. Noncurrent restricted investments and other assets decreased by \$41.4 million (93.3%) due to the continuing improvements in the capital construction program, funded by the restricted investments. In addition, utility plant—net, increased by \$335.7 million (8.1%) due to increased project activities through the year ended December 31, 2017.

The increase in current liabilities of \$118.0 million (30.2%) during 2017 is directly related to the timing of payments of accounts payable and increases in accrued liabilities and in accounts payable paid by unrestricted asset. Noncurrent liabilities decreased by \$625.8 million (14.9%) resulting from decreases in pension liabilities as a result of the changes under P.A. 100-0023 which requires increased future contributions to the plans. The increase in future required contributions increased the discount rate used to determine the total pension liability and therefore decreased the pension liability.

Deferred outflows decreased by \$107.9 million (22.8%) and deferred inflows increased by \$559.1 million (745.8%) during 2017 due to the changes under P.A. 100-0023 as discussed above.

At December 31, 2017 net position was \$1,084.5 million an increase of \$188.8 million (21.1%) over 2016.

## **2016**

Current assets of \$907.1 million at December 31, 2016, increased by \$100.6 million (12.5%) over 2015 as a result of increases in investments of \$208.3 million offset by a decrease in cash and cash equivalents of \$106.4 million. Noncurrent restricted investments and other assets decreased by \$101.3 million (69.6%) due to the continuing improvements in the capital construction program. In addition, utility plant—net, increased by \$308.8 million (8.1%) due to increased project activities through the year ended December 31, 2016. Deferred outflows decreased by \$277.9 million (37.0%) during 2016 due to changes in actuarial assumptions related to pensions calculated under GASB 68.

The increase in current liabilities of \$7.6 million (2.0%) during 2016 is directly related to the timing of payments of accounts payable and increases in accrued liabilities and in current portion of long-term debt. Noncurrent liabilities increased by \$14.5 million (0.3%).

At December 31, 2016 net position was \$895.7 a decrease of \$55.8 (5.9%) over 2015.

The primary sources of the Water Fund's operating revenues are water usage fees. These revenues fund all Water Fund operating expenses, fund deposits, capital construction, and debt service requirements. A comparative condensed summary of the Water Fund's revenues, expenses, and changes in net position for the years ended December 31, 2017, 2016, and 2015, is as follows (in thousands):

	<b>Revenues, Expenses, and Changes in Net Position</b>		
	<b>2017</b>	<b>2016</b>	<b>2015</b>
Operating revenues:			
Water sales—net	\$ 729,644	\$ 735,881	\$ 750,163
Other operating revenues	<u>29,370</u>	<u>25,530</u>	<u>19,245</u>
Total operating revenues	<u>759,014</u>	<u>761,411</u>	<u>769,408</u>
Operating expenses	402,227	538,380	737,810
Depreciation and amortization	<u>71,088</u>	<u>67,984</u>	<u>56,444</u>
Total operating expenses	<u>473,315</u>	<u>606,364</u>	<u>794,254</u>
Net operating income (loss)	<u>285,699</u>	<u>155,047</u>	<u>(24,846)</u>
Nonoperating revenues	13,493	1,234	3,327
Nonoperating expenses	<u>(108,327)</u>	<u>(209,648)</u>	<u>(106,092)</u>
Net non operating income (loss)	<u>(94,834)</u>	<u>(208,414)</u>	<u>(102,765)</u>
Transfers out	<u>(2,095)</u>	<u>(2,420)</u>	<u>(625)</u>
Change in net position	188,770	(55,787)	(128,236)
Net position—beginning of year (as restated in 2015)	<u>895,726</u>	\$ 951,513	<u>1,079,749</u>
Net position—end of year	<u>\$ 1,084,496</u>	<u>\$ 895,726</u>	<u>\$ 951,513</u>

## 2017

Water sales and other operating revenues comprise the Water Fund's \$759.0 million operating revenues. The decrease in 2017 operating revenues of \$2.4 million (0.3%) from 2016 was primarily due to a decrease in net water fees of \$6.2 million resulting from the continued conversion from non-metered to metered accounts, offset by an increase in penalties and other revenues related to water fees of about \$3.8 million.

In 2017, net nonoperating revenue of \$13.5 million were composed of net interest income, internet convenient fees for water fees payments and net revenue that relates to constructions done by Department of Water Management for other City departments and private companies.

## 2016

Water sales and other operating revenues comprise the Water Fund's \$761.4 million operating revenues. The decrease in 2016 operating revenues of \$8.0 million (1.0%) from 2015 was primarily due to a decrease in net water fees of \$14.3 million due to the continued conversion from non-metered to metered accounts, offset by an increase in penalties and other revenues related to water fees of about \$6.3 million.

In 2016, net nonoperating revenue of \$1.2 million were composed of net interest income and net revenue that relates to constructions done by Department of Water Management for other City departments and private companies.

A comparative summary of the Water Fund's operating expenses, as classified in the basic financial statements, for the years ended December 31, 2017, 2016, and 2015, is as follows (in thousands):

	<b>Operating Expenses</b>		
	<b>2017</b>	<b>2016</b>	<b>2015</b>
Source of supply	\$ 130	\$ 107	\$ 198
Power and pumping	41,443	39,624	41,343
Purification	60,476	57,514	57,112
Transmission and distribution	39,610	39,155	37,266
Customer accounting and collection	18,167	15,318	14,734
Administrative and general	13,567	20,279	22,072
Central services and General Fund reimbursements	121,739	126,421	129,060
Pension expense	<u>107,095</u>	<u>239,962</u>	<u>436,025</u>
Operating expenses before depreciation and amortization	402,227	538,380	737,810
Depreciation and amortization	<u>71,088</u>	<u>67,984</u>	<u>56,444</u>
Total operating expenses	<u>\$473,315</u>	<u>\$606,364</u>	<u>\$794,254</u>

## 2017

Operating expenses before depreciation and amortization for the year ended 2017 decreased by \$136.2 million (25.3%) from the year ended 2016 primarily due to decreases in pension expenses of \$132.9 million.

Pension expense decreased by \$132.9 million (55.4%) from \$240 million in 2016 to \$107.1 million in 2017 as a result of the changes in P.A. 100-0023 which requires increased future contributions to the plans. The increase in future required contributions increased the discount rate used to determine the total pension liability and decreased the current year pension expense. During 2017, \$24.4 million of the \$107.1 million was paid under statutory requirements.

## 2016

Operating expenses before depreciation and amortization for the year ended 2016 decreased by \$199.4 million (27.0%) from the year ended 2015 primarily due to decreases in pension expenses of \$196.1 million and workmen's compensation of \$20.6 million offset by an increase in indirect costs of \$19.2 million.

Pension expense for 2016 was \$240.0 million as calculated under GASB 68, of which \$12.3 million was paid under statutory requirements.

A comparative summary of the Water Fund's cash flows for the years ended December 31, 2017, 2016, and 2015, is as follows (in thousands of dollars):

	<b>Cash Flows</b>		
	<b>2017</b>	<b>2016</b>	<b>2015</b>
Cash from activities:			
Operating	\$ 432,959	\$ 437,776	\$ 524,932
Capital and related financing	(452,135)	(440,790)	(465,219)
Investing	<u>64,011</u>	<u>(103,382)</u>	<u>226,625</u>
Net change in cash and cash equivalents	44,835	(106,396)	286,338
Cash and cash equivalents:			
Beginning of year	<u>216,089</u>	<u>322,485</u>	<u>36,147</u>
End of year	<u>\$ 260,924</u>	<u>\$ 216,089</u>	<u>\$ 322,485</u>

## 2017

As of December 31, 2017, the Water Fund's cash and cash equivalents of \$260.9 million increased from December 31, 2016 by \$44.8 million mainly due to the cash provided of \$433.0 million from operating activities, cash inflow of \$64.0 million offset by cash outflow of \$452.1 million mainly used in acquisition and construction of capital assets of \$393.3 million and refunding of bonds of \$501.2 million. Cash of \$655.5 million was provided by issuance of bonds and IEPA loans. Total cash and cash equivalents at December 31, 2017, are composed of unrestricted and restricted cash and cash equivalents of \$192.9 million and \$68.0 million, respectively.

## 2016

As of December 31, 2016, the Water Fund's cash and cash equivalents of \$216.1 million decreased from December 31, 2015 by \$106.4 million mainly due to the cash provided of \$437.8 million from operating activities, cash provided by issuance of bonds and IEPA loans of \$243.5 million offset by cash used in acquisition and construction of capital assets of \$384.8 million and net cash used in investing activities of \$103.4 million. Total cash and cash equivalents at December 31, 2016, are composed of unrestricted and restricted cash and cash equivalents of \$141.9 million and \$74.2 million, respectively.

## **UTILITY PLANT AND DEBT ADMINISTRATION**

### **2017**

At the end of 2017 and 2016, the Water Fund had \$4,467.3 million and \$4,131.6 million, respectively, invested in utility plant, net of accumulated depreciation. During 2017, the Water Fund expended \$425.8 million on capital activities. This included \$5.1 million for structures and improvements, \$124.1 million for distribution plant, \$11.4 million for equipment, and \$285.1 million for construction in progress.

During 2017, net completed projects totaling \$219.6 million were transferred from construction in progress to applicable capital accounts. The major completed projects were installation and replacements of water mains (\$124.5 million), meter save program (\$24.9 million) and conversion of the Springfield pumping station from steam to electric power (\$67.4 million).

### **2016**

At the end of 2016 and 2015, the Water Fund had \$4,131.6 million and \$3,822.8 million, respectively, invested in utility plant, net of accumulated depreciation. During 2016, the Water Fund expended \$395.3 million on capital activities. This included \$1.8 million for structures and improvements, \$209.5 million for distribution plant, \$3.5 million for equipment, and \$180.5 million for construction in progress.

During 2016, net completed projects totaling \$48.9 million were transferred from construction in progress to applicable capital accounts. The major completed projects were installation and replacements of water mains (\$20.5 million), and meter save program (\$25.1 million).

The Water Fund's utility plant at December 31, 2017, 2016, and 2015, is summarized as follows (in thousands):

	<b>Net Utility Plant at Year-End</b>		
	<b>2017</b>	<b>2016</b>	<b>2015</b>
Utility plant not depreciated:			
Land and land rights	\$ 6,858	\$ 6,858	\$ 6,858
Construction in progress	<u>421,867</u>	<u>366,506</u>	<u>242,155</u>
Total utility plant not depreciated	<u>428,725</u>	<u>373,364</u>	<u>249,013</u>
Utility plant being depreciated:			
Structures and improvements	593,732	588,740	586,046
Distribution plant	3,843,466	3,586,644	3,348,185
Equipment	<u>747,285</u>	<u>665,174</u>	<u>659,971</u>
Total utility plant being depreciated	<u>5,184,483</u>	<u>4,840,558</u>	<u>4,594,202</u>
Less accumulated depreciation:			
Structures and improvements	(229,847)	(221,605)	(213,318)
Distribution plant	(521,489)	(483,112)	(447,587)
Equipment	<u>(394,583)</u>	<u>(377,573)</u>	<u>(359,485)</u>
Total accumulated depreciation	<u>(1,145,919)</u>	<u>(1,082,290)</u>	<u>(1,020,390)</u>
Total utility plant being depreciated—net	<u>4,038,564</u>	<u>3,758,268</u>	<u>3,573,812</u>
Total utility plant—net	<u>\$ 4,467,289</u>	<u>\$ 4,131,632</u>	<u>\$ 3,822,825</u>

The Water Fund's capital activities are funded through Water Fund revenue bonds IEPA loans and Water Fund revenue. Additional information on the Water Fund's capital assets is presented in Note 5 of the notes to basic financial statements.



The Water Fund's long-term liabilities at December 31, 2017, 2016, and 2015, are summarized as follows (in thousands):

	<b>Long-Term Liabilities at Year-End</b>		
	<b>2017</b>	<b>2016</b>	<b>2015</b>
Revenue bonds and notes payable	\$ 2,401,005	\$ 2,468,397	\$ 2,391,395
Add:			
Accretion of capital appreciation bonds	18,404	26,345	33,254
Bond discount/premium	<u>205,572</u>	<u>161,189</u>	<u>91,344</u>
Total revenue bonds/notes payable—net	2,624,981	2,655,931	2,515,993
Less current portion of accretion	(10,584)	(10,252)	(9,953)
Less current bonds/notes payable	<u>(88,916)</u>	<u>(79,305)</u>	<u>(65,758)</u>
Total long-term revenue bonds/notes payable—net	2,525,481	2,566,374	2,440,282
Derivative instrument liability	-	-	91,806
Long-term purchase obligations	-	-	-
Water pipe extension certificates	<u>1,577</u>	<u>1,577</u>	<u>1,577</u>
Total long-term liabilities	<u>\$ 2,527,058</u>	<u>\$ 2,567,951</u>	<u>\$ 2,533,665</u>

Additional information on the Water Fund's long-term debt is presented in Note 4 of the notes to basic financial statements.

The Water Fund's revenue bonds at December 31, 2017, have underlying credit ratings with each of the three major rating agencies as follows:

	<b>Moody's</b>	<b>Standard &amp; Poor's</b>	<b>Fitch Ratings</b>	<b>Kroll</b>
Senior Lien Water Revenue Bonds	Baa1	A+	AA	NR
Second Lien Water Revenue Bonds	Baa2	A	AA-	AA

In May 2017, Fitch downgraded the ratings of the Water Fund senior lien revenue bonds from AA+ to AA, and the Water Fund second lien revenue bonds from AA to AA-, each with a negative outlook.

At December 31, 2017, the Water Fund was in compliance with the debt covenants as stated within the bond ordinances. Additional information on certain of the Water Fund's debt covenants is presented in Note 4 of the notes to the basic financial statements.

### **Requests for Information**

This financial report is designed to provide the reader with a general overview of the Water Fund's finances. Questions concerning any of the information provided in this report, or requests for additional financial information, should be addressed to the City of Chicago Department of Finance.

## **BASIC FINANCIAL STATEMENTS**

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**STATEMENTS OF NET POSITION  
AS OF DECEMBER 31, 2017 AND 2016  
(In thousands)**

	2017	2016		2017	2016
<b>ASSETS</b>			<b>LIABILITIES</b>		
CURRENT ASSETS:			CURRENT LIABILITIES:		
Cash and cash equivalents (Note 2)	\$ 192,899	\$ 141,931	Accounts payable	\$ 29,219	\$ 20,637
Investments (Note 2)	330,238	361,553	Due to other City funds	12,482	9,106
Accounts receivable—net of allowance for doubtful accounts of approximately \$158,888 in 2017 and \$141,775 in 2016	189,169	168,527	Accrued liabilities	260,725	166,682
Interest receivable	285	133	Unearned revenue	17,128	18,158
Due from other City funds	36,670	35,906	Liabilities payable from restricted assets:		
Inventories	22,068	22,236	Accounts payable	66,176	66,675
Cash and cash equivalents—restricted	68,025	74,158	Interest payable	23,721	20,180
Investments—restricted	120,846	102,254	Current portion of long-term debt (Note 4)	<u>99,500</u>	<u>89,557</u>
Interest receivable—restricted	<u>527</u>	<u>411</u>			
			Total current liabilities	<u>508,951</u>	<u>390,995</u>
Total current assets	<u>960,727</u>	<u>907,109</u>			
NONCURRENT ASSETS:			NONCURRENT LIABILITIES:		
Investments—restricted assets	<u>-</u>	<u>39,898</u>	Long-term debt—net of current maturities (Note 4)	2,525,481	2,566,374
Other assets	<u>2,962</u>	<u>4,425</u>	Net pension liability (Note 6)	1,041,779	1,626,658
			Water pipe extension certificates	<u>1,577</u>	<u>1,577</u>
Utility plant (Note 5):			Total noncurrent liabilities	<u>3,568,837</u>	<u>4,194,609</u>
Land and land rights	6,858	6,858			
Structures and improvements	593,732	588,740	Total liabilities	<u>4,077,788</u>	<u>4,585,604</u>
Distribution plant	3,843,466	3,586,644	DEFERRED INFLOWS (Note 10)	<u>634,009</u>	<u>74,957</u>
Equipment	747,285	665,174			
Construction in progress	<u>421,867</u>	<u>366,506</u>	NET POSITION (Note 1):		
Total utility plant	5,613,208	5,213,922	Net investment in capital assets	1,949,409	1,621,976
Less accumulated depreciation	<u>(1,145,919)</u>	<u>(1,082,290)</u>	Restricted for capital projects	527	411
			Unrestricted	<u>(865,440)</u>	<u>(726,661)</u>
Utility plant—net	<u>4,467,289</u>	<u>4,131,632</u>	Total net position	1,084,496	895,726
Total noncurrent assets	4,470,251	4,175,955			
DEFERRED OUTFLOWS (Note 10)	<u>365,315</u>	<u>473,223</u>			
TOTAL ASSETS AND DEFERRED OUTFLOWS	<u>\$ 5,796,293</u>	<u>\$ 5,556,287</u>	TOTAL	<u>\$ 5,796,293</u>	<u>\$ 5,556,287</u>

See notes to basic financial statements.

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION  
FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016  
(In thousands)**

	<b>2017</b>	<b>2016</b>
OPERATING REVENUES:		
Water sales:		
Water sales	\$ 749,847	\$ 760,638
Less: provision for doubtful accounts	<u>(20,203)</u>	<u>(24,757)</u>
Water sales—net	729,644	735,881
Other operating revenues	<u>29,370</u>	<u>25,530</u>
Total operating revenues	<u>759,014</u>	<u>761,411</u>
OPERATING EXPENSES:		
Source of supply	130	107
Power and pumping	41,443	39,624
Purification	60,476	57,514
Transmission and distribution	39,610	39,155
Customer accounting and collection	18,167	15,318
Administrative and general	13,567	20,279
Central services and General Fund reimbursements	121,739	126,421
Pension expense (Note 6)	<u>107,095</u>	<u>239,962</u>
Total operating expenses before depreciation and amortization	<u>402,227</u>	<u>538,380</u>
OPERATING INCOME BEFORE DEPRECIATION AND AMORTIZATION	356,787	223,031
DEPRECIATION AND AMORTIZATION	<u>71,088</u>	<u>67,984</u>
OPERATING INCOME	<u>285,699</u>	<u>155,047</u>
NONOPERATING REVENUES (EXPENSES):		
Interest income	10,248	629
Interest expense	(108,327)	(107,897)
Swap termination fee	-	(101,751)
Other	<u>3,245</u>	<u>605</u>
Total nonoperating expenses—net	<u>(94,834)</u>	<u>(208,414)</u>
TRANSFERS OUT	<u>(2,095)</u>	<u>(2,420)</u>
CHANGE IN NET POSITION	188,770	(55,787)
TOTAL NET POSITION—Beginning of year	<u>895,726</u>	<u>951,513</u>
TOTAL NET POSITION—End of year	<u>\$1,084,496</u>	<u>\$ 895,726</u>

See notes to basic financial statements.

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**STATEMENTS OF CASH FLOWS  
FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016  
(In thousands)**

	<b>2017</b>	<b>2016</b>
CASH FLOWS FROM OPERATING ACTIVITIES:		
Received from customers	\$737,146	\$764,497
Transactions with other City funds	(106,537)	(115,919)
Payments to vendors	(74,661)	(84,493)
Payments to employees	<u>(122,989)</u>	<u>(126,309)</u>
Net cash provided by operating activities	<u>432,959</u>	<u>437,776</u>
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES:		
Acquisition and construction of capital assets	(393,301)	(384,783)
Interest paid	(132,476)	(100,722)
Proceeds from issuance of bonds and IEPA loans	655,495	219,254
Principal paid on bonds	(578,857)	(70,281)
Payments of bonds issuance costs	(4,146)	(3,112)
Swap termination fee	-	(101,751)
Construction reimbursements	<u>1,150</u>	<u>605</u>
Net cash used in capital and related financing activities	<u>(452,135)</u>	<u>(440,790)</u>
CASH FLOWS FROM INVESTING ACTIVITIES:		
Sales and purchases of investments—net	52,621	(107,225)
Investment interest	<u>11,390</u>	<u>3,843</u>
Net cash (used in) provided by investing activities	<u>64,011</u>	<u>(103,382)</u>
NET CHANGE IN CASH AND CASH EQUIVALENTS	44,835	(106,396)
CASH AND CASH EQUIVALENTS—Beginning of year	<u>216,089</u>	<u>322,485</u>
CASH AND CASH EQUIVALENTS—End of year	<u>\$260,924</u>	<u>\$216,089</u>
RECONCILIATION OF CASH AND CASH EQUIVALENTS REPORTED IN THE STATEMENTS OF NET POSITION:		
Unrestricted	\$192,899	\$141,931
Restricted	<u>68,025</u>	<u>74,158</u>
TOTAL	<u>\$260,924</u>	<u>\$216,089</u>

(Continued)

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**STATEMENTS OF CASH FLOWS  
FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016  
(In thousands)**

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	<b>2017</b>	<b>2016</b>
RECONCILIATION OF OPERATING INCOME TO NET CASH PROVIDED BY OPERATING ACTIVITIES:		
Operating income (loss)	\$ 285,699	\$ 155,047
Adjustments to reconcile:		
Depreciation and amortization	71,088	67,984
Pension expense other than contribution	82,683	227,639
Provision for doubtful accounts	20,203	24,757
Changes in assets and liabilities:		
(Increase) decrease in accounts receivable	(41,041)	(19,973)
(Increase) decrease in inventories	168	(1,545)
(Increase) decrease in due from other City funds	(764)	(2,234)
Increase (decrease) in unrestricted accounts payable	8,582	(3,023)
Increase (decrease) in due to other City funds	3,376	(12,955)
Increase (decrease) in accrued liabilities	3,995	3,777
Increase (decrease) in unearned revenue	<u>(1,030)</u>	<u>(1,698)</u>
 NET CASH PROVIDED BY OPERATING ACTIVITIES	 <u>\$ 432,959</u>	 <u>\$ 437,776</u>

SUPPLEMENTAL DISCLOSURE OF NONCASH ITEMS—  
Property additions in 2017 and 2016 of \$66,176 and \$69,532, respectively, have outstanding accounts payable.

The accretion adjustments of Series 1997 and Series 2000 capital appreciation bonds for the year ended December 31, 2017 was \$2,310.

See notes to basic financial statements.

(Concluded)

# CITY OF CHICAGO, ILLINOIS

## WATER FUND

### NOTES TO BASIC FINANCIAL STATEMENTS AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016

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#### 1. ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

**Organization**—The Water Fund (“Water Fund”) purifies and provides Lake Michigan water for the City of Chicago, Illinois (the “City”) and approximately 125 suburbs. The Water Fund is included in the City’s reporting entity as an enterprise fund.

The accompanying basic financial statements present only the Water Fund and are not intended to present the financial position of the City, and the results of its operations and the cash flows of its proprietary-fund types.

**Basis of Accounting**—The accounting policies of the Water Fund are based upon accounting principles generally accepted in the United States of America as prescribed by the Governmental Accounting Standards Board (GASB). The accounting and financial reporting treatment applied to a fund is determined by its measurement focus. The accounts of the Water Fund are reported using the flow of economic resources measurement focus.

The Water Fund uses the accrual basis of accounting under which revenues are recognized when earned and expenses are recognized when the liability is incurred.

When both restricted and unrestricted resources are available for use, it is the City’s policy to use restricted resources first, then unrestricted resources, as they are needed.

**Annual Appropriated Budget**—The Water Fund has a legally adopted annual budget, which is not required to be reported.

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

**Cash, Cash Equivalents, and Investments**—Cash, cash equivalents, and investments generally are held with the City Treasurer as required by the Municipal Code of Chicago (the “Code”). Interest earned on pooled investments is allocated to participating funds based upon their average combined cash and investment balances. Due to contractual agreements or legal restrictions, the cash and investments of certain funds are segregated and earn and receive interest directly.

The Code permits deposits only to City Council-approved depositories, which must be organized state or national banks and federal and state savings and loan associations, located within the City, whose deposits are federally insured.

Investments authorized by the Code include interest-bearing general obligations of the City, State of Illinois (the "State"), and the U.S. government; U.S. Treasury bills and other non-interest-bearing general obligations of the U.S. government purchased in the open market below face value; domestic money market funds regulated by and in good standing with the Securities and Exchange Commission; and tax anticipation warrants issued by the City. The City is prohibited by ordinance from investing in derivatives, as defined, without City Council approval.

The Water Fund values its investments at fair value or amortized cost as applicable. U.S. government securities purchased at a price other than par with a maturity of less than one year are reported at amortized cost. The fair value of U.S. agency securities, corporate bonds, and municipal bonds are estimated using recently executed transactions, market price quotations (where observable), or bond spreads.

Repurchase agreements can be purchased only from banks and certain other institutions authorized to do business in the State. The City Treasurer requires that securities pledged to secure these agreements have a fair value equal to the cost of the repurchase agreements, plus accrued interest.

Investments generally may not have a maturity in excess of 30 years from the date of purchase. Certain other investment balances are held in accordance with the specific provisions of applicable bond ordinances.

Cash equivalents include certificates of deposit and other investments with maturities of three months or less when purchased.

**Accounts Receivable**—The Water Fund's accounts receivable is comprised of billings and collections for water services processed by the Department of Water Management. Management has provided an allowance for amounts recorded at year-end that may be uncollectible.

**Transactions with the City**—The City's General Fund provides services to all other funds. The amounts allocated to other funds for these services are treated as operating expenses by the Water Fund and consist mainly of employee benefits, self-insured risks, and administrative expenses.

**Inventories**—Inventories, composed mainly of materials and supplies, are stated at cost, determined principally on the average cost method.

**Utility Plant**—Utility plant is recorded at cost or, for donated assets at acquisition value. Utility plant is defined by the Water Fund as assets with an initial cost of more than \$5,000 and an estimated useful life in excess of two years. Such assets are recorded at historical cost. Depreciation is provided using the straight-line method and begins in the year following the year of acquisition or completion. Estimated useful lives are as follows:

Structures and improvements	50–100 years
Distribution plant	25–100 years
Equipment	6–33 years

Costs of repairs and maintenance that do not significantly extend the useful life of assets are charged to operations.



**Deferred Outflows**—Deferred outflows represent unamortized loss on bond refundings, the differences between estimated and actual investment earnings related to pensions, and changes in actuarial assumptions related to pensions.

**Deferred Inflows**—Deferred inflows represent the differences between projected and actual actuarial experience related to pensions.

**Net Position**—Net position is composed of net earnings from operating and nonoperating revenues, expenses, and capital grants. Net position is displayed in three components—net investment in capital assets, restricted for capital projects, and unrestricted. Net investment in capital assets consists of all capital assets, net of accumulated depreciation and reduced by outstanding debt, net of debt service reserve, and unspent bond proceeds. Restricted for capital projects consist of assets for which constraints are placed thereon by external parties (such as lenders and grantors) and laws, regulations, and enabling legislation reduced by liabilities and deferred inflows of resources related to those assets. Unrestricted consists of the net amount of all other assets, deferred outflows, liabilities, and deferred inflows not categorized as either of the above.

**Employee Benefits**—Employee benefits are granted for vacation and sick leave, workers' compensation, and health care. Unused vacation leave is accrued and may be carried over for one year. Sick leave is accumulated at the rate of one day for each month worked, up to a maximum of 200 days. Severance of employment terminates all rights to receive compensation for any unused sick leave. Sick leave pay is not accrued. Employee benefit claims outstanding, including claims incurred but not reported, are estimated and recorded as liabilities.

Employees are eligible to defer a portion of their salaries until future years under the City's deferred compensation plan created in accordance with Internal Revenue Code Section 457. The deferred compensation is not available to employees until termination, retirement, death, or unforeseeable emergency. The plan is administered by third-party administrators, who maintain the investment portfolio. The plan's assets have been placed in trust accounts with the plan administrators for the exclusive benefit of participants and their beneficiaries, and are not considered assets of the City.

The City is subject to the State Unemployment Compensation Act and has elected the reimbursing employer option for providing unemployment insurance benefits for eligible former employees. Under this option, the City reimburses the State for claims paid by the State.

**Bond Insurance Costs, Bond Premiums, Discounts, and Refunding Transactions**—Bond insurance, bond premiums, and bond discounts are deferred and amortized over the term of the related debt, except in the case of refunding debt transactions where the amortization period is over the term of the refunding or refunded debt, whichever is shorter.

**Capitalized Interest**—Interest expense, on construction bond proceeds, are capitalized during construction of those capital projects paid for from the bond proceeds and are being amortized over the depreciable life of the related assets on a straight-line basis. Interest capitalized in 2017 and 2016 totaled \$3.0 million and \$6.9 million, respectively.

**Revenue Recognition**—Revenue from water sales is recognized when the water is consumed by customers. Of the accounts receivable balances, \$77.2 million and \$78.3 million represent revenue recognized on water sales, which had not yet been billed

to customers at December 31, 2017 and 2016, respectively. Unearned revenue represents amounts billed to non-metered customers prior to usage.

**Revenues and Expenses**—The Water Fund distinguishes operating revenues and expenses from nonoperating items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with the Water Fund's principal ongoing operations. The principal operating revenues of the Water Fund are charges to customers for sales and services. Operating expenses include the cost of sales and services, pension expense, administrative expenses, and depreciation and amortization on capital assets. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses.

**Adopted Accounting Standards**—GASB Statement No. 80, *Blending Requirements for Certain Component Units, an amendment of GASB Statement No. 14* ("GASB 80"), amends the blending requirements for the financial statement presentation of component units of all state and local governments. GASB 80 was effective for the Water Fund for the year ended December 31, 2017. The adoption of this Statement had no impact on the Water Fund's financial statements.

GASB Statement No. 82, *Pension Issues—An Amendment of GASB Statements No. 67, No. 68 and No. 73* ("GASB 82"), addresses issues regarding (1) the presentation of payroll-related measures in required supplementary information, (2) the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes, and (3) the classification of payments made by employers to satisfy employee (Plan member) contribution requirements. GASB 82 was effective for the Water Fund for the year ended December 31, 2017. The adoption of this Statement adjusted the presentation of payroll-related measures in the required supplementary information, but did not have an impact on the Water Fund's financial statements.

**Upcoming Accounting Standards**—Other accounting standards that the Water Fund is currently reviewing for applicability and potential impact on the financial statements include:

GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* ("GASB 75"), replaces the requirements of Statements No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, as amended, and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*, for OPEB. GASB 75 will be effective for the Water Fund beginning with its year ending December 31, 2018. This Statement establishes standards for recognizing and measuring liabilities, deferred outflows of resources, deferred inflows of resources, and expense/expenditures. In addition, this Statement details the recognition and disclosure requirements for employers with payables to defined benefit OPEB plans that are administered through trusts that meet the specified criteria and for employers whose employees are provided with defined contribution OPEB.

GASB Statement No. 83, *Certain Asset Retirement Obligations*—"GASB 83", addresses accounting and financial reporting for certain asset retirement obligations (AROs). A government that has legal obligations to perform future asset retirement activities related to its tangible capital assets will have to recognize a liability based on the guidance in this statement. This Statement also requires disclosure of information about the nature of a government's AROs, the methods and assumptions used for the estimates of the liabilities,

and the estimated remaining useful life of the associated tangible capital assets. GASB 83 will be effective for the Water Fund beginning with its year ending December 31, 2019.

GASB Statement No. 84, *Fiduciary Activities*—("GASB 84") will improve the guidance regarding the identification of fiduciary activities for accounting and financial reporting purposes and how those activities should be reported. GASB 84 will be effective for the Water Fund beginning with its year ending December 31, 2019.

GASB Statement No. 85, *Omnibus*—("GASB 85") the objective of this Statement is to address practice issues that have been identified during implementation and application of certain GASB Statements. The statement addresses various miscellaneous issues related to blending component units, goodwill, fair value measurement and application, and postemployment benefits (OPEB). GASB 85 will be effective for the Water Fund beginning with its year ending December 31, 2018.

GASB Statement No. 86, *Certain Debt Extinguishment Issues*—("GASB 86") establishes accounting and financial reporting for in-substance defeasance of debt by providing guidance for transactions in which cash and other monetary assets acquired with only existing resources (resources other than the proceeds of refunding debt) are placed in an irrevocable trust for the sole purpose of extinguishing debt. GASB 86 will be effective for the Water Fund beginning with its year ending December 31, 2018.

GASB Statement No. 87, *Leases*—("GASB 87") will improve accounting and financial reporting for leases by governments by requiring recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. The Statement will establish a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this Statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources. This Statement will increase the usefulness of governments' financial statements by requiring reporting of certain lease liabilities that are currently not reported. GASB 87 will be effective for the Water Fund beginning with its year ending December 31, 2020.

GASB Statement No. 88, *Certain Disclosures Related to Debt, Including Direct Borrowings and Direct Placements*—("GASB 88") will improve the information that is disclosed in notes to government financial statements related to debt, including direct borrowings and direct placements. It also clarifies which liabilities governments should include when disclosing information related to debt. GASB 88 will be effective for the Water Fund beginning with its year ending December 31, 2019.

## 2. RESTRICTED AND UNRESTRICTED CASH, CASH EQUIVALENTS, AND INVESTMENTS

**Cash Equivalents and Investments**—The Water Fund’s cash equivalents and investments as of December 31, 2017, are as follows (in thousands):

	<b>Maturities (in Years)</b>				<b>Fair Value</b>
	<b>Less than 1</b>	<b>1–5</b>	<b>6–10</b>	<b>More than 10</b>	
U.S. agencies	\$ 7,978	\$ 2,962	\$ -	\$ -	\$ 10,940
Commercial paper	-	-	-	-	-
Certificates of deposit and other short-term	48,151	-	-	-	48,151
Corporate bonds	-	39,412	1,021	-	40,433
Municipal bonds	<u>29,650</u>	<u>39,823</u>	<u>-</u>	<u>-</u>	<u>69,473</u>
Subtotal	<u>\$85,779</u>	<u>\$82,197</u>	<u>\$1,021</u>	<u>\$ -</u>	168,997
Share in City’s pooled funds					<u>370,902</u>
Total					<u>\$539,899</u>

**Cash Equivalents and Investments**—The Water Fund’s cash equivalents and investments as of December 31, 2016, are as follows (in thousands):

	<b>Maturities (in Years)</b>				<b>Fair Value</b>
	<b>Less than 1</b>	<b>1–5</b>	<b>6–10</b>	<b>More than 10</b>	
U.S. agencies	\$ 17,605	\$10,938	\$ -	\$-	\$ 28,543
Commercial paper	17,971	-	-	-	17,971
Certificates of deposit and other short-term	60,502	-	-	-	60,502
Corporate bonds	3,811	22,450	20,886	-	47,147
Municipal bonds	<u>4,757</u>	<u>58,721</u>	<u>-</u>	<u>-</u>	<u>63,478</u>
Subtotal	<u>\$104,646</u>	<u>\$92,109</u>	<u>\$20,886</u>	<u>\$-</u>	217,641
Share in City’s pooled funds					<u>368,262</u>
Total					<u>\$585,903</u>

**Investment Fair Value Measurements**—The City categorizes the fair value measurements of its investments based the hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation techniques used to measure fair value.

**Level 1**—Inputs are unadjusted quoted prices in active markets for identical assets

**Level 2**—Observable inputs other than quoted market prices, and

**Level 3**—Unobservable Inputs

The investments measured at fair value as of December 31, 2017 and 2016 were (in thousands):

	2017			2016		
	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
U.S. agencies	\$ -	\$ 10,940	\$ -	\$ -	\$ 28,543	\$ -
Corporate bonds	-	40,433	-	-	47,147	-
Municipal bonds	-	62,807	-	-	60,694	-
	<u>\$ -</u>	<u>\$ 114,180</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 136,384</u>	<u>\$ -</u>

U.S. agencies include investments in government-sponsored enterprises, such as Federal National Mortgage Association, Federal Home Loan Banks, and Federal Home Loan Mortgage Corp.

Money market investments and participating interest-earning investment contracts that have a remaining maturity at the time of purchase of one year or less and are held by governments other than the external investment pools are measured at amortized cost and are not reflected in the table above. The total of these investments at amortized cost for the Water Fund are \$54.8 million and \$81.3 million as of December 31, 2017 and 2016, respectively.

The Water Fund's share in the City's pooled fund of \$370.9 million and \$368.2 million as of December 31, 2017 and 2016, respectively, is categorized as Level 2 in the fair value hierarchy; however, pooled funds are not reflected in the table above.

**Interest Rate Risk**—As a means of limiting its exposure to fair value losses arising from rising interest rates, the City's investment policy requires that investments generally may not have a maturity date in excess of 30 years from the date of purchase. Certain other investments are held in accordance with the specific provisions of applicable ordinances.

**Credit Risk**—With regard to credit risk, the Code limits the investments in securities to:

- 1) Interest-bearing general obligations of the United States and the State of Illinois;
- 2) United States treasury bills and other non-interest bearing general obligations of the United States or United States government agencies when offered for sale at a price below the face value of same, so as to afford the city a return on such investment in lieu of interest;
- 3) Tax anticipation warrants, municipal bonds, notes, commercial paper or other instruments representing a debt obligation issued by the City of Chicago;
- 4) Commercial paper which: (1) at the time of purchase, is rated in the two highest classifications by at least two accredited ratings agencies; and (2) matures not more than 270 days after the date of purchase;
- 5) Reverse repurchase agreement if: (1) the term does not exceed 90 days; and (2) the maturity of the investment acquired with the proceeds of the reverse repurchase agreement does not exceed the expiration date of the reverse repurchase agreement; Reverse repurchase agreements may be transacted with primary dealers and financial institutions, provided that the City has on file a master repurchase agreement;

- 6) Certificates of deposit of banks or savings and loan associations designated as municipal depositories which are insured by federal deposit insurance; provided that any amount of the deposit in excess of the federal deposit insurance shall be collateralized as noted in Custodial Credit Risk—Cash and Certificates of Deposit below;
- 7) Bankers acceptance of banks whose senior obligations, at the time of purchase, are rated in either the AAA or AA rating categories by at least two accredited ratings agencies;
- 8) Tax-exempt securities exempt from federal arbitrage provisions applicable to investments of proceeds of the City's tax-exempt debt obligations;
- 9) Domestic money market mutual funds regulated by and in good standing with the Securities and Exchange Commission; provided that such money market mutual funds' portfolios are limited to investments authorized by this section;
- 10) Any other suitable investment instrument permitted by state laws governing municipal investments generally, subject to the reasonable exercise of prudence in making investments of public funds;
- 11) Except where otherwise restricted or prohibited, a non-interest-bearing savings account, non-interest-bearing checking account or other non-interest bearing demand account established in a national or state bank, or a federal or state savings and loan association, when, in the determination of the treasurer, the placement of such funds in the non-interest bearing account is used as compensating balances to offset fees associated with that account that will result in cost savings to the City;
- 12) Bonds of companies organized in the United States with assets exceeding \$500.0 million that, at the time of purchase, are rated not less than A-, or equivalent rating, by at least two accredited ratings agencies;
- 13) Debt instruments of international financial institutions, including but not limited to the World Bank and the International Monetary Fund, that, at the time of purchase, are rated within 4 intermediate credit ratings of the United States sovereign credit rating by at least two accredited ratings agencies, but not less than an A-rating, or equivalent rating. The maturity of investments authorized in this subsection shall not exceed 10 years. For purposes of this subsection, an "international financial institution" means a financial institution that has been established or chartered by more than one country and the owners or shareholders are generally national governments or other international institutions such as the United Nations;
- 14) United States dollar denominated debt instruments of foreign sovereignties that, at the time of purchase, are rated within 4 intermediate credit ratings of the United States sovereign credit rating by at least two accredited ratings agencies, but not less than an A-rating or equivalent rating;
- 15) Interest-bearing bonds of any county, township, city, village, incorporated town, municipal corporation, or school district, of the State of Illinois, of any other state, or of any political subdivision or agency of the State of Illinois or of any other state, whether the interest earned thereon is taxable or tax-exempt under federal law. The bonds shall be registered in the name of the city or held under a custodial agreement at a bank. The bonds shall be rated, at the time of purchase, not less than A-, or

equivalent rating, by at least two accredited rating agencies with nationally recognized expertise in rating bonds of states and their political subdivisions;

- 16) Bonds registered and regulated by the Securities and Exchange Commission and for which the full faith and credit of the State of Israel is pledged for payment; provided that the bonds have an A-rating or above or equivalent rating by at least two accredited ratings agencies;
- 17) Bonds, notes, debentures, or other similar obligations of agencies of the United States rated, at the time of purchase, no less than AAA by at least two accredited rating agencies.

Total holdings across all funds held by the Treasurer shall have no less than an overall average rating of Aa1 on a quarterly basis, as rated by two accredited rating agencies. A schedule summarizing the Water Fund's exposure to credit risk as of December 31, 2017 and 2016, is as follows (in thousands):

<b>Quality Rating</b>	<b>2017</b>	<b>2016</b>
Aaa/AAA*	\$ 49,172	\$ 13,470
Aa/AA	78,490	102,585
A/A	34,669	34,763
P1/A1	-	7,978
M1G1/SP-1+	6,666	2,784
Not rated*	<u>-</u>	<u>56,061</u>
Total	<u>\$168,997</u>	<u>\$217,641</u>

\* The Water Fund was able to obtain quality ratings for a portion of money market mutual funds as of December 31, 2017 that were previously classified as not rated as of December 31, 2016.

The Water Fund participates in the City's pooled cash and investments account, which includes amounts from other City funds and is maintained by the City Treasurer. Individual cash or investments are not specifically identifiable to any participant in the pool. The City Treasurer's pooled fund is included in the City's financial statements.

**Custodial Credit Risk—Cash and Certificates of Deposit**—This is the risk that in the event of a bank failure, the City's Deposits may not be returned. The City's Investment Policy states that in order to protect the City public fund deposits, depository institutions are to maintain collateral pledges on City deposits and certificates of deposit during the term of the deposit.

For certificates of deposit of banks or savings and loan associations designated as municipal depositories which are insured by federal deposit insurance, any amount of the deposit in excess of the federal deposit insurance shall be either: (1) fully collateralized at least 102 percent by: (i) marketable U.S. government securities marked to market at least monthly; (ii) bonds, notes, or other securities constituting the direct and general obligation of any agency or instrumentality of the United States; or (iii) bonds, notes or other securities constituting a direct and general obligation of any county, township, city, village, incorporated town, municipal corporation, or school district, of the State of Illinois or of

any other state, or of any political subdivision or agency of the State of Illinois or any other state which are rated in either the AAA or AA rating categories by at least two accredited ratings agencies and maintaining such rating during the term of such investments;

(2) secured by a corporate surety bond issued by an insurance company licensed to do business in Illinois and having a claims-paying rating in the top rating category as rated by a nationally recognized statistical rating organization and maintaining such rating during the term of such investment; or (3) fully collateralized at least 102 percent by an irrevocable letter of credit issued in favor of the City of Chicago by the Federal Home Loan Bank, provided that the Federal Home Loan Bank's short-term debt obligations are rated in the highest rating category by at least one accredited ratings agency throughout the term of the certificate of deposit.

The collateral required to secure City funds must be held in safekeeping and pursuant to collateral agreements which would prohibit release or substitution of pledged assets without proper written notification and authorization of the City Treasurer. The final maturity of acceptable collateral pledged shall not exceed 120 months.

The bank balance of cash and certificates of deposit with the City's various municipal depositories was \$902.3 million. 96.6 percent of the bank balance was either insured or collateralized with securities held by City agents in the City's name. \$30.6 million was uncollateralized at December 31, 2017, and thus was subject to custodial credit risk.

Investments reported in the basic financial statements as of December 31, 2017 and 2016, are summarized as follows (in thousands):

	<b>2017</b>	<b>2016</b>
Per Note 2:		
Investments—Water Fund	\$168,997	\$217,641
Investments—City Treasurer Pooled Fund	<u>370,902</u>	<u>368,262</u>
	<u>\$539,899</u>	<u>\$585,903</u>
Per financial statements:		
Restricted investments—current	\$120,846	\$102,254
Restricted investments—noncurrent	-	39,898
Unrestricted investments	330,238	361,553
Investments included as cash and cash equivalents on the statements of net position	<u>88,815</u>	<u>82,198</u>
	<u>\$539,899</u>	<u>\$585,903</u>



### 3. RESTRICTED ASSETS AND ACCOUNTS

Water sales are pledged to pay outstanding Water Revenue Bonds. The ordinances authorizing the issuance of outstanding Water Revenue Bonds provide for the creation of separate accounts into which net revenues, as defined, or proceeds are to be credited, are as follows:

Water Revenue Bonds, Series 2000 and 1997 (“Senior Lien Revenue Bonds”):

*Bond Principal and Interest Account*—No later than 10 days prior to each principal or interest payment date, an amount sufficient to pay principal, redemption premium, if any, and interest becoming due, whether upon maturity, redemption, or otherwise.

*Bond Debt Service Reserve Account*—For each series, an amount equal to the least of (i) the maximum annual debt service requirement; (ii) 10% of the original principal amount less original issue discount; or (iii) 125% of the average annual debt service requirement. The required balance of the Series 2000, 1997, 1995, and 1993 bonds was met by the purchase of surety bonds. The required balance of the Series 2001 Second Lien Revenue Bonds is being met with a deposit of a portion of the proceeds of the Series 2001 Senior Lien Revenue Bonds.

*Construction Account*—Certain proceeds of the Senior Lien Revenue Bonds were deposited in this account for the purpose of paying construction costs of projects as defined in the ordinance.

Water Revenue Bonds, Series 2000, 2008, 2010A, 2010B, 2010C, 2012, 2016A-1 (2014), and Refunding Bonds, Series 2004 and 2001, 2017, 2017-2 (“Second Lien Revenue Bonds”):

*Principal and Interest Account*—Deposits are required to be transferred no later than the business day preceding each May 1 and November 1, in an amount sufficient to pay principal and interest as due on outstanding Second Lien Revenue Bonds.

*Second Lien Bonds Account*—On the date of issuance of any series of Second Lien Revenue Bonds that bear interest at a variable rate paying interest more than semiannually, an amount equal to the interest payable during a six-month period will be transferred to a restricted account. The amount transferred will be calculated based on the maximum rate payable on such bonds.

*Construction Account*—Certain proceeds of the Second Lien Revenue Bonds were deposited in this account for the purpose of paying construction costs of projects as defined in the ordinance.

*Water Rate Stabilization Account*—Any net revenues remaining after providing sufficient funds for all required deposits in the Water Revenue Bonds accounts may be transferred to the water rate stabilization account upon the direction of the City to be used for any lawful purpose of the Water Fund.

For accounts established by ordinances with balances, the amounts at December 31, 2017 and 2016, are as follows (in thousands):

	<b>2017</b>	<b>2016</b>
Second Lien Revenue Bonds	\$ 3,495	\$ 4,596
Water rate stabilization	90,538	91,197
Construction	<u>94,838</u>	<u>120,517</u>
Total	<u>\$188,871</u>	<u>\$216,310</u>

The 2017 Water rate stabilization balance above includes a fair value adjustment of \$659. In 2016, the fair value adjustment was \$799, which was not included in the 2016 balance.

At December 31, 2017 and 2016, management is not aware of any instances of noncompliance with the funding requirements and restrictions on assets as stated in the ordinances.

#### 4. LONG-TERM DEBT

Long-term debt as of December 31, 2017 and 2016, consisted of the following (in thousands):

	<b>2017</b>	<b>2016</b>
\$277,911 Series 1997 Water Revenue Bonds, issued September 1, 1997, due through 2018; interest at 3.9% to 5.25%	\$ 2,466	\$ 5,089
\$100,000 Series 2000 Second Lien Water Revenue Bonds, issued December 22, 1999, due 2030, converted to fixed rate on May 23, 2016; interest rate; interest at 5.0%	100,000	100,000
\$156,819 Series 2000 Senior Lien Water Revenue Bonds, issued May 2, 2000, due 2030; interest at 4.375% to 5.875%	7,156	9,871
\$81,500 Series 2001 Second Lien Water Revenue Refunding Bonds, issued December 13, 2001, due 2030; interest at 3.0% to 5.75%	80,690	80,745
\$2,643 Illinois Environmental Protection Agency Loan Agreement, signed June 30, 2003, due 2025; interest at 2.57%	1,260	1,400
\$3,605 Illinois Environmental Protection Agency Loan Agreement, signed October 16, 2003, due 2022; interest at 2.905%	1,123	1,328
\$500,000 Series 2004 Second Lien Water Revenue Refunding Bonds, issued August 5, 2004, due through 2027, converted to fixed rate on May 23, 2016, interest at 2.0% to 5.0%	339,725	344,575
\$215,400 Series 2006A Second Lien Water Revenue Bonds, issued July 26, 2006, due through 2036; interest at 4.5% to 5.0%	-	174,605
\$549,915 Series 2008 Second Lien Water Revenue Bonds, issued April 16, 2008, due through 2038; interest at 4.0% to 5.25%	99,400	436,215
\$313,580 Series 2010A-C Second Lien Water Revenue Bonds, issued November 10, 2010, due through 2040; interest at 2.0% to 6.742%	300,355	300,355
\$6,000 Illinois Environmental Protection Agency Loan Agreement, signed January 21, 2011, due 2031; interest at 1.25%	4,354	4,637

(Continued)

	<b>2017</b>	<b>2016</b>
\$9,077 Illinois Environmental Protection Agency Loan Agreement, signed February 2, 2010, due 2031; noninterest bearing	\$ 6,383	\$ 6,839
\$399,445 Series 2012 Second Lien Water Revenue Bonds, issued May 17, 2012, due through 2042; interest at 4.0% to 5.0%	383,700	391,745
\$1,528 Illinois Environmental Protection Agency Loan Agreement, signed July 8, 2010, due 2032; interest at 1.25%	1,207	1,280
\$1,502 Illinois Environmental Protection Agency Loan Agreement, signed September 15, 2013, due 2032; interest at 1.25%	1,187	1,259
\$6,092 Illinois Environmental Protection Agency Loan Agreement, signed October 25, 2013, due 2032; interest at 1.25%	4,814	5,105
\$6,542 Illinois Environmental Protection Agency Loan Agreement, signed May 27, 2014, due 2034; interest at 2.295%	5,602	5,878
\$39,422 Illinois Environmental Protection Agency Loan Agreement, signed August 5, 2013, due 2034; interest at 1.93%	34,492	36,187
\$15,000 Illinois Environmental Protection Agency Loan Agreement, signed September 19, 2013, due 2034; interest at 1.93%	13,152	13,796
\$47,000 Illinois Environmental Protection Agency Loan Agreement, signed March 3, 2014, due 2035; interest at 1.995%	42,158	44,149
\$15,058 Illinois Environmental Protection Agency Loan Agreement, signed October 15, 2014, due 2035; interest at 1.995%	13,768	14,420
\$367,925 Series 2014 Second Lien Water Revenue Bonds, issued September 17, 2014, due 2044; interest at 3.0% to 5.0%	351,125	357,610
\$59,595 Series 2016A-1 Tax-Exempt Second Lien Water Revenue Bonds, issued May 23, 2016, due 2031; interest at 4.0% to 5.0%	59,595	59,595
\$22,120 Series 2016A-2 Taxable Second Lien Water Revenue Bonds, issued May 23, 2016, due 2017; interest at 1.68% to 2.0%	-	16,395
\$62,179 Illinois Environmental Protection Agency Loan Agreement, signed May 18, 2016, due 2036; interest at 2.21%	59,795	55,319
\$40,450 Illinois Environmental Protection Agency Loan Agreement, signed May 27, 2014, due 2037; interest at 1.995%	40,450	-
\$19,584 Illinois Environmental Protection Agency Loan Agreement, signed November 17, 2015, due 2036; interest at 1.86%	18,968	-
\$199,355 Series 2017 Refunding Bonds, issued June 22, 2017, due 2036; interest at 5.0% to 5.25%	192,820	-
\$235,260 Series 2017-2 Refunding Bonds, issued December 21, 2017, due 2038; interest at 5.0%	<u>235,260</u>	<u>-</u>
	2,401,005	2,468,397
Add accretion of capital appreciation bonds	18,404	26,345
Less current portion of accretion	(10,584)	(10,252)
Less current portion of long-term debt	(88,916)	(79,305)
Add unamortized bond discount/premium—net	<u>205,572</u>	<u>161,189</u>
Long-term portion—net	<u>\$ 2,525,481</u>	<u>\$ 2,566,374</u>

(Concluded)

Long-term debt during the years ended December 31, 2017 and 2016, changed as follows (in thousands):

	<b>Balance January 1, 2017</b>	<b>Additions</b>	<b>Reductions</b>	<b>Balance December 31, 2017</b>	<b>Due within One Year</b>
Revenue bonds and loans	\$ 2,468,397	\$ 501,214	\$ (568,606)	\$ 2,401,005	\$ 88,916
Accretion of capital appreciation bonds	26,345	2,310	(10,251)	18,404	10,584
Unamortized bond discount/premium—net	<u>161,189</u>	<u>71,587</u>	<u>(27,204)</u>	<u>205,572</u>	<u>-</u>
<b>Total</b>	<b><u>\$ 2,655,931</u></b>	<b><u>\$ 575,111</u></b>	<b><u>\$ (606,061)</u></b>	<b><u>\$ 2,624,981</u></b>	<b><u>\$ 99,500</u></b>

	<b>Balance January 1, 2016</b>	<b>Additions</b>	<b>Reductions</b>	<b>Balance December 31, 2016</b>	<b>Due within One Year</b>
Revenue bonds/notes payable	\$ 2,391,395	\$ 137,330	\$ (60,328)	\$ 2,468,397	\$ 79,305
Accretion of capital appreciation bonds	33,254	3,044	(9,953)	26,345	10,252
Unamortized bond discount/premium—net	<u>91,344</u>	<u>81,924</u>	<u>(12,079)</u>	<u>161,189</u>	<u>-</u>
<b>Total</b>	<b><u>\$ 2,515,993</u></b>	<b><u>\$ 222,298</u></b>	<b><u>\$ (82,360)</u></b>	<b><u>\$ 2,655,931</u></b>	<b><u>\$ 89,557</u></b>

Interest expense includes amortization of the deferred loss on bond refunding for 2017 and 2016 of \$1.4 million and \$2.5 million, respectively; net of amortization of bond premium of \$16.1 million and \$12.1 million, respectively; and accretion of Series 1997 and Series 2000 capital appreciation bonds of \$2.3 million and \$3.0 million, respectively.

As defined in the bond ordinances, net revenues are pledged for the payment of principal and interest on the bonds. Ordinances include covenants, which require that net revenues available for bonds, as adjusted, at least equal the greater of (i) 120% of the aggregate current annual debt service on the Senior Lien Revenue Bonds or (ii) the sum of the aggregate current annual debt service of the Senior Lien Revenue Bonds, plus 110% of the aggregate current annual Second Lien Revenue Bonds debt service, plus the aggregate outstanding debt service requirements for the fiscal year on the outstanding IEPA loans, plus the annual debt service requirement for the fiscal year on aggregate outstanding water commercial paper notes, plus the annual debt service requirement on any outstanding water line of credit. This requirement was met at December 31, 2017.

and that City management maintain all covenant reserve account balances at specified amounts. The above requirements were met in 2017 and 2016.

**Rate Increases**—Water rates are set by ordinance and established in an amount designed to pay the costs of Water Fund operations and capital improvements, including any related debt service. Effective January 1, 2017 the water rate was set at \$28.52 per 1,000 cubic feet and was increased to \$29.04 per 1,000 cubic feet effective June 1, 2017.

**Issuance of Debt**—Second Lien Water Revenue Bonds, Refunding Series 2017 (\$199.4 million) were sold at a premium in June 2017. The bonds have interest rates ranging from 5.0 percent to 5.25 percent and maturity dates from November 1, 2017 to

November 1, 2036. The net proceeds of \$230.2 million were used refund certain maturities of Water Revenue bonds outstanding. The current and advance refunding of the bonds decreased the City's total debt service payments by \$42.8 million, resulting in net economic gain of approximately \$32.4 million.

Second Lien Water Revenue Bonds, Refunding Series 2017-2 (\$235.3 million) were sold at a premium in December 2017. The bonds have an interest rate of 5.0 percent and maturity dates from November 1, 2018 to November 1, 2038. The net proceeds of \$271.0 million were used refund certain maturities of Water Revenue bonds outstanding. The advance refunding of the bonds decreased the City's total debt service payments by \$46.0 million, resulting in net economic gain of approximately \$37.7 million.

On May 18, 2016, an amended loan agreement was signed with the Illinois Environment Protection Agency for the replacement of approximately 24 miles of damaged, undersized, leaking and antiquated water mains located throughout the City with new 8- inch water mains. The original loan agreement was signed on January 22, 2015. The amendment increased the original loan amount from \$47 million to \$59.5 million. In 2016, the Water Fund drew \$55.3 million in 2016 from this loan agreement. In 2017, the Water Fund drew an additional \$6.5 million. The loan agreement has an interest rate of 2.21 percent with maturity dates from July 31, 2016 to January 31, 2036.

On May 27, 2014, a loan agreement was signed with the Illinois Environment Protection Agency for the upgrade of the existing electrical switchgear and distribution equipment at the South Water Purification Plant and other installation building construction and Minor architectural and electrical projects. As of December 31, 2017, the Water Fund drew \$40.4 million from this loan agreement. The loan agreement has an interest rate of 1.99 percent with maturity dates from March 9, 2018 to September 9, 2037.

On November 17, 2015, a loan agreement was signed with the Illinois Environment Protection Agency for the installation of water meters equipped with AMR (Automatic Meter Reading) at residences throughout the City. As of December 31, 2017, the Water Fund drew \$19.6 million from this loan agreement. The loan agreement has an interest rate of 1.86 percent with maturity dates from June 1, 2017 to June 1, 2036.

A schedule of bond and note debt service requirements to maturity at December 31, 2017, is as follows (in thousands):

<b>Years Ending December 31</b>	<b>Principal</b>	<b>Interest</b>	<b>Total Debt Service</b>
2018	\$ 88,916	\$ 124,589	\$ 213,505
2019	90,620	117,280	207,900
2020	89,460	113,579	203,039
2021	91,173	104,320	195,493
2022	95,197	100,200	195,397
2023–2027	557,757	430,744	988,501
2028–2032	547,232	291,909	839,141
2033–2037	460,005	173,090	633,095
2038–2042	336,385	59,421	395,806
2043–2044	<u>44,260</u>	<u>3,347</u>	<u>47,607</u>
Total	<u>\$ 2,401,005</u>	<u>\$ 1,518,479</u>	<u>\$ 3,919,484</u>

In July 2016, the Water Fund terminated its line of credit. At December 31, 2017, the Water Fund did not have any commercial paper outstanding.

**Defeased Bonds**—Defeased bonds have been removed from the balance sheet because the related assets have been placed in irrevocable trusts, together with interest earned thereon, will provide amount sufficient for payment of all principal and interest. Defeased bonds at December 31, 2017 are as follows (in thousands):

	<b>Municipal</b>	<b>Outstanding</b>
Water Revenue Second Lien Bonds, Series 2008	<u>\$ 312,735</u>	<u>\$ 312,735</u>

**Debt Covenants**— The ordinances authorizing the issuance of outstanding Water Revenue Bonds require that net revenues available for bonds, as adjusted shall each fiscal year at least equal the greater of (i) 120% of the aggregate debt service requirement for the fiscal year on all the outstanding senior lien bonds, or (ii) the sum of (A) aggregate debt service requirements for the fiscal year on the outstanding senior lien bonds, plus (B) 110 percent of the aggregate debt service requirements for the fiscal year on of the outstanding second lien bonds, plus (C) aggregate outstanding debt service requirements for the fiscal year on the outstanding IEPA loans, plus (D) annual debt service requirement for the fiscal year on aggregate outstanding water commercial paper notes, plus (E) annual debt service requirement on any outstanding water line of credit. This requirement was met at December 31, 2017.

## 5. UTILITY PLANT

Utility plant changed during the years ended December 31, 2017 and 2016, as follows (in thousands):

	<b>Balance— January 1, 2017</b>	<b>Additions</b>	<b>Disposals, Adjustments and Transfers</b>	<b>Balance— December 31, 2017</b>
Utility plant not depreciated:				
Land and land rights	\$ 6,858	\$ -	\$ -	\$ 6,858
Construction in progress	<u>366,506</u>	<u>285,099</u>	<u>(229,738)</u>	<u>421,867</u>
Total utility plant not depreciated	<u>373,364</u>	<u>285,099</u>	<u>(229,738)</u>	<u>428,725</u>
Utility plant being depreciated:				
Structures and improvements	588,740	5,074	(82)	593,732
Distribution plant	3,586,644	124,140	132,682	3,843,466
Equipment	<u>665,174</u>	<u>11,445</u>	<u>70,666</u>	<u>747,285</u>
Total utility plant being depreciated	<u>4,840,558</u>	<u>140,659</u>	<u>203,266</u>	<u>5,184,483</u>
Less accumulated depreciation:				
Structures and improvements	(221,605)	(8,242)	-	(229,847)
Distribution plant	(483,112)	(40,707)	2,330	(521,489)
Equipment	<u>(377,573)</u>	<u>(17,236)</u>	<u>226</u>	<u>(394,583)</u>
Total accumulated depreciation	<u>(1,082,290)</u>	<u>(66,185)</u>	<u>2,556</u>	<u>(1,145,919)</u>
Utility plant being depreciated—net	<u>3,758,268</u>	<u>74,474</u>	<u>205,822</u>	<u>4,038,564</u>
Utility plant—net	<u>\$ 4,131,632</u>	<u>\$ 359,573</u>	<u>\$ (23,916)</u>	<u>\$ 4,467,289</u>
	<b>Balance— January 1, 2016</b>	<b>Additions</b>	<b>Disposals and Transfers</b>	<b>Balance— December 31, 2016</b>
Utility plant not depreciated:				
Land and land rights	\$ 6,858	\$ -	\$ -	\$ 6,858
Construction in progress	<u>242,155</u>	<u>180,539</u>	<u>(56,188)</u>	<u>366,506</u>
Total utility plant not depreciated	<u>249,013</u>	<u>180,539</u>	<u>(56,188)</u>	<u>373,364</u>
Utility plant being depreciated:				
Structures and improvements	586,046	1,772	922	588,740
Distribution plant	3,348,185	209,528	28,931	3,586,644
Equipment	<u>659,971</u>	<u>3,509</u>	<u>1,694</u>	<u>665,174</u>
Total utility plant being depreciated	<u>4,594,202</u>	<u>214,809</u>	<u>31,547</u>	<u>4,840,558</u>
Less accumulated depreciation:				
Structures and improvements	(213,318)	(8,287)	-	(221,605)
Distribution plant	(447,587)	(37,489)	1,964	(483,112)
Equipment	<u>(359,485)</u>	<u>(18,557)</u>	<u>469</u>	<u>(377,573)</u>
Total accumulated depreciation	<u>(1,020,390)</u>	<u>(64,333)</u>	<u>2,433</u>	<u>(1,082,290)</u>
Utility plant being depreciated—net	<u>3,573,812</u>	<u>150,476</u>	<u>33,980</u>	<u>3,758,268</u>
Utility plant—net	<u>\$ 3,822,825</u>	<u>\$ 331,015</u>	<u>\$ (22,208)</u>	<u>\$ 4,131,632</u>



## 6. PENSION PLANS

**Plan Description**—Eligible Water employees participate in one of two single-employer defined benefit pension plans (the “Plans”). These Plans are: the Municipal Employees’ Annuity and Benefit Fund of Chicago (Municipal Employees’); and the Laborers’ and Retirement Board Employees’ Annuity and Benefit Fund of Chicago (Laborers’). The Plans are administered by individual retirement boards of trustees comprised of City officials or their designees and of trustees elected by plan members. Certain employees of the Chicago Board of Education participate in the Municipal Employees’ Fund or the Laborers’ and Retirement Board Employees’ Annuity and Benefit Fund. Each Plan issues a publicly available financial report that includes financial statements and required supplementary information that can be obtained at [www.meabf.org](http://www.meabf.org) and [www.labfchicago.org](http://www.labfchicago.org).

**Benefits Provided**—The Plans provide retirement, disability, and death benefits as established by State law. Benefits generally vest after 10 years of credited service. Employees qualify for an unreduced retirement age minimum formula annuity based on a combination of years of service and age of retirement. Employees may also receive a reduced retirement age minimum formula annuity if they do not meet the age and service requirements for the unreduced retirement age annuity. The requirements of age and service are different for employees depending on when they first became members of their respective Plans. For the Plans, employees who became members before January 1, 2011 are considered Tier 1 Employees. Those employees who became members on or after January 1, 2011 but before July 6, 2017 are considered Tier 2 Employees. For those employees who became members on or after July 6, 2017 are considered Tier 3 Employees. Public Act 100-0023 (P.A. 100-0023), which established the requirements for Tier 3 employees, includes a provision for Tier 2 employees to elect to be considered as Tier 3 employees. The annuity is computed by multiplying the final average salary by a percentage ranging from 2.2 percent to 2.5 percent per year of credited service. The final average salary is the employee’s highest average annual salary for any four consecutive years within the last 10 years of credited service for participants who are Tier 1 Employees and any eight consecutive years within the last 10 years of credited service for participants who are Tier 2 Employees or Tier 3 Employees.

Benefit terms provide for annual adjustments to each employee’s retirement allowance subsequent to the employees’ retirement date. For Tier 1 Employees, the annual adjustments for Municipal Employees’ and Laborers’ are 3.0 percent, compounded, for annuitants born before January 1, 1966 and 1.5 percent, simple, born after January 1, 1966 or later. For Tier 2 Employees and Tier 3 Employees, the annual adjustments are equal to the lesser of 3.0 percent and 50 percent of CPI-U of the original benefit.

**Employees Covered by Benefit Terms**—At December 31, 2017, the following employees were covered by the benefit terms:

	<b>Municipal Employees’</b>	<b>Laborers’</b>	<b>Total</b>
Inactive employees or beneficiaries currently receiving benefits	25,383	3,703	29,086
Inactive employees entitled to but not yet receiving benefits	17,549	1,469	19,018
Active employees	<u>30,922</u>	<u>2,794</u>	<u>33,716</u>
	<u>73,854</u>	<u>7,966</u>	<u>81,820</u>

**Contributions**—Historically State law required City contributions at statutorily, not actuarially, determined rates. State law also requires covered employees to contribute a percentage of their salaries. The City's contribution for payment year 2017 for Municipal Employees' and Laborers' was calculated based on the total amount of contributions by employees to the respective Plans made in the calendar year two years prior, multiplied by 1.25 for Municipal Employees', and 1.00 for Laborers'.

For the Municipal Employees' and Laborers' Plans, Public Act 100-0023 (P.A. 100-0023) was enacted on July 06, 2017. P.A. 100-0023 requires the City to contribute specific amounts to the Municipal Employees' and the Laborers' Plans in the aggregate amounts as follows: in payment year 2018, \$302.0 million; in payment year 2019, \$392.0 million; in payment year 2020, \$481.0 million; in payment year 2021, \$571.0 million; and in payment year 2022, \$660.0 million. Additionally, P.A. 100-0023 requires that the City's contributions are at actuarially determined rates beginning in payment year 2023 and future funding be sufficient to produce a funding level of 90% by the year end of 2058.

The City's contributions are budgeted in the same year as the applicable levy year for the property taxes funding the contributions. The City's contributions are then paid to the pension funds in the following year (which is when the levy property taxes are collected and paid to the City by the Cook County Treasurer). The Water Fund's proportion of the contribution was determined based on the rates of Water Fund's salaries within each corresponding pension plan to the total budgeted salaries for 2017.

The contribution to the two pension plans from the Water Fund was \$24.4 million and \$12.3 million for the years ended December 31, 2017 and 2016, respectively.

**Net Pension Liability, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions**—At December 31, 2017 and 2016, the Water Fund recorded a liability of \$1,041.8 million and \$1,626.7 million, respectively, for its proportionate share of the net pension liability. The net pension liability was measured as of December 31, 2017 and 2016, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of those dates.

**Changes in Actuarial Assumptions**—Changes under P.A. 100-0023 and other actuarial assumptions resulted in an increase in future required contributions to the Municipal Employees' and Laborers' pension plans resulting in an increase in the discount rate for the Municipal Employees' and Laborers' Pension Plans as discussed in the discount rate section below.

The change in the discount rate and other assumptions decreased the net pension liability by \$527.4 million for Municipal Employees' and \$165.2 million for Laborers'. This change is being amortized into expense over a 5 year period for Municipal Employees' and 4 year period for Laborers'.

The Water Fund's proportion of the net pension liability was determined based on the rates of Water Fund's salaries within each corresponding pension plan to the total budgeted salaries for 2017 and 2016. At December 31, 2017 and 2016, the Water Fund's proportion was 7.1 percent and 6.7 percent of the Municipal Employees' plan, respectively, and 15.4 percent and 14.7 percent, respectively, of the Laborer's plan.

For the years ended December 31, 2017 and 2016, the Water Fund recognized pension expense of \$107.1 million and \$240.0 million, respectively.

At December 31, 2017 and 2016, the Water Fund reported total deferred outflows of resources of \$280.9 million and \$447.2 million, respectively, and deferred inflows of resources of \$620.0 million and \$54.6 million, respectively, related to pensions from the following sources:

Municipal Employees' (dollars in thousands):

	<u>2017</u>		<u>2016</u>	
	<b>Deferred Outflows of Resources</b>	<b>Deferred Inflows of Resources</b>	<b>Deferred Outflows of Resources</b>	<b>Deferred Inflows of Resources</b>
Differences between expected and actual experience	\$ -	\$ 18,624	\$ -	\$ 11,158
Changes of assumptions	247,320	446,584	347,987	30,833
Net difference between projected and actual earnings on pension plan investments	<u>-</u>	<u>7,794</u>	<u>12,392</u>	<u>-</u>
Total	<u>\$247,320</u>	<u>\$473,002</u>	<u>\$360,379</u>	<u>\$41,991</u>

Amounts reported as deferred outflows of resources and deferred inflows of resources related to Municipal Employees' pensions will be recognized in pension expense/(benefit) as follows:

**Year Ended  
December 31**

2018	\$ 4,051
2019	4,051
2020	(121,572)
2021	<u>(112,212)</u>
Total	<u>\$(225,682)</u>

Laborers' (dollars in thousands):

	<u>2017</u>		<u>2016</u>	
	<b>Deferred Outflows of Resources</b>	<b>Deferred Inflows of Resources</b>	<b>Deferred Outflows of Resources</b>	<b>Deferred Inflows of Resources</b>
Differences between expected and actual experience	\$ -	\$ 9,718	\$ -	\$ 6,029
Changes of assumptions	23,314	121,964	72,507	6,589
Net difference between projected and actual earnings on pension plan investments	<u>10,264</u>	<u>15,291</u>	<u>14,288</u>	<u>-</u>
Total	<u>\$33,578</u>	<u>\$146,973</u>	<u>\$86,795</u>	<u>\$12,618</u>

Amounts reported as deferred outflows of resources and deferred inflows of resources related to Laborers' pensions will be recognized in pension benefit as follows:

**Year Ended  
December 31**

2018	\$ (30,912)
2019	(51,154)
2020	(27,507)
2021	<u>(3,822)</u>
Total	<u>\$ (113,395)</u>

**Deferred Inflows Related to Changes in Proportionate Share of Contributions**—For the years ended December 31, 2017 and 2016, the Water Fund reported a pension (charge)/benefit of \$(11.6) million and \$6.3 million, respectively, related to changes in its proportionate share of contributions. As of December 31, 2017 and 2016, the Water Fund reported deferred inflows of \$14.0 million and \$20.3 million, respectively, and deferred outflows of \$57.8 million and \$0, respectively, related to changes in its proportionate share of contributions. These deferred amounts will be recognized as a pension benefit/(charge) over a period of three years.

**Actuarial Assumptions**—The total pension liability in the December 31, 2017 and 2016 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

	<b>Municipal Employees'</b>		<b>Laborers'</b>
Inflation	2.50 %		2.25 %
Salary increases	3.50–7.75	(a)	3.00 (b)
Investment rate of return	7.00	(c)	7.25 (d)

(a) (1.50%–6.50% for 2018-2022), varying by years of service

(b) Plus a service—based increase in the first 9 years

(c) Net of investment expense

(d) Net of investment expense, including inflation

Post-retirement mortality rates were based on the RP-2014 Healthy Annuitant Mortality Table (Blue Collar mortality table for Laborers') for males or females, as appropriate. Pre-retirement mortality rates were based on the RP-2014 Employee Mortality Table (Blue Collar mortality table for Laborers'). The actuarial assumptions used in the December 31, 2017 valuation were adjusted based on the results of actuarial experience study for the periods:

**Municipal Employees'**—January 1, 2012–December 31, 2016

**Laborers'**—January 1, 2012–December 31, 2016

The long term expected rate of return on pension plan investments was determined using the building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are 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 by adding expected inflation. The target allocation and best estimates of arithmetic real rates of return for each major asset class as of December 31, 2017 and 2016, are summarized in the following tables:

	<u>Target Allocation</u>		<u>Long-Term Expected Real Rate of Return</u>	
	<b>Municipal</b>		<b>Municipal</b>	
	<b>Employees</b>	<b>Laborers'</b>	<b>Employees</b>	<b>Laborers'</b>
<b>2017</b>				
Asset class:				
Domestic equity	26.0 %	- %	5.6 %	- %
U.S. equity	-	25.0	-	5.8
Non U.S. equity	-	20.0	-	5.7
Global low volatility equity	-	5.0	-	5.0
International equity	22.0	-	5.7	-
Fixed income	27.0	20.0	1.0	(0.2)
Hedge funds	10.0	10.0	3.6	3.6
Private debt	-	3.0	-	8.2
Private equity	5.0	4.0	9.4	9.4
Real estate	10.0	10.0	5.4	5.4
Private real assets	<u>-</u>	<u>3.0</u>	-	5.8
Total	<u>100.0 %</u>	<u>100.0 %</u>		

	<u>Target Allocation</u>		<u>Long-Term Expected Real Rate of Return</u>	
	<b>Municipal</b>		<b>Municipal</b>	
	<b>Employees</b>	<b>Laborers'</b>	<b>Employees</b>	<b>Laborers'</b>
<b>2016</b>				
Asset class:				
Domestic equity	26.0 %	12.0 %	4.8 %	6.4 %
Non U.S. equity	-	18.0	-	8.0
Global equity	-	20.0	-	6.8
International equity	22.0	-	5.0	-
Fixed income	27.0	16.0	0.5	2.6
Hedge funds	10.0	8.0	2.8	3.9
Private equity	5.0	-	8.6	-
Private markets	-	7.0	-	7.2
GAA	-	7.0	-	4.3
Real estate	10.0	8.0	5.2	4.6
Private real estate	<u>-</u>	<u>4.0</u>		
Total	<u>100.0 %</u>	<u>100.0 %</u>		

## **Discount Rate**

***Municipal Employees'***—The discount rate used to measure the total pension liability as of December 31, 2017 was 7.0 percent, which is an increase from the discount rate of 3.91 percent used to measure the total pension liability as of December 31, 2016. The increase in the discount rate was mainly a result of the increased projected contributions as specified by Public Act 100-0023. The Single Discount Rate for December 31, 2017 was based on an expected rate of return on pension plan investments of 7.0 percent. The Single Discount Rate for December 31, 2016 was based on an expected rate of return of 7.5 percent and a municipal bond rate of 3.78 percent (based on the Bond Buyer 20- Bond Index of general obligation municipal bonds). The projection of cash flows used to determine the discount rate assumed plan member contributions will be made according to the contribution rate applicable for each member's tier and that employer contributions will be made as specified by Public Act 100-0023. For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included. Projected employer contributions and contributions from future plan members that are intended to fund the service costs of future plan members and their beneficiaries are not included. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability. The valuation as of December 31, 2016, projected that the pension plan's fiduciary net position would be available to make payments through 2023. As a result of the increase in projected contributions, the pension plan's fiduciary net position is now projected to be available to make all projected future benefit payments of current plan members.

***Laborers'***—A Single Discount Rate of 7.07 percent was used to measure the total pension liability as of December 31, 2017, which is an increase from the discount rate of 4.17 percent used to measure the total pension liability as of December 31, 2016. The increase in the discount rate was mainly a result of the increased projected contributions as specified by Public Act 100-0023. This Single Discount Rate was based on an expected rate of return on pension plan investments of 7.25 percent and 7.5 percent as of December 31, 2017 and 2016, respectively, and a municipal bond rate of 3.31 percent and 3.78 percent as of December 31, 2017 and 2016, respectively (based on the weekly rate closest to but not later than the measurement date of the "state and local bonds" rate from Federal Reserve statistical release (H.15)). The projection of cash flows used to determine this Single Discount Rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at under the statutory funding policy. Based on these assumptions, the pension plan's fiduciary net position and future contributions were sufficient to finance the benefit payments only through the year 2071. As a result, the long-term expected rate of return on pension plan investments was applied to projected benefit payments through the year 2071, and the municipal bond rate was applied to all benefit payments after that date. The valuation as of December 31, 2016, projected that the pension plan's fiduciary net position would be available to make payments through 2027. As a result of the increase in projected contributions, the pension plan's fiduciary net position is now projected to be available to make all projected future benefit payments of current plan members through 2071.

**Sensitivity of the Water Fund’s Proportionate Share of the Net Pension Liability to Changes in the Discount Rate**

**Municipal Employees’**—The following presents the Water Fund’s allocated share of the net pension liability as of December 31, 2017 and 2016, calculated using the discount rate of 7.0% and 3.91%, respectively, as well as what the net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower or 1 percentage point higher than the current rate (dollars in thousands):

<b>2017</b>	<b>Current</b>		
	<b>1% Decrease</b>	<b>Discount Rate</b>	<b>1% Increase</b>
Net pension liability			
December 31, 2017:			
Municipal Employees' discount rate	6.00 %	7.00 %	8.00 %
Municipal Employees' net pension liability	\$ 979,982	\$ 832,399	\$ 710,163

<b>2016</b>	<b>Current</b>		
	<b>1% Decrease</b>	<b>Discount Rate</b>	<b>1% Increase</b>
Net pension liability			
December 31, 2016:			
Municipal Employees' discount rate	2.91 %	3.91 %	4.91 %
Municipal Employees' net pension liability	\$1,488,017	\$1,255,259	\$1,064,112

**Laborers’**—The following presents the Water Fund’s allocated share of the net pension liability as of December 31, 2017 and 2016, calculated using the discount rate of 7.07% and 4.17%, respectively, as well as what the net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower or 1 percentage point higher than the current rate (dollars in thousands):

<b>2017</b>	<b>Current</b>		
	<b>1% Decrease</b>	<b>Discount Rate</b>	<b>1% Increase</b>
Net pension liability			
December 31, 2017:			
Laborers' discount rate	6.07 %	7.07 %	8.07 %
Laborers' net pension liability	\$ 258,227	\$ 209,380	\$ 168,524

<b>2016</b>	<b>Current</b>		
	<b>1% Decrease</b>	<b>Discount Rate</b>	<b>1% Increase</b>
Net pension liability			
December 31, 2016:			
Laborers' discount rate	3.17 %	4.17 %	5.17 %
Laborers' net pension liability	\$ 449,108	\$ 371,399	\$ 307,509

**Pension Plan Fiduciary Net Position**—Detailed information about the pension plans’ fiduciary net position is available in the separately issued Pension Plans’ financial reports.

## 7. OTHER POST EMPLOYMENT BENEFITS (OPEB)—PENSION FUNDS

Applicable state law authorized the two respective Pension Funds (Municipal Employees' and Laborers') to provide a fixed monthly dollar subsidy to each annuitant who has elected coverage under any City health plan through December 31, 2016. After that date, no Pension Fund subsidies were authorized by state law.

Underwood litigation- In 2017, the Illinois Appellate Court held that current and future annuitants hired prior to the execution of a court approved settlement agreement in 2003 in the City of Chicago v. Korshak (those who retired prior to August 23, 1989 and their dependents, Korshak group) litigation, and subject to certain eligibility requirements, are entitled to receive lifetime fixed rate monthly subsidies equal to the subsidy amounts provided in the 1983 and 1985 amendments to the Pension Code. Those subsidies range from \$21–\$55 per month, depending on the retiree's Pension Fund and Medicare eligibility. The issue of whether the Pension Funds or the City is obligated to make the subsidy payments to the annuitants is still subject to litigation. The 1983 and 1985 statutes state that the Pension Funds are obligated to make the payments but none of the Pension Funds included the liabilities for the monthly subsidies in their respective actuarial valuation reports under GASB 43. For that reason, the City has included the liabilities for the monthly fixed subsidies for this limited group under GASB 45 and is reported together with the Retirees' Settlement Health Plan liability.

**Other Post Employment Benefits—City Obligation**— As of January 1, 2014, the City of Chicago agreed to provide a healthcare plan with a subsidy of 55% of the cost of that plan to those City annuitants who retired prior to August 23, 1989, for their lifetimes. The cost of health benefits is recognized as an expenditure in the accompanying financial statements as claims are reported and are funded on a pay-as-you-go basis. The net expense to the City in 2017 for providing these benefits was \$22.7 million. Of that amount, \$14.8 million was attributed to runoff claims for the retirees who no longer received subsidized healthcare from the City after December 31, 2016, and \$7.9 million was attributed to the class of retirees and their dependents (those who retired prior to August 23, 1989), who will continue to receive lifetime subsidized healthcare from the City. The average number of annuitants in this latter group is 2,978 and a total of 3,378 covered lives including dependents. Duty Disabled retirees who have statutory pre-63/65 coverage will continue to have fully subsidized coverage under the active health plan until age 65.

**Funding Policy**—No assets are accumulated or dedicated to funding the retiree health plan benefits.

**Annual OPEB Cost and Net OPEB Obligation**—The City's annual other post-employment benefit (OPEB) cost (expense) is calculated based on the annual required contribution "ARC" of the employer. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover the normal cost each year and to amortize any unfunded actuarial liabilities over a period of ten years.

The following table shows the components of the City's annual OPEB costs for the year for the Health Plan, the amount actually contributed to the Plan, and changes in the City's net OPEB obligation. The Net OPEB Obligation is the amount entered upon the City's Statement of Net Position as of year-end as the net liability for the other post-employment benefits—the Health Plan. The amount of the annual cost that is recorded in the Statement of Changes in Net Position for 2017 is the Annual OPEB Cost (expense).



**Annual OPEB Cost and Contributions Made  
(Dollars in thousands)**

	<b>Retiree Settlement Health Plan 2017</b>
Contribution rates:	
City	Pay as you go
Plan members	N/A
Annual required contribution	\$ 50,871
Interest on net OPEB obligation	81
Adjustment to annual required contribution	<u>(307)</u>
Annual OPEB cost	50,645
Contributions made	<u>38,967</u>
Increase (Decrease) in net OPEB obligation	11,678
Net OPEB obligation—beginning of year	<u>2,698</u>
Net OPEB obligation—end of year	<u>\$ 14,376</u>

The City's annual OPEB cost, the percentage of annual OPEB cost contributed to the plan, and the net OPEB obligation for fiscal year 2017, 2016 and 2015 are as follows (dollars in thousands):

<b>Schedule of Contributions, OPEB Costs and Net Obligations</b>			
<b>Fiscal Year Ended</b>	<b>Annual OPEB Cost</b>	<b>Percentage of Annual OPEB Cost Contributed</b>	<b>Net OPEB Obligation</b>
Settlement plan			
12/31/2017	\$ 50,645	76.9 %	\$ 14,376
12/31/2016	38,469	130.1	2,698
12/31/2015	43,645	133.5	14,280

**Funded Status and Funding Progress**—As of January 1, 2017, the most recent actuarial valuation date, the actuarial accrued liability for benefits was \$331.5 million all of which was unfunded. The covered payroll (annual payroll of active employees covered by the plan) was approximately \$2,627.7 million and the ratio of the unfunded actuarial liability to the covered payroll was 12.6 percent.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual

required contributions of the employer are subject to continual revisions as the results are compared with past expectations and new estimates are made about the future. The schedule of funding progress, presents, as required, (unaudited) supplementary information following the notes to the financial statements (dollars in thousands).

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets</b>	<b>Actuarial Accrued Liability (AAL)</b>	<b>Unfunded Actuarial Accrued Liability (UAAL)</b>	<b>Funded Ratio</b>	<b>Covered Payroll</b>	<b>UAAL as a Percentage of Covered Payroll</b>
Settlement plan 12/31/2016	\$ -	\$ 331,496	\$ 331,496	- %	\$ 2,627,662	12.6 %

**Actuarial Method and Assumptions**—Projections of benefits for financial reporting purposes are based on the substantive plan (the plan understood by the employer and plan members) and included the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. The actuarial method and assumptions used include techniques that are designed to reduce the effects of short term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long term perspective of the calculations.

For the Health Plan benefits the entry age normal actuarial cost method was used. The actuarial assumptions included an annual healthcare cost trend rate of 8.0% initially, reduced by decrements to an ultimate rate of 5.0% in 2029. The range of rates included a 3.0% inflation assumption. Rates included a 2.5% inflation assumption. The plan has not accumulated assets and does not hold assets in a segregated trust. However, the funds expected to be used to pay benefits are assumed to be invested for durations which will yield an annual return rate of 3.0%. The remaining Unfunded Accrued Actuarial Liability is being amortized as a level dollar amount over ten years. The benefits include lifetime benefits for the class of retirees (those who retired prior to August 23, 1989, Korshak group) and their dependents, lifetime fixed subsidy benefits for the annuitant category (except Korshak) hired prior to 2003.

#### Summary of Assumptions and Methods

	<b>Settlement Health Plan 2017</b>
Actuarial valuation date	December 31, 2016
Actuarial cost method	Entry age normal
Amortization method	Level dollar, open
Remaining amortization period	10 years
Asset valuation method	Market value
Actuarial assumptions:	
Investment rate of return	3.0%
Projected salary increases	2.5%
Healthcare inflation rate	1.9% for 2017 then 8.0% to 5.0% in 2029

The OPEB benefit information pertaining expressly to the Water Fund employees is not available as the obligation is the responsibility of the general government. Accordingly, no

obligation has been recorded in the accompanying basic financial statements. Amounts for the City are recorded within the City's government-wide basic financial statements.

**8. RELATED-PARTY TRANSACTIONS**

Included in operating expenses are reimbursements to the General Fund of the City for services provided by other City departments, employee fringe benefits, and certain payments made on behalf of the Water Fund. Such reimbursements amounted to \$109.1 million and \$100.7 million in 2017 and 2016, respectively.

**9. COMMITMENTS AND CONTINGENCIES**

The Water Fund has certain contingent liabilities resulting from litigation, claims, or commitments incident to the ordinary course of business. Management expects that final resolution of these contingencies will not have a material adverse effect on the financial position or results of operations of the Water Fund.

The Water Fund provides workers' compensation benefits and employee health benefits under self-insurance programs administered by the City. Such claims outstanding, including claims incurred but not reported, are estimated and recorded as liabilities in the basic financial statements.

Uninsured claim expenditures and liabilities are reported when it is probable that a loss has occurred and the amount of that loss can be reasonably estimated. These losses include an estimate of claims that have been incurred but not reported. Changes in the claims liability amounts for the years ended December 31, 2017 and 2016, are as follows (in thousands):

	<b>2017</b>	<b>2016</b>
Balance—January 1	\$ 50,231	\$ 53,545
Claims incurred on current and prior-year events	31,374	32,874
Claims paid on current and prior-year events	<u>(31,494)</u>	<u>(36,188)</u>
Balance—December 31	<u>\$ 50,111</u>	<u>\$ 50,231</u>

The City purchases annuity contracts from commercial insurers to satisfy certain liabilities, accordingly, no liability is reported for those claims. Property and casualty risks for the Water Fund are transferred to commercial insurers. Claims have not exceeded the purchased insurance coverage in the past three years.

At December 31, 2017 and 2016, the Water Fund entered into contracts with outstanding commitments of approximately \$67.3 million and \$805.9 million, respectively, for construction projects.

## 10. DEFERRED OUTFLOWS/INFLOWS OR RESOURCES

	<b>2017</b>	<b>2016</b>
	<b>(Dollars in thousands)</b>	
Deferred outflows of resources:		
Deferred outflows from pension activities	\$ 280,898	\$ 447,174
Changes in proportionate share of pension contribution	57,766	-
Unamortized deferred bond refunding costs	<u>26,651</u>	<u>26,049</u>
Total deferred outflows of resources	<u>\$ 365,315</u>	<u>\$ 473,223</u>
Deferred inflows of resources:		
Deferred inflows from pension activities	\$ (619,976)	\$ (54,609)
Changes in proportionate share of pension contribution	<u>(14,033)</u>	<u>(20,348)</u>
Total deferred inflows of resources	<u>\$ (634,009)</u>	<u>\$ (74,957)</u>

## 11. SUBSEQUENT EVENTS

The Water Fund has evaluated subsequent events through June 29, 2018, the date the financial statements were available to be issued and concluded no subsequent events have occurred that would require recognition that have not already been recognized or that require disclosure that have not already been disclosed.

\* \* \* \* \*

## **REQUIRED SUPPLEMENTARY INFORMATION**

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY AND RELATED RATIOS  
LAST THREE FISCAL YEARS  
(Dollars are in thousands)**

	<b>2017</b>	<b>2016</b>	<b>2015</b>
MUNICIPAL EMPLOYEES':			
Total pension liability:			
Service cost	\$ 572,534	\$ 619,743	\$ 226,816
Interest	915,711	878,369	909,067
Benefit changes	-	-	2,140,009
Differences between expected and actual experience	(177,755)	(127,119)	(109,835)
Assumption changes	(7,431,191)	(578,920)	8,711,755
Benefit payments including refunds	<u>(888,174)</u>	<u>(859,672)</u>	<u>(826,036)</u>
Net change in total pension liability	(7,008,875)	(67,599)	11,051,776
Total pension liability—beginning	<u>23,291,271</u>	<u>23,358,870</u>	<u>12,307,094</u>
Total pension liability—ending (a)	<u>16,282,396</u>	<u>23,291,271</u>	<u>23,358,870</u>
Plan fiduciary net position:			
Contributions—employer	261,764	149,718	149,225
Contributions—employee	134,765	130,391	131,428
Net investment income	610,515	281,419	114,025
Benefit payments including refunds of employee contribution	(888,174)	(859,672)	(826,036)
Administrative expenses	(6,473)	(7,056)	(6,701)
Other	<u>5,394</u>	<u>-</u>	<u>-</u>
Net change in plan fiduciary net position	117,791	(305,200)	(438,059)
Plan fiduciary net position—beginning	<u>4,436,227</u>	<u>4,741,427</u>	<u>5,179,486</u>
Plan fiduciary net position—ending (b)	<u>4,554,018</u>	<u>4,436,227</u>	<u>4,741,427</u>
NET PENSION LIABILITY—ending (a)-(b)	<u>\$ 11,728,378</u>	<u>\$ 18,855,044</u>	<u>\$ 18,617,443</u>
PLAN FIDUCIARY NET POSITION AS A PERCENTAGE OF THE TOTAL PENSION LIABILITY	<u>27.97 %</u>	<u>19.05 %</u>	<u>20.30 %</u>
COVERED PAYROLL *	<u>\$ 1,686,533</u>	<u>\$ 1,646,939</u>	<u>\$ 1,643,481</u>
EMPLOYER'S NET PENSION LIABILITY AS A PERCENTAGE OF COVERED PAYROLL	<u>695.41 %</u>	<u>1,144.85 %</u>	<u>1,132.81 %</u>
ALLOCATED NET PENSION LIABILITY	<u>\$ 832,399</u>	<u>\$ 1,255,259</u>	<u>\$ 1,260,613</u>
ALLOCATION PERCENTAGE	<u>7.10 %</u>	<u>6.66 %</u>	<u>6.77 %</u>

\* Covered payroll is the amount in force as of the actuarial valuation date and likely differs from actual payroll paid during fiscal year.

Note: Beginning with fiscal year 2015, the City will accumulate ten years of data.

(Continued)

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY AND RELATED RATIOS  
LAST THREE FISCAL YEARS  
(Dollars are in thousands)**

	<b>2017</b>	<b>2016</b>	<b>2015</b>
LABORERS':			
Total pension liability:			
Service cost*	\$ 80,232	\$ 82,960	\$ 38,389
Interest	154,047	150,166	153,812
Benefit changes	150	-	384,033
Differences between expected and actual experience	(62,178)	(30,428)	(46,085)
Assumption changes	(1,074,754)	(62,905)	1,175,935
Benefit payments including refunds	(157,050)	(154,683)	(152,530)
Pension plan administrative expense	<u>(3,985)</u>	<u>(4,080)</u>	<u>(3,844)</u>
Net change in total pension liability	(1,063,538)	(18,970)	1,549,710
Total pension liability—beginning	<u>3,693,645</u>	<u>3,712,615</u>	<u>2,162,905</u>
Total pension liability—ending (a)	<u>2,630,107</u>	<u>3,693,645</u>	<u>3,712,615</u>
Plan fiduciary net position:			
Contributions—employer	35,457	12,603	12,412
Contributions—employee	17,411	17,246	16,844
Net investment income	207,981	57,997	(22,318)
Benefit payments including refunds of employee contribution	(157,050)	(154,683)	(152,530)
Administrative expenses	<u>(3,985)</u>	<u>(4,080)</u>	<u>(3,844)</u>
Net change in plan fiduciary net position	99,814	(70,917)	(149,436)
Plan fiduciary net position—beginning	<u>1,167,740</u>	<u>1,238,657</u>	<u>1,388,093</u>
Plan fiduciary net position—ending (b)	<u>1,267,554</u>	<u>1,167,740</u>	<u>1,238,657</u>
NET PENSION LIABILITY—Ending (a)-(b)	<u>\$ 1,362,553</u>	<u>\$ 2,525,905</u>	<u>\$ 2,473,958</u>
PLAN FIDUCIARY NET POSITION AS A PERCENTAGE OF THE TOTAL PENSION LIABILITY	<u>48.19 %</u>	<u>31.61 %</u>	<u>33.36 %</u>
COVERED PAYROLL**	<u>\$ 208,442</u>	<u>\$ 208,155</u>	<u>\$ 204,773</u>
EMPLOYER'S NET PENSION LIABILITY AS A PERCENTAGE OF COVERED PAYROLL	<u>653.68 %</u>	<u>1,213.47 %</u>	<u>1,208.15 %</u>
ALLOCATED NET PENSION LIABILITY	<u>\$ 209,380</u>	<u>\$ 371,399</u>	<u>\$ 385,827</u>
ALLOCATED PERCENTAGE	<u>15.37 %</u>	<u>14.70 %</u>	<u>15.60 %</u>

\* Includes pension plan administrative expense.

\*\* Covered payroll is the amount in force as of the actuarial valuation date and likely differs from actual payroll paid during fiscal year.

Note: Beginning with fiscal year 2015, the City will accumulate ten years of data.

(Concluded)

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**SCHEDULE OF CONTRIBUTIONS  
LAST TEN YEARS  
(Dollars are in thousands)**

**Municipal Employees':**

<b>Years Ended December 31</b>	<b>Actuarially Determined Contributions*</b>	<b>Contributions in Relation to the Actuarially Determined Contribution</b>	<b>Contribution Deficiency</b>	<b>Covered Payroll**</b>	<b>Contributions as a Percentage of Covered Payroll</b>
2008	\$ 360,387	\$ 146,803	\$ 213,584	\$ 1,543,977	9.51 %
2009	413,509	148,047	265,462	1,551,973	9.54
2010	483,948	154,752	329,196	1,541,388	10.04
2011	611,756	147,009	464,747	1,605,993	9.15
2012	690,823	148,859	541,964	1,590,794	9.36
2013	820,023	148,197	671,826	1,580,289	9.38
2014	839,039	149,747	689,292	1,602,978	9.34
2015	677,200	149,225	527,975	1,643,481	9.08
2016	961,770	149,718	812,052	1,646,939	9.09
2017	1,005,457	261,764	743,693	1,686,533	15.52

\* The funding method mandated by the Illinois Pension Code is insufficient to avoid insolvency, and without a change, the Fund is projected to become insolvent within the next 10 years (during 2025). Therefore, the actuarially determined contribution is comprised of an employer normal cost payment and a 30-year, level dollar amortization payment on the unfunded actuarial accrued liability.

\*\* Covered payroll is the amount in force as of the actuarial valuation date and likely differs from actual payroll paid during fiscal year.

**Laborers':**

<b>Years Ended December 31</b>	<b>Actuarially Determined Contributions*</b>	<b>Contributions in Relation to the Actuarially Determined Contribution</b>	<b>Contribution Deficiency</b>	<b>Covered Payroll**</b>	<b>Contributions as a Percentage of Covered Payroll</b>
2008	\$ 17,652	\$ 15,233	\$ 2,419	\$ 216,744	7.03 %
2009	33,518	14,627	18,891	208,626	7.01
2010	46,665	15,352	31,313	199,863	7.68
2011	57,259	12,779	44,480	195,238	6.55
2012	77,566	11,853	65,713	198,790	5.96
2013	106,199	11,583	94,616	200,352	5.78
2014	106,019	12,161	93,858	202,673	6.00
2015	79,851	12,412	67,439	204,773	6.06
2016	117,033	12,603	104,430	208,155	6.05
2017	124,226	35,457	88,769	208,442	17.01

\* The LABF Statutory Funding does not conform to Actuarial Standards of Practice, therefore, the actuarially determined contribution is equal to the normal cost plus an amount to amortize the unfunded liability using dollar payments and a 30 year open amortization period.

\*\* Covered payroll is the amount in force as of the actuarial valuation date and likely differs



**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**SCHEDULE OF CONTRIBUTIONS**

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<b>Actuarial Methods and Assumptions</b>	<b>Municipal Employees'</b>		<b>Laborers'</b>	
Actuarial valuation date	12/31/17	(a)	12/31/17	(b)
Actuarial cost method	Entry age normal		Entry age normal	
Asset valuation method	5-yr Smoothed Market		5-yr Smoothed Market	
Actuarial assumptions				
Inflation	2.50%		2.25%	
Salary increases	3.50%–7.75%	(c)	3.00%	(d)
Investment rate of return	7.0%	(e)	7.25%	(f)
Retirement age	(g)		(h)	
Mortality	(i)		(j)	
Other information	(k)		(l)	

- (a) Actuarially determined contribution amount is determined as of December 31, with appropriate interest to the middle of the year.
- (b) Actuarially determined contribution rates are calculated as of December 31, which is 12 months prior to the end of the fiscal year in which contributions are reported.
- (c) (1.50%-6.50% for 2018-2022), varying by years of service.
- (d) Plus a service-based increase in the first 9 years.
- (e) Net of investment expense.
- (f) Net of investment expense, including inflation.
- (g) For employees first hired prior to January 1, 2011, rates of retirement are based on the recent experience of the Fund (effective December 31, 2017). For employees first hired on or after January 1, 2011 and before July 6, 2017, rates of retirement for each age from 62 to 80 were used (effective December 31, 2011). For employees first hired on or after July 6, 2017, rates of retirement for each age from 62 to 80 were December 31, 2017, valuation pursuant to an experience used (effective December 31, 2017).
- (h) Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the study of the period January 1, 2012, through December 31, 2016.
- (i) Post-retirement mortality rates were based on the RP-2014 Healthy Annuitant Mortality Tables, set forward two years for males and one year for females, and projected generationally using scale MP-2016. Pre-retirement mortality rates were based on 120% of the RP-2014 Employee Mortality Tables projected generationally using scale MP-2016.
- (j) Post Retirement Mortality: Scaling factors of 117% for males, and 102% for females of the RP-2014 Blue Collar Healthy Annuitant mortality table, sex distinct, with generational mortality improvement using MP-2017 2-dimensional mortality improvement scales. No adjustment is made for post-disabled mortality. Pre Retirement Mortality: Scaling factors of 109% for males, and 103% for females of the RP-2014 Blue Collar Employee mortality table, sex distinct, with generational mortality improvement using MP-2017 2-dimensional mortality improvement scales.
- (k) Other assumptions: Same as those used in the December 31, 2017, actuarial funding valuations.
- (l) The actuarial valuation is based on the statutes in effect as of December 31, 2017. Benefit changes as a result of Public Act 100-0023 were recognized in the Total Pension Liability as of December 31, 2017.

(Concluded)

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**SCHEDULE OF OTHER POSTEMPLOYMENT BENEFITS FUNDING PROGRESS  
LAST THREE YEARS  
(Dollars are in thousands)**

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	<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) Entry Age (b)</b>	<b>Unfunded Actuarial Liability (UAAL) (b-a)</b>	<b>Funded Ratio (a/b)</b>	<b>Covered Payroll (c)</b>	<b>Unfunded (Surplus) AAL as a Percentage of Covered Payroll ((b-a)/c)</b>
City of Chicago: Settlement Plan							
2015	12/31/2014	\$ -	311,748	311,748	- %	2,487,787	12.53 %
2016	12/31/2015	-	254,910	254,910	-	2,563,649	9.94
2017	12/31/2016	-	331,496	331,496	-	2,627,662	12.62

## **ADDITIONAL SUPPLEMENTARY INFORMATION**

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**ADDITIONAL SUPPLEMENTARY INFORMATION  
SCHEDULE OF UTILITY PLANT  
FOR THE YEAR ENDED DECEMBER 31, 2017  
(In thousands)**

	Assets				Accumulated Depreciation				Net Balance— December 31, 2017	
	Balance— January 1, 2017	Additions	Adjustments/ Disposals	Transfers	Balance— December 31, 2017	Balance— January 1, 2017	Provision	Adjustments/ Disposals		Balance— December 31, 2017
<b>LAND AND LAND RIGHTS:</b>										
Power and pumping	\$ 4,142	\$ -	\$ -	\$ -	\$ 4,142	\$ -	\$ -	\$ -	\$ -	\$ 4,142
Distribution reservoir	300	-	-	-	300	-	-	-	-	300
Purification	1,739	-	-	-	1,739	-	-	-	-	1,739
General and maintenance	677	-	-	-	677	-	-	-	-	677
Total land and land rights	<u>6,858</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>6,858</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>6,858</u>
<b>STRUCTURES AND IMPROVEMENTS:</b>										
Cribs	17,984	4,857	-	-	22,841	5,703	167	-	5,870	16,971
Lake and land tunnels	118,377	-	-	-	118,377	42,314	1,172	-	43,486	74,891
Intake structures	9,531	-	-	-	9,531	4,850	95	-	4,945	4,586
Power and pumping structures	135,480	-	-	-	135,480	39,166	1,731	-	40,897	94,583
Purification buildings	250,109	30	-	78	250,217	113,431	4,072	-	117,503	132,714
Distribution reservoirs	16,979	-	-	-	16,979	6,134	226	-	6,360	10,619
Offices, maintenance, and general	40,120	-	-	-	40,120	10,007	779	-	10,786	29,334
Contract retainage	160	187	(160)	-	187	-	-	-	-	187
Total structures and improvements	<u>588,740</u>	<u>5,074</u>	<u>(160)</u>	<u>78</u>	<u>593,732</u>	<u>221,605</u>	<u>8,242</u>	<u>-</u>	<u>229,847</u>	<u>363,885</u>
<b>DISTRIBUTION PLANT:</b>										
Mains and accessories	3,366,936	109,715	(3,372)	124,490	3,597,769	428,043	33,744	(2,330)	459,457	3,138,312
Meters and installations	189,903	383	-	24,897	215,183	44,384	6,709	-	51,093	164,090
Hydrants and valves	16,472	-	-	-	16,472	10,685	254	-	10,939	5,533
Contract retainage	13,333	14,042	(13,333)	-	14,042	-	-	-	-	14,042
Total distribution plant	<u>3,586,644</u>	<u>124,140</u>	<u>(16,705)</u>	<u>149,387</u>	<u>3,843,466</u>	<u>483,112</u>	<u>40,707</u>	<u>(2,330)</u>	<u>521,489</u>	<u>3,321,977</u>
<b>EQUIPMENT:</b>										
Power production	62,503	-	-	-	62,503	49,499	1,264	-	50,763	11,740
Pumping	223,521	4,828	-	68,006	296,355	112,109	5,752	-	117,861	178,494
Purification	327,168	472	-	2,125	329,765	175,953	7,982	-	183,935	145,830
Heavy machinery	25,098	-	(54)	-	25,044	18,266	1,057	(48)	19,275	5,769
Transportation	9,560	2,553	728	-	12,841	6,325	719	(178)	6,866	5,975
Miscellaneous	17,185	-	-	-	17,185	15,421	462	-	15,883	1,302
Contract retainage	139	3,592	(139)	-	3,592	-	-	-	-	3,592
Total equipment	<u>665,174</u>	<u>11,445</u>	<u>535</u>	<u>70,131</u>	<u>747,285</u>	<u>377,573</u>	<u>17,236</u>	<u>(226)</u>	<u>394,583</u>	<u>352,702</u>
Total structures and improvements, distribution plant, and equipment	<u>4,840,558</u>	<u>140,659</u>	<u>(16,330)</u>	<u>219,596</u>	<u>5,184,483</u>	<u>1,082,290</u>	<u>66,185</u>	<u>(2,556)</u>	<u>1,145,919</u>	<u>4,038,564</u>
<b>CONSTRUCTION IN PROGRESS:</b>										
Filtration plants	65,286	25,341	-	(2,203)	88,424	-	-	-	-	88,424
Pumping stations	83,827	5,306	-	(68,005)	21,128	-	-	-	-	21,128
Water mains	207,251	242,340	-	(149,388)	300,203	-	-	-	-	300,203
Contract retainage	10,142	12,112	(10,142)	-	12,112	-	-	-	-	12,112
Total construction in progress	<u>366,506</u>	<u>285,099</u>	<u>(10,142)</u>	<u>(219,596)</u>	<u>421,867</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>421,867</u>
<b>TOTAL UTILITY PLANT</b>	<b><u>\$ 5,213,922</u></b>	<b><u>\$ 425,758</u></b>	<b><u>\$ (26,472)</u></b>	<b><u>\$ -</u></b>	<b><u>\$ 5,613,208</u></b>	<b><u>\$ 1,082,290</u></b>	<b><u>\$ 66,185</u></b>	<b><u>\$ (2,556)</u></b>	<b><u>\$ 1,145,919</u></b>	<b><u>\$ 4,467,289</u></b>

**STATISTICAL DATA  
(UNAUDITED)**

## **STATISTICAL DATA (UNAUDITED)**

The statistical data section includes selected financial and operating information, generally presented on a multiyear basis. Statistical section information is presented in five categories—financial trends, revenue capacity, debt capacity, operating, and demographic and economic information. Schedules in the statistical section are the following:

**Financial Trends Information**—These schedules contain trend information to help the reader understand how the Water Fund’s basic financial performance and well-being have changed over time.

**Revenue Capacity Information**—These schedules contain information to help the reader assess the Water Fund’s most significant local revenue source and water sales charge.

**Debt Capacity Information**—These schedules present information to help the reader assess the affordability of the Water Fund’s current levels of outstanding debt and the Water Fund’s ability to issue additional debt in the future.

**Operating Information**—These schedules contain service and infrastructure data to help the reader understand how the information in the Water Fund’s financial report relates to the services the Department of Water Management and the Water Fund and how it provides the activities it performs.

**Demographic and Economic Information**—These schedules offer demographic and economic indicators to help the reader understand where the environment within which the City’s financial activities take place.

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**STATISTICAL DATA  
CHANGES IN NET POSITION (UNAUDITED)  
THREE YEARS ENDED DECEMBER 31, 2015–2017  
(In millions)**

	<b>2015</b>	<b>2016</b>	<b>2017</b>
OPERATING REVENUES:			
Water sales	\$ 773.8	\$ 760.6	\$ 749.8
Provision for doubtful accounts	(23.6)	(24.8)	(20.2)
Other operating revenues	<u>19.2</u>	<u>25.6</u>	<u>29.4</u>
Total operating revenues	<u>769.4</u>	<u>761.4</u>	<u>759.0</u>
OPERATING EXPENSES:			
Source of supply	0.2	0.1	0.1
Power and pumping	41.3	39.6	41.4
Purification	57.1	57.5	60.5
Transmission and distribution	37.3	39.2	39.6
Customer accounting and collection	14.7	15.3	18.2
Administrative and general	22.1	20.3	13.6
Central services and General Fund reimbursements	129.1	126.4	121.7
Pension expense	<u>436</u>	<u>240.0</u>	<u>107.1</u>
Total operating expenses	<u>737.8</u>	<u>538.4</u>	<u>402.2</u>
OPERATING INCOME BEFORE DEPRECIATION AND AMORTIZATION	31.6	223.0	356.8
DEPRECIATION AND AMORTIZATION	<u>56.4</u>	<u>68.0</u>	<u>71.1</u>
OPERATING INCOME	<u>(24.8)</u>	<u>155.0</u>	<u>285.7</u>
NONOPERATING REVENUES (EXPENSES):			
Interest income	3.1	0.6	10.3
Interest expenses	(106.1)	(107.9)	(108.3)
Swap Termination Fee	-	(101.7)	-
Other operating revenues	<u>0.2</u>	<u>0.6</u>	<u>3.2</u>
Total nonoperating expenses—net	<u>(102.8)</u>	<u>(208.4)</u>	<u>(94.8)</u>
TRANSFERS OUT	<u>(1)</u>	<u>(2.4)</u>	<u>(2.1)</u>
CHANGE IN NET POSITION	(128.2)	(55.8)	188.8
TOTAL NET POSITION—Beginning of year, as restated	<u>1,079.7</u>	<u>951.5</u>	<u>895.7</u>
TOTAL NET POSITION—End of year	<u>\$ 951.5</u>	<u>\$ 895.7</u>	<u>\$ 1,084.5</u>

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**STATISTICAL DATA  
NET POSITION BY COMPONENT (UNAUDITED)  
EIGHT YEARS ENDED DECEMBER 31, 2010–2017  
(In millions)**

	2010	2011	2012	2013	2014	2015	2016	2017
NET POSITION:								
Net investment in capital assets	\$ 964.9	\$ 1,046.1	\$ 1,062.3	\$ 1,233.2	\$ 1,394.0	\$ 1,514.0	\$ 1,622.0	\$ 1,949.4
Restricted for capital projects	0.4	0.2	1.3	0.7	0.6	0.7	0.4	0.5
Unrestricted	<u>85.4</u>	<u>47.0</u>	<u>187.8</u>	<u>213.1</u>	<u>288.6</u>	<u>(563.2)</u>	<u>(726.7)</u>	<u>(865.4)</u>
TOTAL NET POSITION	<u>\$ 1,050.7</u>	<u>\$ 1,093.3</u>	<u>\$ 1,251.4</u>	<u>\$ 1,447.0</u>	<u>\$ 1,683.2</u>	<u>\$ 951.5</u>	<u>\$ 895.7</u>	<u>\$ 1,084.5</u>
	*	*	*			**		

\* Amounts were restated due to the implementation of GASB 65.

\*\* Amounts were restated due to the implementation of GASB 68.

Water Fund intends to provide ten year information as it becomes available.



**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**STATISTICAL DATA  
HISTORICAL FINANCIAL OPERATIONS (UNAUDITED)  
TEN YEARS ENDED DECEMBER 31, 2008–2017  
(In millions)**

	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
OPERATING REVENUES:										
Water sales	\$ 358.0	\$ 396.9	\$ 445.5	\$ 441.8	\$ 562.6	\$ 620.5	\$ 693.1	\$ 773.8	\$ 760.6	\$ 749.8
Other operating revenues	<u>12.2</u>	<u>13.3</u>	<u>12.9</u>	<u>12.4</u>	<u>13.7</u>	<u>16.6</u>	<u>22.1</u>	<u>19.2</u>	<u>25.6</u>	<u>29.4</u>
Total operating revenues	<u>370.2</u>	<u>410.2</u>	<u>458.4</u>	<u>454.2</u>	<u>576.3</u>	<u>637.1</u>	<u>715.2</u>	<u>793.0</u>	<u>786.2</u>	<u>779.2</u>
OPERATING EXPENSES:										
Source of supply	0.2	0.1	0.1	0.2	0.2	0.1	0.3	0.2	0.1	0.1
Power and pumping	54.7	47.5	42.9	38.2	41.7	43.2	43.1	41.3	39.6	41.4
Purification	48.4	49.4	49.7	66.5	56.1	60.9	58.5	57.1	57.5	60.5
Transmission and distribution	47.1	40.9	38.7	39.0	36.5	29.5	43.7	37.3	39.2	39.6
Provision for doubtful accounts	8.3	10.4	15.9	14.0	15.7	25.4	22.5	23.6	24.8	20.2
Customer accounting and collection	12.8	11.2	10.3	10.6	10.0	11.6	11.9	14.7	15.3	18.2
Administrative and general	18.1	16.1	18.5	17.1	21.9	21.2	22.0	22.1	20.3	13.6
Central services and General Fund reimbursements	87.2	98.5	103.0	96.6	107.4	108.7	119.3	129.1	126.4	121.7
Pension expense	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>436.0</u>	<u>240.0</u>	<u>107.1</u>
Total operating expenses	<u>276.8</u>	<u>274.1</u>	<u>279.1</u>	<u>282.2</u>	<u>289.5</u>	<u>300.6</u>	<u>321.3</u>	<u>761.4</u>	<u>563.2</u>	<u>422.4</u>
INTEREST INCOME (OTHER THAN FROM CONSTRUCTIONAL ACCOUNT)	<u>3.7</u>	<u>1.0</u>	<u>(0.3)</u>	<u>2.0</u>	<u>0.3</u>	<u>0.4</u>	<u>(0.5)</u>	<u>3.1</u>	<u>0.6</u>	<u>10.2</u>
NET REVENUES—As defined (Note 4)	<u>\$ 97.1</u>	<u>\$ 137.1</u>	<u>\$ 179.0</u>	<u>\$ 174.0</u>	<u>\$ 287.1</u>	<u>\$ 336.9</u>	<u>\$ 393.4</u>	<u>\$ 34.7</u>	<u>\$ 223.6</u>	<u>\$ 367.0</u>

Source: City of Chicago Comptroller's Office.

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**STATISTICAL DATA  
WATER SYSTEM ACCOUNTS (UNAUDITED)  
TEN YEARS ENDED DECEMBER 31, 2008-2017**

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<b>Years Ended December 31</b>	<b>Nonmetered</b>	<b>Metered</b>	<b>Total</b>
2008	319,205	178,457	497,662
2009	318,088	179,649	497,737
2010	314,002	183,618	497,620
2011	304,519	192,304	496,823
2012	290,863	205,097	495,960
2013	273,426	220,759	494,185
2014	250,304	241,304	491,608
2015	227,801	266,284	494,085
2016	206,913	287,351	494,264
2017	190,276	303,877	494,153

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**STATISTICAL DATA  
TEN LARGEST SUBURBAN CUSTOMERS (UNAUDITED)  
FOR THE YEAR ENDED DECEMBER 31, 2017  
(In thousands)**

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<b>Customer</b>	<b>Amount of Sales</b>
Dupage Water Commission	\$104,815
Northwest Suburban Municipal Joint Action Water Agency	39,376
Oak Lawn, Illinois	38,698
Bedford Park, Illinois	30,177
Melrose Park, Illinois	11,059
Harvey, Illinois	8,180
Niles, Illinois	7,741
Alsip, Illinois	7,603
Oak Park	7,327
Cicero, Illinois	<u>7,197</u>
Total	<u>\$262,173</u>

Source: City of Chicago Department of Water Management.

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**STATISTICAL DATA  
REVENUE BOND COVERAGE (UNAUDITED)  
TEN YEARS ENDED DECEMBER 31, 2008–2017  
(In millions)**

**PRIOR BONDS COVERAGE CALCULATION**

**COMBINED PRIOR BONDS, SENIOR LIEN, AND SECOND LIEN DEBT SERVICE CALCULATION**

	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
REVENUES AVAILABLE FOR BONDS:										
Net revenues—as defined (Note 4)	\$ 97.1	\$ 137.1	\$ 179.0	\$ 174.0	\$ 287.1	\$ 336.9	\$ 393.4	\$ 34.7	\$ 223.6	\$ 367.0
Pension expense other than contribution (Note) (1)	-	-	-	-	-	-	-	423.3	227.6	82.7
Transfer from (to) Water Rate Stabilization account & PAYGO Fund	-	-	(10.0)	-	(13.5)	(13.5)	-	-	-	-
Other Available Funds (Note) (2)	<u>18.2</u>	<u>18.9</u>	<u>6.0</u>	<u>43.4</u>	<u>63.8</u>	<u>146.2</u>	<u>176.4</u>	<u>236.1</u>	<u>421.7</u>	<u>515.7</u>
NET REVENUES AVAILABLE FOR BONDS	<u>\$ 115.3</u>	<u>\$ 156.0</u>	<u>\$ 175.0</u>	<u>\$ 217.4</u>	<u>\$ 337.4</u>	<u>\$ 469.6</u>	<u>\$ 569.8</u>	<u>\$ 694.1</u>	<u>\$ 872.9</u>	<u>\$ 965.4</u>
DEBT SERVICE REQUIREMENTS:										
Senior debt service requirements	<u>\$ 27.5</u>	<u>\$ 33.8</u>	<u>\$ 29.1</u>	<u>\$ 14.1</u>	<u>\$ 13.9</u>	<u>\$ 21.5</u>	<u>\$ 21.5</u>	<u>\$ 21.5</u>	<u>\$ 21.5</u>	<u>\$ 15.6</u>
Senior debt service coverage ratio	<u>4.2</u>	<u>4.6</u>	<u>6.0</u>	<u>15.4</u>	<u>24.3</u>	<u>21.8</u>	<u>26.5</u>	<u>32.3</u>	<u>40.6</u>	<u>61.9</u>
Second lien debt service requirements	\$ 62.5	\$ 75.7	\$ 82.1	\$ 106.6	\$ 116.5	\$ 125.6	\$ 126.0	\$ 150.4	153.0	178.7
Subordinate lien debt service requirements	<u>0.4</u>	<u>0.4</u>	<u>0.4</u>	<u>0.4</u>	<u>1.2</u>	<u>1.3</u>	<u>1.9</u>	<u>6.9</u>	<u>12.1</u>	<u>13.3</u>
Total second and subordinate lien debt service requirements	<u>\$ 62.9</u>	<u>\$ 76.1</u>	<u>\$ 82.5</u>	<u>\$ 107.0</u>	<u>\$ 117.7</u>	<u>\$ 126.9</u>	<u>\$ 127.9</u>	<u>\$ 157.3</u>	<u>165.1</u>	<u>192.0</u>
TOTAL COMBINED SENIOR, SECOND, AND SUBORDINATE LIEN DEBT SERVICE REQUIREMENTS	<u>\$ 90.4</u>	<u>\$ 109.9</u>	<u>\$ 111.6</u>	<u>\$ 121.1</u>	<u>\$ 131.6</u>	<u>\$ 148.4</u>	<u>\$ 149.4</u>	<u>\$ 178.8</u>	<u>\$ 186.6</u>	<u>\$ 207.6</u>
TOTAL COMBINED SENIOR AND SECOND LIEN DEBT SERVICE COVERAGE RATIO	<u>1.3</u>	<u>1.4</u>	<u>1.6</u>	<u>1.8</u>	<u>2.6</u>	<u>3.2</u>	<u>3.8</u>	<u>3.9</u>	<u>4.7</u>	<u>4.7</u>
WATER RATE STABILIZATION ACCOUNT YEAR-END BALANCE (3)	<u>\$ 51.4</u>	<u>\$ 51.4</u>	<u>\$ 61.4</u>	<u>\$ 61.4</u>	<u>\$ 74.9</u>	<u>\$ 88.4</u>	<u>\$ 88.4</u>	<u>\$ 91.2</u>	<u>\$ 91.2</u>	<u>\$ 90.5</u>

(1) Of the \$107.1 million of pension expense for 2017, \$24.4 million is the portion of the City's pension contribution payable in 2017 to the pension funds and allocable to the Water Fund. The remaining portion of the pension expense for 2017, \$82.7 million is recognized on the income statement of the Water Fund for 2017 pursuant to GASB 68 but is not due and payable by the City during 2017; accordingly, that portion is not included in Operating Expenses for purposes of calculation of the debt service coverage ratio.

(2) As provided in the Ordinance, Gross Revenues remaining in any period after providing sufficient funds for Operations and Maintenance Costs, for paying required debt service on all bonds and notes secured by Water System revenues, for paying any required amounts into any other accounts established for any bonds or notes secured by Water System revenues and to make any deposits into the Water Rate Stabilization Account ("Other Available Funds"), can be applied to debt service for any future period.

(3) The 2017 water rate stabilization balance includes a fair value adjustment of \$659 thousand. A fair value adjustment was not included in prior balances.

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**STATISTICAL DATA  
LONG-TERM DEBT (UNAUDITED)  
EIGHT YEARS ENDED DECEMBER 31, 2010–2017  
(In millions)**

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
Senior lien bonds	\$ 83.4	\$ 68.9	\$ 60.7	\$ 49.0	\$ 37.5	\$ 26.2	\$ 15.0	\$ 9.6
Second lien bonds	1,614.3	1,586.9	1,951.1	1,921.6	2,258.6	2,222.3	2,261.8	2,142.7
Commercial paper	51.5	46.5	-	-	-	-	-	-
Subordinate lien—IEPA loan	<u>4.6</u>	<u>18.9</u>	<u>18.4</u>	<u>26.3</u>	<u>85.7</u>	<u>142.9</u>	<u>191.6</u>	<u>248.7</u>
Total long-term debt	1,753.8	1,721.2	2,030.2	1,996.9	2,381.8	2,391.4	2,468.4	2,401.0
Accretion of capital appreciation bonds	45.9	46.9	47.7	43.9	39.1	33.3	26.3	18.4
Unamortized bond discount/premium—net	31.7	30.5	71.0	66.9	97.0	91.3	161.2	205.6
Unamortized deferred loss on bond refunding	<u>(41.2)</u>	<u>(38.7)</u>	<u>(36.2)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total	<u>\$ 1,790.2</u>	<u>\$ 1,759.9</u>	<u>\$ 2,112.7</u>	<u>\$ 2,107.7</u>	<u>\$ 2,517.9</u>	<u>\$ 2,516.0</u>	<u>\$ 2,655.9</u>	<u>\$ 2,625.0</u>

Water Fund intends to provide ten-year information as it becomes available.

**CITY OF CHICAGO, ILLINOIS WATER FUND  
WATER FUND**

**STATISTICAL DATA  
CAPITAL IMPROVEMENT PROGRAM (UNAUDITED)  
2018-2022  
(In thousands)**

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<b>Years</b>	<b>Amount</b>
2018	\$ 366,911
2019	358,597
2020	426,780
2021	399,130
2022	<u>314,370</u>
Total	<u>\$ 1,865,788</u>

Note: The information presented in the table above reflects the Water Fund's expected allocation of resources to various projects, but does not necessarily represent an expectation of actual cash expenditures for these projects.

Source: City of Chicago Department of Water Management.

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**STATISTICAL DATA  
WATER SYSTEM PUMPAGE AND CAPACITY (UNAUDITED)  
TEN YEARS ENDED DECEMBER 31, 2008–2017**

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<b>Years</b>	<b>Total Pumpage (MGD)</b>	<b>Average Daily Pumpage (MGD)</b>	<b>Maximum Daily Pumpage (MGD)</b>	<b>System's Rated Pumpage Capacity (MGD)</b>	<b>Maximum Daily Pumpage as % of Capacity</b>
2008	301,912	827	1,136	2,160	53
2009	295,121	809	1,112	2,160	51
2010	282,368	773	1,012	2,160	47
2011	281,506	771	1,317	2,160	61
2012	289,545	793	1,248	2,160	58
2013	276,039	756	1,095	2,160	51
2014	274,552	752	1,023	2,160	47
2015	262,606	719	890	2,160	41
2016	255,872	701	934	2,160	43
2017	248,371	680	1,089	2,160	50

Note: Million Gallons Daily (MGD).

Source: City of Chicago Department of Water Management.

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**MISCELLANEOUS STATISTICAL DATA (UNAUDITED)  
FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016**

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	<b>2017</b>	<b>2016</b>
AREA SERVED (IN SQUARE MILES):		
Chicago	228	228
125 suburbs	<u>578</u>	<u>578</u>
TOTAL AREA SERVED	<u><u>806</u></u>	<u><u>806</u></u>
WATER WORKS FACILITIES:		
Filtration plants	2	2
Continuous service capacity:		
South Water Filtration Plant (MGD)	720	720
Jardine Water Purification Plant (MGD)	1,440	1,440
Pumping stations—steam	3	3
Pumping stations—electric	9	9
Installed pumping capacity (MGD)	3,661	3,661
Crib intakes in service	2	2
Shore intakes (filtration plants)	2	2
Water supply tunnels (6 to 20 feet in diameter)—miles	64	64
DISTRIBUTION SYSTEM:		
Water mains (miles)	4,281	4,295
Fire hydrants	48,141	48,190
Valves	48,338	48,670

Note: Million Gallons Daily (MGD).



**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**STATISTICAL DATA  
OPERATING INFORMATION BY FUNCTION (UNAUDITED)  
EIGHT YEARS ENDED DECEMBER 31, 2010–2017  
(Number of employees)**

<b>Function</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
Administration	65	63	62	61	62	61	61	64
Agency management	37	39	37	37	34	36	36	35
Safety and security	19	17	16	16	26	27	27	21
Capital design and construction services	10	10	8	8	9	9	9	10
Engineering services	4	4	4	4	4	6	6	7
Inspection services	32	32	30	29	29	27	27	26
Water quality	48	48	48	47	47	47	47	46
Water pumping	233	231	234	222	220	214	214	215
Water treatment	324	326	323	336	334	344	344	343
Systems installation	39	39	34	75	76	75	75	65
Systems maintenance	582	581	583	542	527	520	520	471
Billings and customer service	65	66	50	50	48	46	46	45
Water meter installation and repair	<u>76</u>	<u>78</u>	<u>82</u>	<u>84</u>	<u>88</u>	<u>93</u>	<u>93</u>	<u>82</u>
<b>Total</b>	<b><u>1,534</u></b>	<b><u>1,534</u></b>	<b><u>1,511</u></b>	<b><u>1,511</u></b>	<b><u>1,504</u></b>	<b><u>1,505</u></b>	<b><u>1,505</u></b>	<b><u>1,430</u></b>

Water Fund intends to provide ten year information as it becomes available.

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**STATISTICAL DATA  
POPULATION OF SERVICE AREA (UNAUDITED)  
LAST FIVE CENSUS PERIODS**

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<b>Years</b>	<b>Chicago</b>		<b>Suburban Customers</b>		<b>Total</b>	<b>Number of Suburbs Served</b>
1970	3,369,357	(1)	1,127,446	(1)	4,496,803	72
1980	3,005,072	(1)	1,152,614	(1)	4,157,686	75
1990	2,783,726	(1)	1,589,557	(2)	4,373,283	95
2000	2,896,016	(1)	2,410,021		5,306,037	125
2010	2,695,598	(1)	2,600,496		5,296,094	125

<sup>(1)</sup> U.S. Department of Commerce—Census Bureau.

<sup>(2)</sup> 23 suburban customers not included (under the DWC contract; fully served May 1, 1992) with a population of 610,478, which increases total population to 4,983,761.

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**STATISTICAL DATA  
PRINCIPAL EMPLOYERS (NONGOVERNMENT) (UNAUDITED)  
FOR THE YEAR ENDED DECEMBER 31, 2017, AND NINE YEARS AGO**

Employer	2017 <sup>(1)</sup>			2008 <sup>(3)</sup>		
	Number of Employees	Rank	Percentage of Total City Employment	Number of Employees	Rank	Percentage of Total City Employment
Advocate Health Care	19,049	1	1.48 %			
Northwestern Memorial Healthcare	16,667	2	1.29			
University of Chicago	16,583	3	1.29			
JP Morgan Chase & Co.	15,701	4	1.22	8,865	1	0.81 %
Amazon.com Inc.	13,240	5	1.03			
United Continental Holdings Inc. <sup>(2)</sup>	12,994	6	1.01	6,403	2	0.58
Walgreen Boots Alliance Inc.	12,751	7	0.99			
Northwestern University	10,847	8	0.84			
Presence Health	10,225	9	0.79			
Wal-mart Stores Inc.	10,220	10	0.79			
Jewel Food Stores, Inc				5,977	3	0.55
Northern Trust				5,084	4	0.46
Accenture LLP				4,532	5	0.41
American Airlines				3,582	6	0.33
SBC/AT&T				3,459	7	0.32
Ford Motor Company				3,325	8	0.30
CVS Corporation				3,161	9	0.29
Bonded Maintenance Company				2,955	10	0.27

NOTES:

<sup>(1)</sup> Source: Reprinted with permission from the January 15, 2018 issue of Crain's Chicago Business.

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<sup>(2)</sup> United Continental Holdings Inc. formerly known as United Airlines.

<sup>(3)</sup> Source: City of Chicago, Department of Revenue, Employer's Expense Tax Returns.

Prior to 2014, the source information was the City of Chicago, Bureau of Revenue-Tax Division Report which is no longer available.

**CITY OF CHICAGO, ILLINOIS  
WATER FUND**

**STATISTICAL DATA  
POPULATION AND INCOME STATISTICS (UNAUDITED)  
TEN YEARS ENDED DECEMBER 31, 2008–2017**

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<b>Year</b>	<b>Population <sup>(1)</sup></b>	<b>Median Age <sup>(2)</sup></b>	<b>Number of Households <sup>(2)</sup></b>	<b>City Employment</b>	<b>Unemployment Rate <sup>(3)</sup></b>	<b>Per Capita Income <sup>(4)</sup></b>	<b>Total Income</b>
2008	2,896,016	34.1	1,032,746	1,237,856	6.4	\$ 45,328	\$ 131,270,613,248
2009	2,896,016	34.5	1,037,069	1,171,841	10.0	43,727	126,634,091,632
2010	2,695,598	34.8	1,045,666	1,116,830	10.1	45,957	123,881,597,286
2011	2,695,598	33.2	1,048,222	1,120,402	9.3	45,977	123,935,509,246
2012	2,695,598	33.2	1,054,488	1,144,896	8.9	48,305	130,210,861,390
2013	2,695,598	33.5	1,062,029	1,153,725	8.3	49,071	132,275,689,458
2014	2,695,598	33.9	1,031,672	1,264,234	5.7	50,690	136,639,862,620
2015	2,695,598	34.2	1,053,229	1,273,727	5.7	53,886	145,254,993,828
2016	2,695,598	34.4	1,053,986	1,282,117	5.0	55,621	149,931,856,358
2017	2,695,598	N/A <sup>(5)</sup>	N/A <sup>(5)</sup>	1,289,325	4.7	N/A <sup>(5)</sup>	N/A <sup>(5)</sup>

Notes:

<sup>(1)</sup> Source: U.S. Census Bureau.

<sup>(2)</sup> Source: American Fact Finder—United States Census Bureau data estimates. Data not available for 2017.

<sup>(3)</sup> Source: Bureau of Labor Statistics 2017, Unemployment rate for Chicago-Naperville-Illinois Metropolitan Area.

<sup>(4)</sup> Source: U.S. Department of Commerce, Bureau of Economic Analysis, Per Capita Personal Income for Chicago-Naperville-Illinois Metropolitan Area.

<sup>(5)</sup> N/A means not available at time of publication.