



# Office of the City Clerk

City Hall  
121 N. LaSalle St.  
Room 107  
Chicago, IL 60602  
www.chicityclerk.com

## Legislation Text

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Department of Finance  
CITY OF CHICAGO

OFFICE OF THE  
CITY CLERK

Andrea M. Valencia City Clerk  
121 North LaSalle Street Room 107  
Chicago, Illinois 60602

RE: City of Chicago, Illinois \$235,260,000

Second Lien Water Revenue Refunding Bonds, Series 2017-2 Dear Ms.

Valencia:

Attached is the Second Lien Bond Determination Certificate which is required to be filed with your office pursuant to Section 2.04(e) of the ordinance (pages 58462 to 58506 of the Council Journal), which was passed by the City Council on November 8, 2017.

Please direct this filing to the City Council.

121 NORTH LASALLE STREET, ROOM 107A, CHICAGO, ILLINOIS 60602-1288

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\$235,260,000

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CITY OF CHICAGO

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SECOND LIEN WATER REVENUE REFUNDING BONDS, OF THE

SERIES 2017-2

city Clerk

## SECOND LIEN BOND DETERMINATION CERTIFICATE

City Council of the City of Chicago 121 North  
LaSalle Street Chicago, Illinois 60602

Pursuant to an Ordinance adopted by the City Council (the "City Council") of the City of Chicago (the "City") on November 8, 2017 (the "Bond Ordinance"), the issuance, at one or more times and in one or more separate series, of Second Lien Water Revenue Project and Refunding Bonds was authorized in the total principal amount of not to exceed \$400,000,000, plus an amount equal to the amount of any original issue discount (not to exceed 15 percent of the aggregate principal amount of such series of Bonds) used in the marketing of such bonds for the purpose of, among other things, (a) advance refunding a portion of the City's Outstanding Water Revenue Project and Refunding Bonds, Series 2008 Bonds (the "Refunded Bonds"), and (b) paying Costs of Issuance of the bonds so issued.

The Bond Ordinance authorizes the Chief Financial Officer of the City to determine various provisions of the bonds issued thereunder within limitations prescribed by the Bond Ordinance, to accept on behalf of the City a Bond Purchase Agreement for the such bonds, to enter into a supplemental indenture for such bonds and to take such other actions as are necessary to cause such bonds to be issued and delivered.

The Bond Ordinance provides for the Chief Financial Officer to execute a Second Lien Bond Determination Certificate (the "Determination Certificate") directed to the City Council and setting forth above-referenced determinations and to file the Determination Certificate in the Office of the City Clerk of the City.

*I am the duly qualified and serving Chief Financial Officer of the City. I am hereby executing and filing this Determination Certificate in accordance with the Bond Ordinance. All capitalized terms used in this Determination Certificate and not otherwise defined in this Determination Certificate shall have the meanings ascribed to them in the Bond Ordinance or the Eleventh Supplemental Indenture (as hereinafter defined). As authorized by the Bond Ordinance, the City has heretofore issued Second Lien Water Revenue Refunding Bonds, Series 2017-2, in the aggregate principal amount of \$235,260,000 (the "Bonds").*

I have determined as follows with respect to the Bonds authorized by the Bond Ordinance, in each case within the authority granted me by the Bond Ordinance:

Section 1. Findings. On behalf of the City, I find and determine as follows:

a) Pursuant to the authorization contained in the Bond Ordinance, a bond purchase agreement was awarded by me as the Chief Financial Officer of the City, with the concurrence of the Chairman of the

Committee on Finance of the City Council, in connection with the issuance, sale and delivery of the Bonds, to the purchasers thereof named in the Bond Purchase Agreement, dated December 7, 2017 (the "Bond Purchase Agreement"). The underwriters identified in the Bond Purchase Agreement are Mesirow Financial, Inc., as Representative; Fifth Third Securities, Inc., North South Capital, LLC and Podesta & Co. (collectively, the "Underwriters"). The Bond Purchase Agreement, attached to this Determination Certificate as EXHIBIT A, is consistent with the Bond Ordinance.

b) The Bonds constitute Second Lien Bonds under the Bond Ordinance.

c) The Bonds are the first obligations to be issued under the Bond Ordinance. They are to be issued pursuant to the Ordinance and the Master Indenture of Trust dated as of December 15, 1999 as heretofore supplemented and as amended by Amendment No. 1 to Master Indenture, dated as of August 1, 2004 (collectively, the "Master Indenture") and such Master Indenture has been supplemented and amended by the Eleventh Supplemental Indenture, as defined in Section 6(b) below. The Bonds shall be numbered on a per series basis as is set forth in the Eleventh Supplemental Indenture.

d) The terms of the Bonds as specified in this Determination Certificate provide, among other things, (i) an aggregate principal amount not greater than that allowed by the Bond Ordinance; (ii) a purchase price not less than that allowed by the Bond Ordinance; and (iii) a maturity date within the limitations of the Bond Ordinance.

e) The interest rates for the Bonds set forth in this Determination Certificate are in my judgment the best rates at which the Bonds could be sold on the market on their date of sale and are within the limitations contained in the Bond Ordinance.

f) This Determination Certificate is consistent with the terms of sale of the Bonds as set forth in the Bond Purchase Agreement.

## **Section 2. General Terms of Bonds.**

a) The Bonds are being issued and sold as Tax- Exempt Bonds.

b) The Bonds are not being issued as Capital Appreciation Bonds.

c) The Bonds are designated Second Lien Water Revenue Refunding Bonds, Series 2017-2. The Bonds will be lettered and numbered as provided in the Eleventh Supplemental Indenture.

d) There is no Debt Service Reserve Requirement for the Bonds or any prior Series of Second Lien Bonds.

e) The Bonds are issued in book entry form.

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## **Section 3. Principal Amounts and Maturities.**

a) The aggregate principal amount of the Bonds shall be \$235,260,000, which is an amount necessary for the respective purposes set forth in the Bond Ordinance.

b) Interest accrued on the Bonds will be paid in arrears on each May 1 and November 1, commencing on May 1, 2018. Interest on the Bonds will be computed on the basis of a 360 day year consisting of twelve thirty day months. All Bonds are issued as serial Bonds. The Bonds shall mature on November 1 in each of the years and in the principal amounts, are being sold at the prices and shall bear interest at the respective rates per annum set forth in the table below:

**Principal Amount**

2018	2019	2020	2021	2022	2023	2024	2028	2030	2031	2032	2033	2034
2035	2036	2037	2038									
	\$ 3,000,000	16,950,000	12,640,000	5,415,000	5,690,000	5,975,000	6,270,000	13,585,000	15,030,000			
		15,780,000	16,570,000	17,400,000	18,275,000	19,185,000	20,145,000	21,145,000	22,205,000			
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105.923												
108.824												
111.407												
113.679												
115.672												
117.390												
121.239 °												
119.984 °												
119.505 °												
119.029°												
118.555 °												
118.083 °												
117.613°												
117.426°												
117.332°												

117.239°

Insured Bonds.

Priced to call on the first optional redemption date November 1, 2027.

#### **Section 4. Redemption of Bonds:**

(a) Optional Redemption. The Bonds maturing on or after November 1, 2028 are subject to redemption prior to maturity at the option of the City, in whole or in part, on any date on or after November 1, 2027, and if in part, in such order of maturity as the City shall determine and within any maturity and interest rate by lot, at a redemption price equal to the outstanding principal amount of such Bonds, together with accrued interest to the date fixed for redemption.

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#### **Section 5. Sale of Bonds.**

a) The total price at which the Bonds are to be sold to the Underwriters shall be \$272,730,363.95. This equals the \$235,260,000.00 aggregate principal amount of the Bonds, plus an offering premium of \$38,668,270.25, and less an underwriters' discount of \$1,197,906.30. The purchase price is greater than 100 percent of the aggregate principal amount of the Bonds as shown in Section 3 and within the limitations set forth in the Bond Ordinance.

b) The preparation and delivery of the Preliminary Official Statement, dated December 1, 2017, delivered to and used by the Underwriters in connection with the public offering, sale and distribution of the Bonds, attached to this Determination Certificate as EXHIBIT B, is ratified and approved by me as Chief Financial Officer.

c) The preparation and delivery of the Official Statement, dated December 7, 2017, attached to this Determination Certificate as EXHIBIT C, is ratified and approved by me as Chief Financial Officer, has been executed by me on behalf of the City and has been delivered to the Representative of the Underwriters

d) The CUSIP numbers of the Bonds are as set forth in EXHIBIT D attached to this Determination Certificate.

#### **Section 6. The Trustee and the Eleventh Supplemental Indenture.**

a) The Bank of New York Mellon Trust Company, N.A. is designated as the Trustee for the Bonds.

b) The Eleventh Supplemental Indenture Securing Second Lien Water Revenue Refunding Bonds, Series 2017-2, dated as of December 1, 2017, from the City to the Trustee, in the form attached as EXHIBIT E to this Determination Certificate (the "Eleventh Supplemental Indenture"), which supplements the Master Indenture between the City and the Trustee, has been approved and executed by me on behalf of the City and has been delivered to the Trustee.

**Section 7. Application of Proceeds.**

The proceeds of sale of the Bonds shall be applied to the purposes and in the amounts set forth in Sections 4.03 of the Eleventh Supplemental Indenture attached as EXHIBIT E (which amounts include the costs of refunding the Refunded Bonds, paying the Bond insurance premium for the Insured Bonds described in Section 3(b) hereof and Costs of Issuance with respect to the Bonds).

**[SIGNATURE PAGE FOLLOWS]**

**4**

Chief Financial Officer City of Chicago

**SECOND LIEN BOND DETERMINATION CERTIFICATE SECOND LIEN WATER  
REVENUE REFUNDING BONDS, SERIES 2017-2**

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**EXHIBIT A BOND PURCHASE AGREEMENT  
BOND PURCHASE AGREEMENT**

**\$235,260,000 CITY OF CHICAGO SECOND LIEN WATER REVENUE  
REFUNDING BONDS  
SERIES 2017-2**

December 7, 2017 City of Chicago  
Office of the Chief Financial Officer 121 North LaSalle  
Street, 7<sup>th</sup> Floor Chicago, Illinois 60602 Attention: Chief  
Financial Officer

Ladies and Gentlemen:

The undersigned, Mesirow Financial, Inc. (the "Representative"), on behalf of itself and the other underwriters listed below (collectively, the "Underwriters"), hereby offers to enter into this Bond Purchase Agreement (this "Agreement") with the City of Chicago, a municipal corporation and a home rule unit of local government duly organized and existing under the laws of the State of Illinois (the "City"), for the purchase by the Underwriters of all but not less than all of \$235,260,000 in aggregate principal amount of the City's Second Lien Water Revenue Refunding Bonds, Series 2017-2 (the "Bonds"), subject to the terms of a Master Indenture of Trust Securing City of Chicago Second Lien Water Revenue Bonds, dated as of December 15, 1999, as heretofore supplemented (the "Master Indenture"), from the City to The Bank of New York Mellon Trust Company, N.A., as trustee (as successor to American National Bank and Trust Company of Chicago and J.P. Morgan Trust Company, National Association) (the "Trustee"), as amended by Amendment No. 1 to Master Indenture dated as of August 1, 2004 ("Amendment No. 1"), and as further supplemented by the Eleventh Supplemental Indenture Securing Second Lien Water Revenue Refunding Bonds, Series 2017-2, dated as of December 1, 2017 (the "Eleventh Supplemental Indenture," and, collectively with Amendment No. 1 and the Master Indenture, the "Indenture").

This offer is made subject to the acceptance by the City, evidenced by the signature of a duly

Authorized Officer of the City in the space provided below, on or before 5:00 p.m., Chicago time, on the date hereof, and upon such acceptance this Agreement shall be in full force and effect in accordance with its terms and shall be binding on the City and the Underwriters.

The Representative is authorized, and hereby represents and warrants that it is authorized, to act as Representative of the Underwriters and to execute this Agreement and has full authority to take such action as it may deem advisable with respect to all matters pertaining to this Agreement. Each Underwriter hereby severally represents to

the City that it is registered and in good standing under the Securities Exchange Act of 1934, as amended (the "1934 Act"), as a municipal securities dealer.

Capitalized terms not otherwise defined herein shall have the meanings ascribed thereto in the Preliminary Official Statement, as defined herein.

1. Agreement to Sell and Purchase.

a) The Underwriters, jointly and severally, hereby agree to purchase the Bonds at a price equal to \$272,730,363.95 (which represents the \$235,260,000.00 aggregate principal amount of the Bonds, plus an offering premium of \$38,668,270.25, and less an underwriters' discount of \$1,197,906.30).

b) It shall be a condition to the City's obligations hereunder that all the Bonds be purchased and paid for by the Underwriters at the Closing (as defined in Section 7 hereof) and a condition to the Underwriters' obligation to purchase and pay for the Bonds that all Bonds be issued and delivered by the City at the Closing.

2. The Ordinance. The Bonds are authorized by an ordinance of the City adopted by the City Council of the City (the "City Council") on November 8, 2017 (the "Ordinance"), and the Indenture and will be issued and secured as provided thereunder. The Bonds will mature, bear interest and have such other terms and conditions as are set forth on Schedule I hereto.

3. The Preliminary Official Statement. Attached hereto as Exhibit A is a copy of the Preliminary Official Statement of the City, dated December 1, 2017, relating to the Bonds (the "Preliminary Official Statement"). For purposes of Rule 15c2-12 ("Rule 15c2-12") adopted by the Securities and Exchange Commission (the "SEC") under the 1934 Act, the Preliminary Official Statement is "deemed final" by the City as of its date except for the omission of such information as is permitted by Rule 15c2-12(b)(1).

4. Establishment of Issue Price.

(a) The Representative, on behalf of the Underwriters, represents to the City that, as of the date of this Agreement, the Underwriters have offered and sold at least 10% of each maturity of the Bonds to the public (as "public" is defined in Section 4(c) hereof) at the prices shown for each such maturity on Schedule I hereto. The Representative, on behalf of the Underwriters, agrees to assist the City in establishing the issue price of the Bonds, as provided herein, and shall execute and deliver to the City at Closing an "issue price" or similar certificate, together with the supporting pricing wires, Agreement Among Underwriters or equivalent communications, substantially in the form attached hereto as Exhibit B, with such modifications as may be appropriate or necessary, in the reasonable judgment of the Representative, the City and Co-Bond Counsel (as



defined herein), to accurately reflect, as applicable, the sales price or prices or the initial offering price or prices to the public of the Bonds. The Underwriters acknowledge that the City and Co-Bond Counsel will rely on such certificate and that

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such reliance is material to the City in entering into this Agreement and in connection with the delivery of the Bonds.

b) The City will treat the first price at which 10% of each maturity of the Bonds (the "10% test") is sold to the public as the issue price of that maturity. At or promptly after the execution of this Agreement, the Representative shall report to the City the price or prices at which the Underwriters have sold to the public each maturity of Bonds.

c) The Underwriters acknowledge that sales of any Bonds to any person that is a related party to an Underwriter shall not constitute sales to the public for purposes of this Section. Further, for purposes of this Section:

- i) "public" means any person other than an underwriter or a related party;
- ii) "underwriter" means (A) any person that agrees pursuant to a written contract with the City (or with the lead underwriter to form an underwriting syndicate) to participate in the initial sale of the Bonds to the public and (B) any person that agrees pursuant to a written contract directly or indirectly with a person described in clause (A) to participate in the initial sale of the Bonds to the public (including a member of a selling group or a party to a retail distribution agreement participating in the initial sale of the Bonds to the public);
- iii) a purchaser of any of the Bonds is a "related party" to an underwriter if the underwriter and the purchaser are subject, directly or indirectly, to (i) at least 50% common ownership of the voting power or the total value of their stock, if both entities are corporations (including direct ownership by one corporation of another), (ii) more than 50% common ownership of their capital interests or profits interests, if both entities are partnerships (including direct ownership by one partnership of another), or (iii) more than 50% common ownership of the value of the outstanding stock of the corporation or the capital interests or profit interests of the partnership, as applicable, if one entity is a corporation and the other entity is a partnership (including direct ownership of the applicable stock or interests by one entity of the other); and
- iv) "sale date" means the date of execution of this Agreement by all parties.

## 5. The Official Statement.

(a) The City shall provide, or cause to be provided, at its expense, to the Underwriters no later than the earlier of (i) seven (7) business days after the date of this

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Agreement or (ii) the Closing, three (3) copies of the Official Statement of the City, dated the date hereof, relating to the Bonds (the "Official Statement"), signed on behalf of the City by the Mayor or the Chief Financial Officer, the City Comptroller or other Authorized Officer, and the Official Statement so delivered shall be "final" for purposes of Rule 15c2-12. Such delivery of the Official Statement shall occur in sufficient time to accompany any confirmation that requests payment from any customer and in sufficient quantity to comply with Section (b)(4) of the Rule and the rules of the SEC and the Municipal Securities Rulemaking Board (the "MSRB").

(b) If on or prior to the Closing or within twenty-five (25) days after the "end of the underwriting period" (as hereinafter defined) any event known to the City relating to or affecting the City, the Ordinance or the Bonds shall occur which would cause any statement of a material fact contained in the Official Statement to be materially incorrect or materially incomplete, the City will promptly notify the Representative in writing of the circumstances and details of such event. If, as a result of such event, it is necessary, in the joint opinion of the City and the Representative to amend or supplement the Official Statement by stating or restating any material fact necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading, the City will forthwith prepare and furnish to the Underwriters a reasonable number of copies of an amendment of, or a supplement to, such Official Statement in form and substance satisfactory to the City and the Representative, at the City's sole cost and expense, which will so amend or supplement such Official Statement so that, as amended or supplemented, the Official Statement will not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. For purposes of this Agreement, the term "end of the underwriting period" shall mean the later of (i) the date of Closing or (ii) the date on which the Underwriters no longer retain an unsold balance of the Bonds for sale to the public. The Underwriters agree that the date on which the end of the underwriting period shall occur shall be the date of the Closing, unless the Underwriters otherwise notifies the City in writing prior to twenty-five (25) days after the date of the Closing that, to the best of its knowledge, the Underwriters retain for sale to the public an unsold balance of the Bonds, in which case the end of the underwriting period shall be extended for additional periods of thirty (30) days upon receipt of additional written notification from the Underwriters that, to the best of their knowledge, there exists an unsold balance of the Bonds, but in no event shall the end of the underwriting period be extended longer than sixty (60) days after the date of Closing.

The Official Statement shall be provided for distribution, at the expense of the City, in such quantity as may be requested by the Underwriters as set forth above in order to permit the Underwriters to comply with Rule 15c2-12, and the applicable rules of the MSRB, with respect to distribution of the Official Statement. The City shall prepare the Official Statement, including any amendments thereto, in word-searchable PDF format as described in the MSRB Rule G-32 and shall provide the electronic copy of the word-searchable PDF format of the Official Statement to the Underwriters no later than the date required under Section 5(a) hereof, to enable the Underwriters to comply with MSRB Rule G-32.

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(c) At or prior to the Closing, the Representative shall file, or cause to be filed, the Official Statement with the MSRB in compliance with the rules of the SEC and the MSRB. Promptly after the date after which the Underwriters are no longer obligated under Rule 15c2-12(b)(4) to deliver to potential customers the Official

Statement, the Representative shall notify the City of such date.

6. Representations, Warranties and Covenants of the City. The City represents and warrants to the Underwriters as of the date hereof that:

a) The City is a municipal corporation and home rule unit of local government, existing under the Constitution and laws of the State of Illinois (the "State").

b) The City Council has: (i) duly adopted the Ordinance, which remains in full force and effect; (ii) duly authorized the use of the Preliminary Official Statement prior to the date hereof in connection with the public offering and sale of the Bonds and duly authorized the execution, delivery and distribution of the Official Statement in connection with the public offering and sale of the Bonds; and (iii) duly authorized and approved the execution and delivery of the Bonds, the Indenture, the Refunding Escrow Agreement (as defined herein), this Agreement and a continuing disclosure undertaking pursuant to the provisions of Section (b)(5) of Rule 15c2-12 (the "Undertaking").

c) With the exception of the disclosure described in the Preliminary Official Statement in the section titled "SECONDARY MARKET DISCLOSURE - Corrective Action Related to Certain Bond Disclosure Requirements," the City has not failed during the previous five (5) years to comply in all material respects with any previous undertakings in a written continuing disclosure contract or agreement under Rule 15c2-12.

d) The City has full legal right, power and authority to: (i) adopt the Ordinance; (ii) execute and deliver this Agreement, the Undertaking, the Official Statement and the Indenture; (iii) to execute and deliver the refunding escrow agreement (the "Refunding Escrow Agreement"), dated the date of Closing, between the City and The Bank of New York Mellon Trust Company, N.A., as escrow agent (the "Escrow Agent"), in connection with the refunding of all or a portion of the City's outstanding Water Revenue Project and Refunding Bonds, Series 2008; (iv) issue and cause delivery of the Bonds to the Underwriters pursuant to the Ordinance and the Indenture and as provided in this Agreement; and (v) pay the principal of, premium, if any, and interest on the Bonds from the sources pledged under the Ordinance for their payment.

e) The adoption of the Ordinance and compliance with the provisions thereof do not, and the execution and delivery of this Agreement, the Undertaking, the Indenture, the Refunding Escrow Agreement and the Official Statement will not, in any material manner, violate any applicable law or administrative regulation of the State or any department, division, agency or instrumentality thereof or of the United States of America (the "United States") or of any department, division, agency or instrumentality thereof, or any applicable judgment or decree to which the City is subject, or conflict with, in a material manner, or constitute a material breach of, or a material default under,

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any ordinance, agreement or other instrument to which the City is a party or is otherwise bound.

f) All approvals, consents and orders of, and filings (except, if any, under applicable state "blue sky" laws) with, any governmental authority, board, agency or commission having jurisdiction which would constitute a condition precedent to the performance by the City of its obligations under this Agreement, the Undertaking, the Ordinance, the Indenture, the Refunding Escrow Agreement and the Bonds have been

obtained or made.

g) The financial statements of the City contained in the Official Statement fairly present the financial position and results of operations of the City as of the date and for the periods therein set forth, and the City has no reason to believe that such financial statements have not been prepared in accordance with generally accepted accounting principles as consistently applied to governmental units, except as otherwise noted therein.

h) The Official Statement (excluding any description of The Depository Trust Company ("DTC"), information under the captions "DESCRIPTION OF THE BONDS - Book-Entry Only System," "BOND INSURANCE," "RATINGS," "UNDERWRITING," "TAX MATTERS," APPENDIX D - PROPOSED FORM OF OPINIONS OF CO-BOND COUNSEL and APPENDIX E - SPECIMEN MUNICIPAL BOND INSURANCE POLICY, and information furnished by the Underwriters for use in the Official Statement) as of its date does not, and at the Closing will not, contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading in any material respect.

(i) The Ordinance, this Agreement, the Undertaking, the Refunding Escrow

Agreement and the Indenture, when duly executed and delivered by the parties thereto, as appropriate, will constitute legal, valid and binding obligations of the City enforceable in accordance with their terms (except to the extent that enforceability may be limited by bankruptcy, insolvency and other laws affecting creditors' rights or remedies and the availability of equitable remedies generally).

(j) When delivered to the Representative, and paid for by the Underwriters at the Closing in accordance with the provisions of this Agreement, the Bonds will be duly authorized, executed and delivered and will constitute legal, valid and binding obligations of the City, enforceable in accordance with their terms (except to the extent that enforceability may be limited by bankruptcy, insolvency and other laws affecting creditors' rights or remedies and the availability of equitable remedies generally).

(k) Except as disclosed in the Official Statement, there is no action, suit or proceeding, at law or in equity, or before or by a court, public board or body, pending or, to the City's knowledge, threatened, against the City wherein an unfavorable decision, ruling or finding would materially adversely affect (i) the validity or enforceability of the Bonds, the Ordinance, this Agreement, the Refunding Escrow Agreement or the

Undertaking; or (ii) the excludability from federal income taxation of the interest on the Bonds under the Internal Revenue Code of 1986, as amended (the "Code").

(1) The City has not taken, or omitted taking, and will not take, or omit to take, any action, which action or omission would adversely affect the excludability from federal income taxation of the interest on the Bonds under the Code.

(m) Any certificate signed by any Authorized Officer of the City and delivered to the Representative at the Closing in connection with the sale of the Bonds shall be deemed to be a representation and warranty by the City to the Underwriters as to the statements made therein as of the date so delivered.

(n) The City will make available such information, execute such instruments and take such other action in cooperation with the Underwriters as the Representative may reasonably request to qualify the Bonds for offering and sale under the "blue sky" or other securities laws and regulations of such states and other jurisdictions of the United States as the Underwriters may designate in writing; provided, however, that nothing in this Section 6(0) shall require the City to consent to general service of process in any state or jurisdiction other than the State.

(o) The City acknowledges and agrees that: (i) the transaction contemplated by this Agreement is an arm's length, commercial transaction between the City and the Underwriters in which the Underwriters are acting solely as a principal and not acting as a municipal advisor, financial advisor or fiduciary to the City; (ii) the Underwriters have not assumed any advisory or fiduciary responsibility to the City with respect to the transaction contemplated hereby and the discussions, undertakings and procedures leading thereto (irrespective of whether any Underwriter has provided other services or is currently providing other services to the City on other matters); (iii) the Underwriters have financial and other interests that differ from those of the City; and (iv) the City has consulted its own legal, accounting, tax, financial and other advisors, as applicable, to the extent it has deemed appropriate.

7. Closing. Subject to the conditions set forth in this Agreement, the closing (the "Closing") shall take place at approximately 11:00 a.m., Chicago time, on December 21, 2017, at the offices of Reyes Kurson, Ltd., 328 South Jefferson, Suite 909, Chicago, Illinois 60661 (or at such other time, date and place as the City and the Representative mutually agree).

a) At the Closing, the City shall deliver or cause to be delivered to DTC, as securities depository, for the account of the Underwriters, one fully registered certificate for each series, interest rate and maturity of the Bonds in the aggregate principal amount thereof, registered in the name of Cede & Co., as nominee for DTC.

b) Upon delivery of the Bonds to the Representative at the Closing, the City will deliver to the Representative the closing documents as set forth in Section 10 hereof.

c) The Representative will accept delivery of the Bonds and pay the purchase price therefor at the Closing by delivering federal funds checks or making federal funds

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wire transfers or otherwise confirming deposits of same day funds, to the Trustee as provided in the Indenture, in an aggregate amount equal to the purchase price of the Bonds pursuant to Section 1 hereof.

## 8. Reliance and Further Conditions of the Underwriters.

a) The Underwriters have entered into this Agreement in reliance upon the representations, warranties and agreements of the City and the performance by the City of its obligations hereunder, both as of the date hereof and as of the date of the Closing. The Underwriters' obligations under this Agreement are and

shall be subject to the following further condition that at the time of the Closing, the Ordinance, the Undertaking, the Indenture, the Refunding Escrow Agreement and this Agreement shall be in full force and effect and the Ordinance and the Official Statement shall not have been amended, modified or supplemented except as may have been agreed to with respect to the Official Statement pursuant to Section 5 hereof, and the City shall have duly adopted and there shall be in full force and effect such ordinances as, in the opinion of Reyes Kurson, Ltd. and Burke Burns & Pinelli, Ltd., Chicago, Illinois, as co-bond counsel to the City ("Co-Bond Counsel"), shall be necessary in connection with the transactions contemplated hereby and thereby.

b) At the time of the Closing, evidence shall be provided that, on the basis of the municipal bond insurance policy (the "Bond Insurance Policy") issued by Assured Guaranty Municipal Corp. (the "Bond Insurer") with respect to the Bonds maturing in November 1, 2028 through November 1, 2038, inclusive (the "Insured Bonds"), as described in the Official Statement, the Insured Bonds have received a rating of at least "AA" from S&P Global Ratings ("S&P") and a rating of at least "AA+" from KBRA ("KBRA"), and that S&P has assigned to the Bonds an underlying rating of at least "A" (stable outlook), Fitch Ratings ("Fitch") has assigned to the Bonds an underlying rating of at least "AA-" (negative outlook) and KBRA has assigned to the Bonds an underlying rating of at least "AA" (stable outlook), and such ratings shall not have been qualified or lowered on or prior to Closing if such qualification or lowering, in the Representative's opinion, adversely affects the market price or marketability of the Bonds.

9. Termination of Agreement.

(a) The Underwriters shall have the right to cancel their obligations to purchase the Bonds and have the further right to terminate this Agreement, without liability therefor, by written notice to the City, if, between the date hereof and the Closing:

(i) legislation shall be introduced in or enacted by the Congress of the United States or adopted by either House thereof or shall have been introduced and favorably reported for passage to either House by any committee of such House to which such legislation had been referred for consideration, or a decision shall have been rendered by or adopted by either House or a decision by a court of the United States or the United States Tax Court or an order, ruling or regulation shall have been issued or proposed by or on behalf of the Treasury Department of

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the United States or the Internal Revenue Service, with respect to federal income taxation upon interest received on obligations of the general character of the Bonds which, in the Representative's reasonable opinion, does materially adversely affect the market price or marketability of the Bonds; or

ii) legislation shall have been enacted by the Congress of the United States to become effective on or prior to the Closing, or a decision of a court of the United States shall be rendered, or a stop order, ruling, regulation or proposed regulation by or on behalf of the SEC or other agency having jurisdiction over the subject matter shall be issued or made, to the effect that the issuance, sale and delivery of the Bonds, or any similar obligations of any similar public body of the general character of the City, is in violation of, or has the effect of requiring the contemplated offering, sale and distribution of the Bonds to be registered under the Securities Act of 1933, as amended, or the enactment of the Ordinance or any ordinance of similar character is in violation of the Trust Indenture Act of 1939, as amended, or with the purpose or effect of otherwise prohibiting the issuance, sale or delivery of the Bonds as contemplated hereby or by the Official Statement or of

obligations of the general character of the Bonds which, in the Representative's reasonable opinion, does materially adversely affect the market price or marketability of the Bonds; or

iii) there shall have occurred any event which in the Representative's reasonable opinion, after consultation with its legal counsel, makes the Official Statement either (A) contain an untrue statement of a material fact or (B) omit to state a material fact required to be stated therein or necessary to make the statements contained therein not misleading in any material respect, and the City fails to prepare or furnish or fails to cause to be prepared or furnished to the Underwriters an amendment or supplement to the Official Statement, pursuant to Section 5 hereof, which will amend or supplement the Official Statement so that, as amended or supplemented, the Official Statement will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements contained therein not misleading in a material respect; or

iv) there shall be in force a general suspension of trading on The New York Stock Exchange, Inc., or minimum or maximum prices for trading shall have been fixed and be in force, or maximum ranges for prices for securities shall have been required and be in force on The New York Stock Exchange, Inc., whether by virtue of a determination by that Exchange or by order of the SEC or any other governmental authority having jurisdiction; or

(v) a general banking moratorium shall have been declared by either federal, State or New York authorities having jurisdiction and be in force; or

(vi) . any legislation, ordinance, rule or regulation shall be enacted by the City or State, or any department or agency thereof, or a decision by any court of competent jurisdiction within the State shall be rendered which, in the

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reasonable opinion of the Representative, would have a material adverse effect on the market price or marketability of the Bonds; or

vii) a war involving the United States, an outbreak or escalation of or adverse development in hostilities or terrorist activities or other national or international calamity or crisis shall have occurred which, in the reasonable opinion of the Representative, materially adversely affects the market price or marketability of the Bonds; or

viii) there shall be any proceeding or threatened proceeding by the SEC against the City and such proceeding or threatened proceeding, in the reasonable opinion of the Representative, materially adversely affects the market price or marketability of the Bonds.

(b) If the City shall be unable to satisfy the conditions contained in this Agreement or if the Underwriters' obligations shall be terminated for any reason permitted by this Agreement, this Agreement shall terminate and neither the City nor the Underwriters shall have any further obligations pursuant to this Agreement.

10. Closing Conditions.

(a) The Underwriters' obligations to purchase, to accept delivery of and to pay for the Bonds at the Closing shall be conditioned upon the City's performance of its obligations under Sections 6, 7 and 8 hereof and the Representative's receipt of the following documents:

- (i) the Indenture;
- ii) a copy, duly certified by the City Clerk of the City, of the Ordinance, as passed by the City Council and approved by the Mayor;
- iii) three copies of the Official Statement manually executed by an Authorized Officer;
- iv) the approving opinions, dated the date of the Closing, of Co-Bond Counsel to the City, substantially in the form attached to the Official Statement as Appendix D;
- v) the opinions, dated the date of the Closing and addressed to the Representative, on behalf of the Underwriters, and to the City, of Co-Bond Counsel, substantially in the form attached hereto as Exhibit C-1;
- vi) a letter dated the date of the closing and addressed to the Representative, on behalf of the Underwriters, and to the City, of Co-Bond Counsel, substantially in the form attached hereto as Exhibit C-2;

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vii) an opinion, dated the date of the Closing and addressed to the Representative, on behalf of the Underwriters, of the Corporation Counsel of the City, substantially in the form attached hereto as Exhibit D;

viii) an opinion or opinions, dated the date of the Closing and addressed to the Representative, on behalf of the Underwriters, of Duane Morris LLP and Golden Holley James LLP, Chicago, Illinois, as co-disclosure counsel to the City ("Co-Disclosure Counsel"), substantially in the form attached hereto as Exhibit E;

- (ix) a certificate, dated the date of the Closing, signed by an Authorized Officer, to the effect that (A) the representations and warranties of the City herein are correct in all material respects as of the date of the Closing and (B) there has been no material adverse change in the financial condition of the City's Water Fund since December 31, 2016, as reflected in Appendix C to the Official Statement, except as set forth in the Official Statement;



- (x) a certificate of the Trustee, dated the date of Closing, to the effect that such bank has full legal right, power and authority to act as Trustee;
- (xi) a certificate of The Bank of New York Mellon Trust Company, N.A., as bond registrar and paying agent ("Bond Registrar"), to the effect that the Bond Registrar has full legal right, power and authority to act as the Bond Registrar under the Ordinance;
- xii) a certificate, dated the date of the Closing, signed by the Representative, in form and substance satisfactory to the City and Co-Bond Counsel;
- xiii) an executed copy of the Undertaking substantially in the form summarized in the Official Statement under the heading "SECONDARY MARKET DISCLOSURE";
- xiv) a copy of an agreement between the City and DTC relating to the safekeeping and book-entry form of the Bonds;
- (xv) evidence satisfactory to the Representative that the Bonds are rated "A" (stable) by S&P, "AA-" (negative) by Fitch and "AA" (stable) by KBRA;
- xvi) an opinion of counsel to the Bond Insurer, dated the date of the Closing and addressed to the City and to the Representative, on behalf of the Underwriters, regarding the validity of the Bond Insurance Policy, which opinion shall be satisfactory to the City and the Representative;
- xvii) a certificate of the Escrow Agent to the effect that the Escrow Agent has full legal right, power and authority to act as Escrow Agent under the Refunding Escrow Agreement;

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- (xviii) a fully executed Bond Insurance Policy;
- (xix) an executed copy of this Agreement;
- (xx) an executed copy of the Refunding Escrow Agreement; and
- (xxi) such additional closing certificates and agreements related to the Bonds, including such tax certifications and agreements relating to the Bonds, as Co-Bond Counsel shall reasonably determine to be necessary to deliver their opinions as provided hereinabove.

(b) All of the opinions, letters, certificates, instruments and other documents mentioned above or elsewhere in this Agreement will be deemed to be in compliance with the provisions hereof if, but only if, they are in form and substance satisfactory to the Representative, in its reasonable judgment. Payment for the Bonds and acceptance of the Bonds by the Underwriters shall constitute acknowledgment by the Underwriters of the City's full performance hereunder.

11. Expenses. The Underwriters shall be under no obligation to pay, and the City shall pay, any and all expenses incident to the performance of the City's obligations hereunder, including but not limited to: (a) the cost of the preparation and printing or other reproduction of the Ordinance, the Preliminary Official Statement and the Official Statement, as well as the cost of shipping the Official Statement; (b) the cost of the preparation and printing of the Bonds; (c) the fees and disbursements of Co-Bond Counsel and Co-Disclosure Counsel; (d) the fees and disbursements of any experts or consultants retained by the City; (e) the fees of DTC and the Bond Registrar; and (f) the fees for the municipal bond ratings on the Bonds. The Underwriters will pay the expenses incurred by them in connection with their public offering and distribution of the Bonds, including, but not limited to, the CUSIP Service Bureau charges, "Blue Sky" filing fees, any amount required to be paid to the MSRB, the fees and expenses of the Underwriters' counsel and advertising expenses directly incurred by the Underwriters.

12. Notices. Any notice or other communication to be given to the City under this Agreement shall be given by delivering the same in writing at the address set forth above, and any such notice or other communication to be given to the Underwriters shall be given by delivering the same in writing to the Representative at the following address:

Mesirow Financial, Inc.  
353 North Clark Street  
Chicago, Illinois 60654  
Attention: Todd Waldrop, Managing Director

13. No Third-Party Beneficiaries, Survival, Etc. This Agreement is made solely for the benefit of the City and the Underwriters (including the successors or assigns of any Underwriter), and no other person, partnership, association or corporation including any purchaser of the Bonds shall acquire or have any right hereunder or by virtue hereof. All of the representations and agreements by the City in this Agreement

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shall remain operative and in full force and effect regardless of any investigation made by or on behalf of the Underwriters and shall survive the delivery of and payment for the Bonds.

14. Governing Law. The rights and obligations of the parties to this Agreement shall be governed by, construed and enforced in accordance with the laws of the State of Illinois, without giving effect to the conflict-of-laws provisions thereof.

15. Representations and Warranties of the Underwriters.

a) The Underwriters warrant and represent that they have heretofore authorized the Representative to execute any document on behalf of, or exercise any authority and otherwise to act for, the

Underwriters in all matters under or pertaining to this Agreement.

b) Each Underwriter has warranted and confirmed to the Representative, and the Representative warrants and confirms to the City, that:

i) (1) It is duly registered under the 1934 Act as a broker/dealer or municipal securities dealer and has duly paid the fee prescribed by MSRB Rule A-12 or is exempt from such requirements; (2) it is (A) a member in good standing of the Financial Industry Regulatory Authority ("FINRA") or (B) otherwise eligible under FINRA rules to receive underwriting discounts and concessions available to such members with respect to underwriters of municipal securities; and (3) it has complied with the dealer registration requirements, if any, of the various jurisdictions in which it offers Bonds for sale. The Underwriters represent, warrant and covenant that they are and will be in compliance with all applicable laws, rules and regulations in connection with the offering, issuance and sale of the Bonds.

ii) To the knowledge of the Underwriters, no person holding office of the City, either by election or appointment, is in any manner financially interested, either directly in the officer's own name or indirectly in the name of any other person, association, trust or corporation, in any contract being entered into or the performance of any work to be carried out in connection with the issuance and sale of the Bonds upon which said officer may be called upon to act or vote.

iii) Each Underwriter severally represents to the City that neither the Underwriter, nor any Affiliate thereof, is listed on any of the following lists maintained by the Office of Foreign Assets Control of the United States Department of the Treasury, the Bureau of Industry and Security of the United States Department of Commerce, the United States Department of State or their successors, or on any other list of persons or entities with which the City may not do business under any applicable law, rule, regulation, order or judgment: the Specially Designated Nationals

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List, the Denied Persons List, the Unverified List, the Entity List, the List of Statutorily Debarred Parties and the Excluded Parties List. Such representation shall be provided to the City in the form attached hereto as Exhibit F. For purposes of this representation, "Affiliate," when used to indicate a relationship with a specified person or entity, means a person or entity that, directly or indirectly, through one or more intermediaries, controls, is controlled by or is under common control with such specified person or entity, and a person or entity shall be deemed to be controlled by another person or entity, if controlled in any manner whatsoever that results in control in fact by that other person or entity (or that other person or entity and any persons or entities with whom that other person or entity is acting jointly or in concert), whether directly or indirectly and whether through share ownership, a trust, a contract or otherwise.

(iv) The Underwriters may enter into distribution agreements with certain financial institutions for the retail distribution of municipal securities, including the Bonds, at the initial public offering price. In accordance with such arrangements, the Underwriters may share a portion of its underwriting compensation.

16. Approval. The approval of the Underwriters when required hereunder or the determination of its satisfaction as to any document referred to herein shall be in writing signed by the Representative and delivered to the City.

17. Successors and Assigns. This Agreement shall inure to the benefit of and be binding upon the parties and their successors and assigns, and will not confer any rights upon any other person. The terms "successors" and "assigns" shall not include any purchaser of any Bond or Bonds from the Underwriters merely because of such purchase.

18. Enforceability. If any provision of this Agreement shall be held or deemed to be or shall, in fact, be invalid, inoperative or unenforceable as applied in any particular case in any jurisdiction or jurisdictions, or in all jurisdictions, because it conflicts with any provisions of any constitution, statute, rule or public policy, or for any other reason, such circumstances shall not have the effect of rendering the provision in question invalid, inoperative or unenforceable in any other case or circumstances, or of rendering any other provision or provisions of this Agreement invalid, inoperative or unenforceable to any extent whatsoever.

19. Counterparts. This Agreement may be executed in several counterparts, each of which shall be regarded as the original and all of which shall constitute one and the same document.

20. Cooperation with City Inspector General. Each Underwriter understands and agrees that it is required to and will comply with the provisions of Chapter 2-56 of the Municipal Code of Chicago. Pursuant to Section 2-56-090 of the Municipal Code of Chicago, it shall be the duty of each Underwriter to cooperate with the inspector general in any investigation or hearing undertaken pursuant to Chapter 2-56. Each Underwriter

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shall report, directly and without undue delay, to the City's inspector general any and all information concerning conduct by any person that such Underwriter knows to involve corrupt activity, pursuant to Section 2-156-018(b) of the Municipal Code of Chicago. A member of the Underwriters' knowing failure to report corrupt activity, as required in subsection (b) of Section 2-156-018 of the Municipal Code of Chicago, shall constitute an event of default under this Agreement. For purposes of subsection (b) of Section 2-156-018 of the Municipal Code of Chicago, "corrupt activity" shall mean any conduct set forth in subparagraph (a)(1), (2) or (3) of Section 1-23-020 of the Municipal Code of Chicago:

- 1) bribery or attempted bribery, or its equivalent under any local, state or federal law, of any public officer or employee of the City of Chicago or of any sister agency; or
- 2) theft, fraud, forgery, perjury, dishonesty or deceit, or attempted theft, fraud, forgery, perjury, dishonesty or deceit, or its equivalent under any local, state or federal law, against the City of Chicago or of any sister agency; or
- 3) conspiring to engage in any of the acts set forth in items (1) or (2) of this subsection (a).

The Underwriters, individually and collectively, agree and covenant that no payment, gratuity or offer of employment shall be made in connection with this Agreement, by or on behalf of a subcontractor to the Underwriters or any higher-tier subcontractor or any person associated therewith, as an inducement for the

award of a subcontract or order related to this Agreement.

21. Entire Agreement. This Agreement constitutes the entire agreement between the parties hereto with respect to the matters covered hereby, and supersedes all prior agreements and understandings between the parties. This Agreement shall only be amended, supplemented or modified in a writing signed by both of the parties hereto.

*[Signature Page Follows]*

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IN WITNESS WHEREOF, the parties hereto have caused this Bond Purchase Agreement in connection with the City of Chicago Second Lien Water Revenue Refunding Bonds, Series 2017-2, to be executed by their duly authorized representatives as of the date first above written.

Very truly yours,

**THE UNDERWRITERS**

Senior Manager Mesirow Financial, Inc.

Co-Managers Fifth Third Securities, Inc. North  
South Capital, LLC Podesta & Co.

By: MESIROW FINANCIAL, INC., as Representative

By:

Todd E. Waldrop Senior Managing Directi

***f.***

**ACCEPTED BY THE CITY:**

CITY OF CHICAGO

Carole L. Brown Chief Financial Officer

**O-L**

Edward M. Burke Chairman, Committee on Finance of the City Council

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**Schedule 1 Terms of Bonds**

1. **Aggregate Principal Amount: \$235,260,000**

2. **Dated: December 21, 2017**

3. **Maturities, Principal Amounts, Interest Rates, Prices and CUSIP Numbers:**

**\$235,260,000 City of Chicago Second Lien Water Revenue  
Refunding Bonds Series 2017-2**

**Uninsured Bonds: Maturity**

(November 1)    Principal Amount    Interest Rate

2018 2019 2020 2021 2022 2023 2024

\$ 3,000,000 16,950,000 12,640,000 5,415,000 5,690,000 5,975,000 6,270,000

5.000%

5.000

5.000

5.000

5.000

5.000

5.000

103.025 105.923 108.824 111.407 113.679 115.672 117.390

1.450%

1.750

1.820

1.920

2.030

2.140

2.250

167736 N29 167736 N37 167736 N45 167736 N52 167736 N60 167736 N78 167736 N86  
\$ 55,940,000

Principal Amount      Interest Rate

2028 2030 2031 2032 2033 2034 2035 2036 2037 2038

\$ 13,585,000 15,030,000 15,780,000 16,570,000 17,400,000 18,275,000 19,185,000 20,145,000 21,145,000 22,205,000

5.000%

5.000

5.000

5.000

5.000

5.000

5.000

5.000

5.000

5.000

121.239 C 119.984 C 119.505 C 119.029 C 118.555 C 118.083 C 117.613 C 117.426 C 117.332 C 117.239 C

2.550%

2.680

2.730

2.780

2.830

2.880

2.930

2.950

2.960

2.970

167736 N94 167736 P27 167736 P35 167736 P43 167736 P50 167736 P68 167736 P76 167736 P84 167736 P92 167736 Q26  
\$179,320,000

Total: S235,260,000 C    Priced to the first date of optional redemption of November 1, 2027.

#### 4. Optional Redemption.

The Bonds maturing on or after November 1, 2028 are subject to redemption prior to maturity at the option of the City, in whole or in part, on any date on or after November 1, 2027, and if in part, in such order of maturity as the City shall determine, and within any maturity and interest rate by lot, at a redemption price equal to the outstanding principal amount of such Bonds, together with accrued interest to the date fixed for redemption.

### **Exhibit A**





**Exhibit B**

**Form of Issue Price Certificate of the Underwriters**

**Exhibit B**

**Form of Issue Price Certificate of the Underwriters**

City of Chicago

Reyes Kurson, Ltd.

Burke Burns & Pinelli, Ltd.

Re: City of Chicago \$235,260,000 Second Lien Water Revenue Refunding Bonds, Series 2017-2  
(the "Bonds")

Ladies and Gentlemen:

The undersigned, on behalf of Mesirow Financial, Inc., acting for itself and as representative of each Underwriter named in the Bond Purchase Agreement defined below (the "Representative") hereby certifies as follows:

1. The Representative and the City of Chicago (the "City") have executed on December 7, 2017 (the "Sale Date") a Bond Purchase Agreement relating to the sale of the Bonds (the "Bond Purchase Agreement"). The Bond Purchase Agreement has not been amended since the Sale Date.

2. Capitalized terms used in this Certificate and not otherwise defined herein have the following meanings:

a) "Initial Offering Price" means, for each Maturity, the first price at which at least 10% of such Maturity was sold to the Public.

b) "Maturity" means Bonds with the same credit and payment terms. Bonds with different maturity dates, or Bonds with the same maturity date but different stated interest rates, are treated as separate maturities.

c) "Public" means any person (including an individual, trust, estate, partnership, association, company or corporation) other than an Underwriter or a related party to an Underwriter. The term "related party" for purposes of this Certificate generally means any two or more persons who have greater than 50 percent common ownership, directly or indirectly.

d) "Underwriter" means (i) any person that agrees pursuant to a written contract with the City (or with the Representative to form an underwriting syndicate) to participate in the initial sale of the Bonds to the Public, and (ii) any person that agrees pursuant to a written contract directly or indirectly with a person described in clause (i) of this paragraph to participate in the initial sale of the Bonds to the Public (including a member of a selling group or a party to a retail distribution agreement participating in the initial sale of the Bonds to the Public).

3. As of the date of this Certificate, for each Maturity, the Initial Offering Price for such Maturity is the respective price listed in Schedule A.

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4. The aggregate "issue price" of the Bonds (that is, the Initial Offering Price to the Public) is \$273,928,270.25, which is equal to the principal amount of the Bonds of \$235,260,000.00, plus original issue premium of \$38,668,270.25. The Representative is purchasing the Bonds at a price of \$272,730,363.95, which is the issue price of the Bonds less an underwriter's discount of \$1,197,906.30.

We understand that Co-Bond Counsel may rely upon this certification, among other things, in providing an opinion that interest on the Bonds is excluded from gross income for federal income tax purposes.

Dated: December 21, 2017

Mesirow Financial Inc., as Representative

By:

Its: Managing Director

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Schedule A to Exhibit B Initial Offering Prices of the Bonds

**Maturity November 1**

2018-

2019

2020

2021

2022

2023

2024

2028

2030

2031

2032

2033

2034

2035

2036

2037

2038

**Principal Amount (\$)**

3,000,000

16,950,000

12,640,000

5,415,000

5,690,000

5,975,000

6,270,000

13,585,000

15,030,000

15,780,000  
16,570,000  
17,400,000  
18,275,000  
19,185,000  
20,145,000  
21,145,000  
22,205,000

**Interest Rate**

5.00% 5.00% 5.00% 5.00% 5.00% 5.00% 5.00% 5.00% 5.00% 5.00% 5.00% 5.00% 5.00% 5.00% 5.00%  
5.00% 5.00%

**Price**

103.025  
105.923  
108.824  
111.407  
113.679  
115.672  
117.390  
121.239<sup>(1)</sup>  
119.984<sup>(1)</sup>  
119.505<sup>(1)</sup>  
119.029<sup>(1)</sup>  
118.555<sup>(1)</sup>  
118.083°  
117.613<sup>(1)</sup>  
117.426°  
117.332<sup>(1)</sup>  
117.239<sup>(1)</sup>

**Yield**

1.450% 1.750% 1.820% 1.920% 2.030% 2.140% 2.250% 2.550% 2.680% 2.730% 2.780% 2.830% 2.880%

2.930% 2.950% 2.960% 2.970%

(1) Priced to the November 1, 2027 first optional redemption date.

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Exhibit C-1

Form ok Supplemental Opinions of Co-Bond Counsel

[Attaciiel.]

December 21, 2017

Mesirow Financial, Inc., as representative (the  
"Representative") of the underwriters (the  
"Underwriters") named in that certain Bond  
Purchase Agreement dated December 7, 2017  
(the "Bond Purchase Agreement") between  
the City of Chicago and the Representative Chicago, Illinois

City of Chicago  
Chicago, Illinois

Ladies and Gentlemen:

We have acted as co-bond counsel to the City of Chicago (the "City"), and have delivered our approving legal opinion of even date herewith in connection with the issuance on the date hereof by the City of its \$235,260,000.00 aggregate principal amount Second Lien Water Revenue Refunding Bonds, Series 2017-2 (the "Bonds"). This opinion is being delivered to you in accordance with Section 10(a)(v) of the Bond Purchase Agreement. All terms used in this letter and not defined in this letter shall have the meanings given to them in the Bond Purchase Agreement.

In connection with the offering of the Bonds we have examined the following: (a) the Constitution of the State of Illinois, certified copies or executed counterparts of the Ordinance and the Indenture and such laws as we deemed pertinent to this opinion; (b) executed counterparts of the Bond Purchase Agreement and the Undertaking; and (c) such

other documents and related matters of law as we have deemed necessary in order to render this opinion.

Based upon our examination of the foregoing, we are of the opinion that:

1. Assuming the due authorization, execution, delivery and the binding effect on the other parties thereto, each of the Bond Purchase Agreement and the Undertaking constitutes a legal, valid and binding obligation of the City, enforceable against the City in accordance with its respective terms, except that the enforceability of the Bond Purchase Agreement or the Undertaking may be limited by bankruptcy, insolvency, moratorium, reorganization and other similar laws affecting creditors' rights and by equitable principles, whether considered at law or in equity, including the exercise of judicial discretion.

2. The Bonds are not subject to the registration requirements of the Securities Act of 1933, as amended, and the Indenture is exempt from qualification pursuant to the Trust Indenture Act of 1939, as amended.

'123175 I

Mesirow Financial, Inc.  
as representative of the Underwriters City of Chicago  
December 21, 2017 Page 2

Our opinion represents our legal judgment based upon our review of the law and the facts that we deem relevant to render such opinion, and is not a guarantee of a result. This opinion is given as of the date hereof and we assume no obligation to revise or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or any changes in law that may hereafter occur.

This opinion is furnished by us as Co-Bond Counsel to the City. No attorney-client relationship has existed or exists between our firm and the Underwriters in connection with the Bonds or by virtue of this opinion. This opinion is not intended to be relied upon and is not to be used, quoted, circulated, relied upon or otherwise referenced to by any other person or entity (including any person or entity purchasing any of the Bonds from any Underwriter) or any other owner of the Bonds or by any other party to whom it is not specifically addressed. This opinion, may be disclosed to your counsel and copies of this opinion may be included in the compilation of closing documents.

Respectfully submitted.

Fahibit C-2 Form of Letter of Co-Bond Counsel

[Attached.1

December 21, 2017

Mesirow Financial, Inc., as representative (the	City of Chicago
"Representative") of the underwriters (the	Chicago, Illinois
"Underwriters") named in that certain Bond	
Purchase Agreement dated December 7, 2017	
(the "Bond Purchase Agreement") between	
the City of Chicago and the Representative Chicago, Illinois	

Ladies and Gentlemen:

We have acted as co-bond counsel to the City of Chicago (the "City"), and have delivered our approving legal opinion of even date herewith in connection with the issuance on the date hereof by the City of its \$235,260,000.00 aggregate principal amount Second Lien Water Revenue Refunding Bonds, Series 2017-2 (the "Bonds"). You may rely on such approving legal opinion as though it were addressed specifically to you. This opinion is being delivered to you in accordance with Section 10(a)(vi) of the Bond Purchase Agreement. All terms used in this letter and not defined in this letter shall have the meanings given to them in the Bond Purchase Agreement.

We have not been engaged nor have we undertaken to review or verify the accuracy, completeness or sufficiency of the information contained in or appended to the Preliminary Official Statement or the Official Statement dated December 7, 2017 with respect to the Bonds, except that in our capacity as co-bond counsel, we have reviewed the statements contained in the Preliminary Official Statement and the Official Statement under the captions "In PRODUCTION - Security for the Bonds," "INTRODUCTION - Rate Covenant" (other than references to rate increases and/or expenditure reductions contained in the last clause of the fifth sentence of the third paragraph thereof), "DESCRIPTION of Till? Bonds" (other than statements contained in the third paragraph under the sub-caption "- General" and under the sub-caption "- Book-Entry Only System"), "SECURITY for Ti ll- BONDS" (other than, statements contained in the last two sentences of the last paragraph of the sub-caption "- Pledge of Second Lien Bond Revenues," the second sentence of the first paragraph of the sub-caption "- Flow of Funds." the chart entitled "Ordinance Flow of Funds" and the paragraph preceding such chart, the second and third sentences under the sub-caption "- Cash and Investments" and the second and third sentences under the sub-caption "- Subordinate Lien Obligations and Other Subordinate Obligations") and in APPENDIX A - "Definitions" and Appendix B - "Summary of Certain Provisions of the Ordinance and

Mesirow Financial, Inc. ■

as representative of the Underwriters ; City of Chicago  
December 2 C2017 Page 2

THE Indenture." solely to determine whether such statements conform to the Bonds, the Ordinance and the Indenture.

The purpose of our professional engagement was not to establish or confirm factual matters set forth in the Preliminary Official Statement or the Official Statement, and we have not undertaken any obligation to verify or investigate independently any of the factual matters set forth in the Preliminary Official Statement or the Official Statement. Moreover, many of the determinations required to be made in the preparation of the Preliminary Official Statement and the Official Statement involve matters of a non-legal nature.

Subject to the foregoing, the summary descriptions under the captions set forth above and excepting the matters set forth above, in the Preliminary Official Statement and the Official Statement, insofar as those statements purport to summarize certain provisions of the Bonds, the Ordinance and the Indenture, are fair and accurate summaries of such provisions in all material respects. Further, the statements contained in the Preliminary Official Statement and the Official Statement under the captions "Tax Matters" and in Appendix D - "Form of Opinions to be Delivered BY Co-Bond COUNSEL," insofar as such statements constitute conclusions of law or summarize or depict our legal opinion as co-bond counsel, present a fair and accurate summary or depiction of such conclusions or opinion.

Our opinion represents our legal judgment based upon our review of the law and the facts that we deem relevant to render such opinion, and is not a guarantee of a result. This opinion is given as of the date hereof and we assume no

obligation to revise or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or any changes in law that may hereafter occur.

This opinion is furnished by us as Co-Bond Counsel to the City. No attorney-client relationship has existed or exists between our firm and the Underwriters in connection with the Bonds or by virtue of this opinion. This opinion is not intended to be relied upon and is not to be used, quoted, circulated, relied upon or otherwise referenced to by any other person or entity (including any person or entity purchasing any of the Bonds from any Underwriter) or any other owner of the Bonds or by any other party to whom it is not specifically addressed. This opinion may be disclosed to your counsel and copies of this opinion may be included in the compilation of closing documents.

Respectfully submitted.

Fambit D

Form of Opinion of Corporation (on behalf of the City

[Attached.]

Dr. J. K. T. Law City of Chicago

December 1, 2017

The Bank of New York Mellon Trust Company, N.A., as Trustee 2 North LaSalle Street,  
Suite 700 Chicago, IL 60602  
Attention: Corporate Trust Department

Mesirow Financial, Inc. 353 North Clark  
Street Chicago, IL 60654  
on behalf of the Underwriters named in the  
Bond Purchase Agreement (as defined herein)

Ladies and Gentlemen:

I am the Corporation Counsel of the City of Chicago (the "City"). In connection with the issuance by the City of \$235,260,000 aggregate principal amount of Second Lien Water Revenue Refunding Bonds. Series 2017-2 (the "Bonds"). I have caused to be examined a certified copy of the record of proceedings of the City Council of the City (the "City Council") pertaining to the adoption by the City Council on November 15, 2017, of an ordinance pursuant to which the Bonds are being issued (the "Ordinance"). Unless otherwise defined herein, capitalized terms defined in the Bond Purchase Agreement are used with the same meaning herein.



In addition to the Ordinance. I have caused to be examined final and/or executed copies of the following documents:

i) the Official Statement;

ii) the Indenture;

iii) *that certain Bond Purchase Agreement dated December 7 2017 (the "Bond Purchase Agreement"), between the City and the Underwriters referred to therein (the "Underwriters"):*

iv) the Undertaking;

v) the Refunding Escrow Agreement;

THE CITY OF CHICAGO, ILLINOIS, IS HEREBY CERTIFIED TO BE IN COMPLIANCE WITH THE PROVISIONS OF THE ILLINOIS BOND

Page 2

(vi) the Tax Certificate; and

(vi) such other documents and records as were deemed necessary to enable me to render this opinion.

Based on the foregoing. I am of the opinion that:

1. The City is a municipal corporation and home rule unit of local government, organized and existing under the laws of the State of Illinois.

2. The City has duly authorized, approved and executed the Official Statement.

3. The City Council has (a) duly passed the Ordinance, which has not been amended, modified, supplemented or repealed and is in full force and effect; and (b) duly authorized and approved the execution and delivery of the Bonds, the Official Statement, the Bond Purchase Agreement, the Indenture, the Refunding Escrow Agreement, the Undertaking, and the Tax Certificate. Assuming due execution and delivery by the other parties thereto, as applicable, the Bond Purchase Agreement, the Indenture, the Refunding Escrow Agreement, the Undertaking and the Tax Certificate (collectively, the "City Documents") constitute valid and legal obligations of the City enforceable in accordance with their respective terms, except as enforcement may be limited by (i) applicable bankruptcy, insolvency or other laws affecting the rights or remedies of creditors generally of entities similar to the City, and (ii) the discretion of the courts in granting equitable or similar remedies.

4. The City has full legal right, power and authority to: (a) enter into and to execute the City Documents; and (b) issue, sell and deliver the Bonds to the Underwriters pursuant to the Ordinance and the Indenture. To my knowledge, the passage of the Ordinance and compliance with its provisions do not violate any applicable law or administrative regulation of the State of Illinois or of any department, division, agency or instrumentality thereof or of the United States of America, or any applicable judgment or decree to which the City is subject and do not conflict in a material manner with or constitute a material breach of or a material default under any agreement or other instrument to which the City is a party or is otherwise subject.

5. To my knowledge, the City has obtained all approvals, consents and orders (except, if any, with respect to stale "blue sky" laws) of any governmental authority, board, agency or commission having jurisdiction which would constitute a condition precedent to the performance by the City of its obligations under the City Documents which the City could reasonably obtain as of the date hereof.

6. No litigation is pending or, to my knowledge, threatened, seeking to restrain or enjoin the issuance or delivery of the Bonds, or contesting (a) the validity or enforceability of the City Documents, (b) the completeness or accuracy of the Official Statement or (c) the power of the City or its authority with respect to the City Documents.

7. Nothing has come to my attention which would lead me to believe that the Official Statement contains an untrue statement of a material fact or omits to state a material fact

Page 3

necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided, however, that I express no opinion or belief regarding information under the captions "DESCRIPTION OF THE BONDS - Book-Entry Only System," "BOND INSURANCE" "RATINGS." "UNDERWRITING." "TAX MATTERS." APPENDIX D - PROPOSED FORM OF OPINIONS OF CO-BOND COUNSEL, and "APPENDIX E - SPECIMEN MUNICIPAL BOND INSURANCE POLICY", any information in or omitted from the Official Statement relating to DTC, the Bond Insurer, any information furnished by the Underwriters for use in the Official Statement, the financial statements in APPENDIX C - CITY OF CHICAGO, ILLINOIS WA FER FUND BASIC FINANCIAL STATEMENTS AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015, REQUIRED SUPPLEMENTARY INFORMATION, ADDITIONAL INFORMATION AND INDEPENDENT AUDITORS' REPORT and all other financial and statistical data contained in the Official Statement, including the Appendices thereto.

No opinion is expressed as to any "blue sky" or other securities laws or as to the laws regarding taxation of any state, or the United States, or any disclosure or compliance related thereto.

The statements contained herein are made in an official capacity and not personally and no personal responsibility shall derive from them. Further, the only opinions that are expressed are the opinions specifically set forth herein, and no opinion is implied or should be inferred as to any other matter or transaction.

No one other than you shall be entitled to rely on this opinion.

Very truly yours.

Edward N. Siskef Corporation Counsel  
Exhibit K

Form of Opinions of Co-Dislosijkf Counsel (Attached.!)  
December .2017

City of Chicago Chicago, Illinois

Mesirow financial, Inc., as representative  
(the "Representative") of the underwriters<sup>x</sup>  
(the "Underwriters") named in that certain  
Bond Purchase Agreement dated December 7, 2017  
(the "Bond Purchase Agreement")  
between the City of Chicago and the Representative

Ladies and Gentlemen:

We have acted as co-disclosure counsel to the City of Chicago, Illinois (the "City") in connection with the issuance on the date hereof by the City of its \$235,260,000.00 aggregate principal amount Second Lien Water Revenue Refunding Bonds, Series 2017-2 (the "Bonds") offered pursuant to the Bond Purchase Agreement dated December 7, 2017 (the "Bond Purchase Agreement"), between the City and Mesirow Financial, Inc., on behalf of itself and the other underwriters named in the Bond Purchase Agreement. Capitalized terms used herein without definition shall have the meanings assigned to such terms in the Bond Purchase Agreement.

We have participated in the preparation or review of the Bond Purchase Agreement and the Continuing Disclosure Undertaking dated the date hereof, from the City related to the Bonds (the "Undertaking"), (collectively, the "Documents"). We have also participated in the preparation or review of the Preliminary Official Statement dated December 1, 2017 (the "Preliminary Official Statement") and the Official Statement dated December 7, 2017 (the "Official Statement") relating to the Bonds.

We have conferred with Co-Bond Counsel and Corporation Counsel of the City and reviewed the opinions or letters rendered by such counsel pursuant to the Bond Purchase Agreement and we have conferred with certain officials, employees and agents of the City, including the City's municipal advisor with respect to the issuance of the Bonds (the "Municipal Advisor"). We also have examined originals, executed counterparts or copies represented to have been validly executed of such other agreements, documents, proceedings, records, instruments and certificates, certificates of public authorities and such matters of law as we have deemed necessary for the purpose of rendering this opinion. We have assumed the genuineness of all signatures, the legal capacity of all individuals who have executed the Documents and all other documents we have reviewed, the authenticity of all documents submitted to us as originals and the conformity to original documents of all documents submitted to us as certified, photostatic, reproduced or conformed copies.

Based upon and subject to our examination as described above and subject to the qualifications set forth herein, we are of the opinion that:

1. The Bonds constitute exempt securities within the meaning of Section 3(a)(2) of the Securities Act of 1933, as amended (the "Securities Act"), and Section 304(a)(4)(A) of the Trust Indenture Act of 1939, as amended (the "Trust Indenture Act"), and it is not necessary, in connection with the public offering and sale of the Bonds, to register the Bonds under said Securities Act or qualify the Ordinance under the Trust Indenture Act.

2. The Undertaking complies with the requirements of Section (b)(5) of Rule 15c2-12 in effect as of the date hereof.

3. The information contained in the Preliminary Official Statement and Official Statement under the caption entitled "SECONDARY MARKET DISCLOSURE" (but excluding the information contained in such caption under the sub-caption "- Corrective Action Related to Certain Bond Disclosure Requirements") as of the respective dates of the Preliminary Official Statement and the Official Statement and as of the date hereof, insofar as such information purports to describe or summarize certain provisions of the Undertaking, presents a fair and accurate summary of the information purported to be shown in all material respects.

We are not passing upon, and assume no responsibility for, the accuracy, completeness or fairness of the statements contained in the Preliminary Official Statement or the Official Statement. During the preparation of the Preliminary Official Statement and the Official Statement, however, we examined various documents and other certificates, and participated in conferences with representatives of the City, the Municipal Advisor and Co-Bond Counsel and Corporation Counsel of the City, at which conferences the contents of the Preliminary Official Statement and the Official Statement and related matters were discussed. We have also made the examination described above of the certificates and other documents delivered pursuant to the Bond Purchase Agreement. On the basis of the foregoing, but without having undertaken to determine independently the accuracy or completeness of the statements contained in the Preliminary Official Statement or the Official Statement, we have no reason to believe that either the Preliminary Official Statement, as of its date or as of the date of the Bond Purchase Agreement, or the Official Statement, as of its date or as of the date of this opinion, contained or contains any untrue statement of a material fact or omitted or omits to state any material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading; provided, that we express no view as to (i) any financial, actuarial, forecast, projections, technical, operational or statistical data included in the Preliminary Official Statement or the Official Statement including, without limitation, the information under "FINANCIAL OPERATIONS - Historical and Projected Financial Operations," the financial statements of the City contained in Appendix C. (ii) the descriptions of DTC and the operation of the book-entry system operated by DTC, included in the Preliminary Official Statement or the Official Statement or (iii) information contained in the Preliminary Official Statement or Official Statement in APPENDIX E - SPECIMEN MUNICIPAL BOND INSURANCE POLICY and under the captions "INDEPENDENT AUDITORS." "FINANCIAL ADVISORS AND INDEPENDENT REGISTERED MUNICIPAL ADVISOR." "UNDERWRITING." "BOND INSURANCE" and "TAX MATTERS," or any other information therein relating to the tax status of the Bonds, including APPENDIX D - PROPOSED FORMS OF OPINION OF CO-BOND COUNSEL.

This letter is furnished by us as your counsel and is solely for your benefit. Our opinion represents our legal judgment based upon our review of the law and the facts that we deem relevant to render such opinion, and is not a guarantee of a result. This opinion is given as of the

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date hereof and we assume no obligation to revise or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or any changes in law that may hereafter occur.

Very truly yours.

WIX.I-K. j

Exhibit F

Form of Representation Letter

City of Chicago  
Department of Finance  
121 North LaSalle Street, 7<sup>th</sup> Floor  
Chicago, Illinois 60602  
Attn.: Deputy Comptroller of Financial Policy

Pursuant to the Bond Purchase Agreement, dated December 7, 2017 (the "Agreement"), among the City of Chicago (the "City") and Mesirow Financial, Inc., as Representative (the "Representative"), of the underwriters named therein (each, an "Underwriter"), relating to the City's Second Lien Water Revenue Refunding Bonds, Series 2017-2 (the "Bonds"), each of the undersigned Underwriters severally represents to the City that:

1) Neither the Underwriter, nor any Affiliate thereof, is listed on any of the following lists maintained by the Office of Foreign Assets Control of the U.S. Department of the Treasury, the Bureau of Industry and Security of the U.S. Department of Commerce, the U.S. Department of State or their successors, or on any other list of persons or entities with which the City may not do business under any applicable law, rule, regulation, order or judgment: the Specially Designated Nationals List, the Denied Persons List, the Unverified List, the Entity List, the List of Statutorily Debarred Parties and the Excluded Parties List.

For purposes of this representation, "Affiliate," when used to indicate a relationship with a specified person or entity, means a person or entity that, directly or indirectly, through one or more intermediaries, controls, is controlled by or is under common control with such specified person or entity, and a person or entity shall be deemed to be controlled by another person or entity, if controlled in any manner whatsoever that results in control in fact by that other person or entity (or that other person or entity and any persons or entities with whom that other person or entity is acting jointly or in concert), whether directly or indirectly and whether through share ownership, a trust, a contract or otherwise.

2) In the event that any Underwriter, or any of its Affiliates, appears on any of the lists described in paragraph (I) above, at any time prior to the Closing (as defined in the Agreement) with respect to the Bonds, that Underwriter shall be deemed to have submitted to the Representative its Withdrawal from Agreement Among Underwriters.

IN WITNESS WHEREOF, the undersigned has caused this Representation Feller in connection with the Bonds to be executed as of the date written below.

Dated: December 7, 2017

**FIFTH THIRD SECURITIES, INC.**

By:  
Its: *Manal* Director  
By: Its:

**NORTH SOUTH CAPITAL, LLC**

**PODESTA & CO.**

By: Its:  
By: Its:

**EXHIBIT B PRELIMINARY OFFICIAL STATEMENT**

PRELIMINARY OFFICIAL STATEMENT DATED DECEMBER 1, 2017

NEW ISSUE - BOOK ENTRY

RATINGS: See "RATINGS" herein.

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Subject to compliance by the City with certain covenants, in the opinion of Co-Bond Counsel, under present law, interest on the Bonds is excluded from the gross income of the owners thereof for federal income tax purposes and is not included as an item of tax preference in computing the federal alternative minimum tax imposed on individuals and corporations. Interest on the Bonds will, however, be taken into account in computing the corporate alternative minimum tax for certain corporations. Interest on the Bonds is not exempt from present State of Illinois income taxes. As further described under "TAX MATTERS" herein, legislation is pending in Congress that would significantly change individual and corporate income, tax rates and repeal, the alternative minimum tax for tax years after 2017. See "TAX MATTERS" herein for a more complete discussion.

II  
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Refunding Bonds,

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Series 2017-2

Dated: Date of Delivery Due: As Shown on the Inside Cover

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This Official Statement contains information relating to the City of Chicago (the "City") Second Lien Water Revenue Refunding Bonds, Series 2017-2 (the "Bonds") which will be issued pursuant to a Master Indenture of Trust Securing City of Chicago Second Lien Water Revenue Bonds, dated as of December 15, 1999, as heretofore supplemented, from the City to The Bank of New York Mellon

Trust Company, N.A. (as successor to American National Bank and Trust Company of Chicago and J.P. Morgan Trust Company, National Association), as trustee (the "Trustee"), as amended by Amendment No. 1 to Master Indenture dated as of August 1, 2004, and as further supplemented by the Eleventh Supplemental Indenture Securing Second Lien Water Revenue Refunding Bonds, Series 2017-2 dated as of December 1, 2017. The Bonds will be issuable as fully registered bonds in the name of Cede & Co., as registered owner and nominee of The Depository Trust Company, New York, New York ("DTC"). DTC will act as securities depository for the Bonds. Purchasers of the Bonds will not receive certificates representing their interests in the Bonds purchased. The Bonds will be issued in denominations of \$5,000 or any integral multiple thereof. Interest on the Bonds is payable on each May 1 and November 1, with the first interest payment date being May 1, 2018. Principal of the Bonds is payable at maturity. Principal of and interest on the Bonds will be paid by the Trustee to DTC, which in turn will remit such principal and interest payments to its participants for subsequent disbursement to the beneficial owners of the Bonds. As long as Cede & Co. is the registered owner as nominee of DTC, payments on the Bonds will be made to such registered owner, and disbursement, of such payments to beneficial owners will be the responsibility of DTC and its participants. See "DESCRIPTION OF THE BONDS-Book-Entry Only System" herein.

The Bonds are subject to redemption prior to maturity as described in this Official Statement.. See "DESCRIPTION OF THE BONDS-Redemption" herein.

The Bonds are limited obligations of the City having a claim for payment of principal and interest solely from the Second Lien Bond Revenues pledged to their payment as described herein. The Bonds have a claim for payment from the Second Lien Bond

**CITY OF CHICAGO Second Lien Water Revenue**

Revenues on an equal and ratable basis with the City's Outstanding Second Lien Bonds and any Second Lien Parity Bonds that may be issued from time to time in the future.

The City will use the proceeds from the sale of the Bonds to (i) advance refund a portion of the City's Second Lien Water Revenue Project and Refunding Bonds, Series 2008 (the "Refunded Bonds"), and (ii) pay costs of issuance of the Bonds. See "PLAN OF FINANCING" and "SOURCES AND USES OF PROCEEDS" herein.

THE BONDS DO NOT CONSTITUTE AN INDEBTEDNESS OF THE CITY WITHIN THE MEANING OF ANY CONSTITUTIONAL OR STATUTORY PROVISION OR LIMITATION AS TO INDEBTEDNESS. THE BONDS DO NOT HAVE A CLAIM FOR PAYMENT FROM ANY TAXES OF THE CITY. THE BONDS ARE NOT SECURED BY A LIEN ON OR A SECURITY INTEREST IN THE PHYSICAL ASSETS OF THE WATER SYSTEM. THE CITY SHALL NOT BE OBLIGATED TO PAY THE BONDS EXCEPT FROM THE REVENUES PLEDGED TO THEIR PAYMENT. NEITHER THE FULL FAITH AND CREDIT NOR THE TAXING POWER OF THE CITY, THE STATE OF ILLINOIS OR ANY POLITICAL SUBDIVISION OF THE STATE OF ILLINOIS IS PLEDGED TO THE PAYMENT OF THE BONDS.

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Maturities, Principal Amounts, Interest Rates, Prices, Yields and CUSIP Numbers  
are set forth on the inside of this cover page.

The Bonds are offered when, as and if issued, and accepted by the Underwriters, subject to delivery of separate approving legal opinions by Reyes Kurson, Ltd., Chicago, Illinois, and Burke Burns & Ihnelli, Ltd., Chicago, Illinois, Co-Bond Counsel, certain other conditions. Certain legal matters will be passed upon for the City by (i) its Corporation Counsel, and (ii) in connection with the preparation of this Official Statement, Duane Morris LLP, Chicago, Illinois, and Golden Holtey James LLP, Chicago, Illinois, Co-Disclosure Counsel to the City. Certain legal matters will be <http://will.be> passed upon for the Underwriters by Ice Miller LLP, Chicago, Illinois. It is expected that the Bonds will be available for delivery through the facilities of DTC on or about December, 2017.

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Dated: December 2017

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Preliminary; subject to change.

Fifth Third Securities

Mesirow Financial, Inc.

North South Capital Podesta

# MATURITIES, PRINCIPAL AMOUNTS, INTEREST RATES, PRICES, YIELDS AND CUSIP NUMBERS

## \$240,000,000' CITY OF CHICAGO Second Lien Water Revenue Refunding Bonds, Series 2017-2

| Maturity    | Principal Interest | Rate | Price | Yield | CUSIP <sup>(c)</sup> |
|-------------|--------------------|------|-------|-------|----------------------|
| November 1* | Amount*            |      |       |       |                      |
| 2019        | \$16,500,000       |      |       |       |                      |
| 2020        | 14,000,000         |      |       |       |                      |
| 2021        | 7,000,000          |      |       |       |                      |
| 2022        | 7,500,000          |      |       |       |                      |
| 2023        | 8,000,000          |      |       |       |                      |
| 2024        | 8,000,000 2025     |      |       |       |                      |
| 2026 2027   |                    |      |       |       |                      |
| 2028        | 13,500,000         |      |       |       |                      |
| 2029        |                    |      |       |       |                      |
| 2030        | 15,000,000         |      |       |       |                      |
| 2031        | 16,000,000         |      |       |       |                      |
| 2032        | 16,500,000         |      |       |       |                      |
| 2033        | 17,500,000         |      |       |       |                      |
| 2034        | 18,500,000         |      |       |       |                      |
| 2035        | 19,000,000         |      |       |       |                      |
| 2036        | 20,000,000         |      |       |       |                      |
| 2037        | 21,000,000         |      |       |       |                      |
| 2038        | 22,000,000         |      |       |       |                      |



Copyright 2017, American Bankers Association. CUSIP data used herein is provided by CUSIP Global Services, managed on behalf of the American Bankers Association by S&P Global Market Intelligence, a Division of The McGraw-Hill Companies, Inc. The CUSIP numbers listed are being provided solely for the convenience of the bondholders only at the time of sale of the Bonds and the City does not make any representation with respect to such numbers or undertake any responsibility for their accuracy now or at any time in the future. The CUSIP number for a specific maturity is subject to being changed after the sale of the Bonds as a result of various subsequent actions, including, but not limited to, a refunding in whole or in part of such maturity or as a result of the procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of certain maturities of the Bonds.

"Preliminary; subject to change.

**CITY OF CHICAGO**

**MAYOR**

Rahm Emanuel

**CITY TREASURER**

Kurt A. Summers, Jr.

**CITY CLERK**

Andrea M. Valencia

**CITY COUNCIL COMMITTEE ON FINANCE**

Edward M. Burke, Chairman

**CHIEF FINANCIAL OFFICER**

Carole L. Brown

**CITY COMPTROLLER**

Erin Keane

**BUDGET DIRECTOR**

Samantha Fields

**CORPORATION COUNSEL**

Edward N. Siskel, Esq.

**DEPARTMENT OF WATER MANAGEMENT**

Alfonzo Conner, Commissioner

CO-BOND COUNSEL Reyes Kurson, Ltd. Chicago, Illinois

Burke Burns & Pinelli, Ltd. Chicago, Illinois

**CO-DISCLOSURE COUNSEL**

Duane Morris LLP Chicago, Illinois

Golden Holley James LLP Chicago, Illinois

**FINANCIAL ADVISOR**

Acacia Financial Group, Inc. Chicago, Illinois

Certain information contained in, or incorporated by reference in, this Official Statement has been obtained by the City of Chicago (the "City") from The Depository Trust Company and other sources that are deemed reliable. No representation or warranty is made, however, as to the accuracy or completeness of such information by the Underwriters or the City. The Underwriters have provided the following sentence for inclusion in this Official Statement: The Underwriters reviewed the information in this Official Statement in accordance with, and as part of, their respective responsibilities to investors under the federal securities laws as applied to the facts and circumstances of this transaction, but the Underwriters do not guarantee the accuracy or completeness of such information. This Official Statement is being used in connection with the sale of securities as referred to herein and may not be used, in whole or in part, for any other purpose. The delivery of this Official Statement at any time does not imply that information herein is correct as of any time subsequent to its date.

No dealer, broker, salesperson or any other person has been authorized by the City or the Underwriters to give any information or to make any representation other than as contained in this Official Statement in connection with the offering described herein and, if given or made, such other information or representation must not be relied upon as having been authorized by any of the foregoing. This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy any securities other than those described on the cover page, nor shall there be any offer to sell, solicitation of an offer to buy, or sale of such securities in any jurisdiction in which it is unlawful to make such offer, solicitation or sale. Neither this Official Statement nor any statement that may have been made verbally or in writing is to be construed as a contract with the registered or beneficial owners of the Bonds.

This Official Statement, including the Appendices, contains certain opinions, estimates and forward-looking statements and information that are based on the City's beliefs as well as assumptions made by and information currently available to the City. Such opinions, estimates, projections and forward-looking statements set forth in this Official Statement were not prepared with a view toward complying with the guidelines established by the American Institute of Certified Public Accountants with respect to prospective financial information, but, in the view of the City, were prepared on a reasonable basis, reflect the best currently available estimates and judgments, and present, to the best of the City's knowledge and belief, the expected course of action and the expected future financial performance of the City. However, this information is not fact and should not be relied upon as being necessarily indicative of future results, and readers of this Official Statement are cautioned not to place undue reliance on such opinions, statements or prospective financial information.

The prospective financial information set forth in this Official Statement, except for certain information sourced to parties other than the City, is solely the product of the City. Neither the City's independent auditors, nor any other independent auditors, have compiled, examined, or performed any procedures with respect to, or been consulted in connection with the preparation of, the prospective financial information and forward-looking statements contained herein. The City's independent auditors assume no responsibility for the content of the prospective financial information set forth in this Official Statement, including any estimates, disclaim any association with such prospective financial information, and have not, nor have any other independent auditors, expressed any opinion or any other form of assurance on such information or its achievability.

References to website addresses presented in this Official Statement are for informational purposes only and may be in the form of a hyperlink solely for the reader's convenience. Unless specified otherwise, such websites and the information or links contained therein are not incorporated into, and are not part of this Official Statement.

**THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION NOR HAS THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS OFFICIAL STATEMENT. ANY REPRESENTATION TO THE CONTRARY MAY BE A CRIMINAL OFFENSE.**

THE BONDS HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, NOR HAS THE INDENTURE BEEN QUALIFIED UNDER THE TRUST INDENTURE ACT OF 1939, AS AMENDED, IN RELIANCE UPON EXEMPTIONS CONTAINED IN SUCH ACTS. THE REGISTRATION OR QUALIFICATION OF THE BONDS IN ACCORDANCE WITH APPLICABLE PROVISIONS OF LAW OF THE STATES IN WHICH THE BONDS HAVE BEEN REGISTERED OR QUALIFIED AND THE EXEMPTION FROM REGISTRATION OR QUALIFICATION IN OTHER STATES CANNOT BE REGARDED AS A RECOMMENDATION THEREOF.

IN CONNECTION WITH THE OFFERING OF THE BONDS, THE UNDERWRITERS MAY OVERALLOT OR EFFECT TRANSACTIONS THAT STABILIZE OR MAINTAIN THE MARKET PRICES OF THE BONDS AT LEVELS ABOVE THOSE WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME. THE PRICES AND OTHER TERMS RESPECTING THE OFFERING AND SALE OF THE BONDS MAY BE CHANGED FROM TIME TO TIME BY THE UNDERWRITERS AFTER THE BONDS ARE RELEASED FOR SALE, AND THE BONDS MAY BE OFFERED AND SOLD AT PRICES OTHER THAN THE INITIAL OFFERING PRICES, INCLUDING SALES TO DEALERS WHO MAY SELL THE BONDS INTO INVESTMENT ACCOUNTS.

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## OFFICIAL STATEMENT

### **\$240,000,000\* CITY OF CHICAGO SECOND LIEN WATER REVENUE REFUNDING BONDS, SERIES 2017-2**

#### INTRODUCTION

This Official Statement, including the cover page, inside cover page, and the Appendices, sets forth certain information in connection with the sale of \$240,000,000\* Second Lien Water Revenue Refunding Bonds, Series 2017-2 (the "Bonds") of the City of Chicago (the "City") which are to be issued pursuant to the terms of the Ordinance and the Indenture (each as defined below). All capitalized terms used in this Official Statement and not otherwise defined herein have the meanings provided in APPENDIX A - "GLOSSARY OF CERTAIN TERMS."

#### **Purpose**

The proceeds from the sale of the Bonds will be used to (i) advance refund a portion of the City's Second Lien Water Revenue Project and Refunding Bonds, Series 2008 (the "Refunded Bonds"), and (ii) pay costs of issuance of the Bonds. See "PLAN OF FINANCING" and "SOURCES AND USES OF PROCEEDS."

#### **Authorization**

The Bonds are being issued pursuant to the constitutional home rule powers of the City. The Bonds were authorized under an ordinance adopted by the City Council of the City (the "City Council") on November 8, 2017 (the "Ordinance"). The Bonds are also being issued pursuant to a Master Indenture of Trust Securing City of Chicago Second Lien Water Revenue Bonds, dated as of December 15, 1999, as heretofore supplemented and as amended by Amendment No. 1 to Master Indenture dated as of August 1, 2004 (collectively, the "Master Indenture"), from the City to The Bank of New York Mellon Trust Company, N.A. (as successor to American National Bank and Trust Company of Chicago and J.P. Morgan Trust Company, National Association), as trustee (the "Trustee") and as further supplemented by the Eleventh Supplemental Indenture Securing Second Lien Water Revenue Refunding Bonds, Series 2017-2, dated as of December 1, 2017 (the "Eleventh Supplemental Indenture," and collectively with the Master Indenture, the "Indenture").

#### **Security for the Bonds**

The Bonds are Second Lien Bonds under the Indenture. The Bonds are limited obligations of the City having a claim for payment of principal, redemption premium, if any, and interest solely from amounts in the Second Lien Bonds Account (other than monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other series of Second Lien Bonds issued or to be issued), the sources pledged under the Indenture and amounts on deposit in Accounts established by the Ordinance and related to the Bonds and, together with any Outstanding Second Lien Bonds, Second Lien Parity Bonds, Section 2.08 Obligations and Section 2.09 Obligations, from Second Lien Bond Revenues. A lien on and security interest in Second Lien Bond Revenues (except for monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other series of Second Lien Bonds

" Preliminary; subject to change.

issued or to be issued) is granted to the Registered Owners of the Second Lien Bonds Outstanding from time to time, and a lien on amounts in any Accounts related to the Bonds is granted to the Registered Owners of the Bonds Outstanding from time to time, subject to amounts in those Accounts being deposited, credited and expended as provided in the Ordinance and the Indenture. The claim of the Bonds to payment from amounts in the Water Fund is subordinate to the claim of Senior Lien Bonds. See "SECURITY FOR THE BONDS - General" and "- Flow of Funds," "OUTSTANDING DEBT AND ANNUAL DEBT SERVICE" and APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - Source of Payment; Pledge of Second Lien Bond Revenues" and "- Flow of Funds."

*The Bonds are not secured by a lien on or security interest in the physical assets of the Water System. The Bonds do not constitute an indebtedness of the City within the meaning of any constitutional or statutory provision or limitation as to indebtedness, and neither the full faith and credit nor taxing power of the City, the State of Illinois or any political subdivision of the State of Illinois is pledged to the payment of the Bonds.*

#### **Redemption**

The Bonds are subject to redemption prior to maturity as described under the caption "DESCRIPTION OF THE BONDS - Redemption."

#### **Rate Covenant**

The City has covenanted (the "Rate Covenant") in the ordinances authorizing its water revenue bonds to establish, maintain and collect at all times, the fees, charges and rates for the use and service of the Water System sufficient at all times to pay Operation and Maintenance Costs and produce Net Revenues Available for Bonds in each Fiscal Year at least equal to the greater of:

- i) 120 percent of the sum required to pay promptly when due the Senior Lien Debt Service Requirement for the Fiscal Year on all Senior Lien Bonds then Outstanding, or
- ii) the sum of
  - A) 100 percent of the Senior Lien Debt Service Requirement for the Fiscal Year on all Senior Lien Bonds Outstanding, plus
  - B) 110 percent of the Aggregate Second Lien Debt Service for the Fiscal Year with respect to all Second Lien Bonds Outstanding and all Section 2.08 Obligations and Section 2.09 Obligations, plus
  - C) 100 percent of the Subordinate Lien Debt Service Requirement for the Fiscal Year on all Subordinate Lien Obligations Outstanding, plus
  - D) the annual debt service requirement for the Fiscal Year on all Commercial Paper Notes Outstanding, plus
  - E) the annual debt service requirement for the Fiscal Year on all Water System Line of Credit Notes Outstanding.

These fees, charges and rates shall not be reduced, while any Senior Lien Bonds are Outstanding, below the level necessary to ensure compliance with the covenants set forth above. An additional

covenant substantively similar to the Rate Covenant as to items (i) and (ii)(A), (ii)(B) and (ii)(C) above (the "Second Lien Bonds

Rate Covenant"), exists under the Master Indenture. For a description of the Second Lien Bonds Rate Covenant, see APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - Second Lien Bonds Rate Covenant." The City will conduct an annual review of Water System rates to determine if the City has been and will be in compliance with the Rate Covenant described above. Whenever the annual review indicates that projected Gross Revenues will not be sufficient to comply with the Rate Covenant, the City will prepare or have prepared a rate study for the Water System identifying the rate changes necessary to comply with the Rate Covenant and the Office of Budget and Management (the "Budget Office") and the Chief Financial Officer will recommend appropriate action to the City Council to comply with the Rate Covenant, which may include rate increases and/or expenditure reductions. See "FINANCIAL OPERATIONS - Annual Budget Review and Implementation of Annual Budget" and APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - Second Lien Bonds Rate Covenant."

### **City of Chicago Water System**

The City owns and operates a municipal water system (the "Water System") that provides supply, treatment and distribution of water to customers in the City and to 125 suburban communities. The Water System includes all property, real, personal or otherwise, owned or to be owned by the City or under the control of the City and used for water supply, distribution or collection purposes, and any and all further extensions, improvements and additions to the Water System. The Water System currently serves a population of 5.3 million. The Water System's water is allocated from Lake Michigan pursuant to regulations of the Illinois Department of Natural Resources. See "WATER SYSTEM SERVICE AREA-Lake Michigan Allocations."

As of December 31, 2016, the Water System supplied water to a service area of approximately 806 square miles. The City accounted for approximately 228 square miles of this service area and the suburban customers accounted for approximately 578 square miles. The City's service to suburban customers is based on various contracts as well as state law which requires the City to supply water at the City limits to any municipal corporation within a specified area at no greater price or charge than that applicable to similar large users in the City. The City considers it likely that any material number of current suburban customers will continue to purchase water from the Water System under these contracts for the following reasons: (i) large capital investments would be required for those customers otherwise to obtain water from Lake Michigan; (ii) the Water System provides a reliable supply of water; (iii) demand for available groundwater exceeds its potential yield; and (iv) the quality of Lake Michigan water is superior to local groundwater. In 2016, the suburban customers accounted for approximately 38 percent of water pumpage and approximately 49 percent of net water sales of the Water System.

### **Water System Rates**

Water System rates are set by the City Council. No regulation by any administrative agency applies to the Water System rates.

The Water System rates for metered accounts are based on a dollar rate per thousand cubic feet. The assessment of non-metered users is based on a formula related to the size of the relevant property and other use-related factors. In 2011, the City Council passed an ordinance raising rates for four consecutive years and then tying rates to the rate of inflation. In 2012, the Water System rates represented a 25% increase over the rates for the previous year; in 2013, Water System rates represented a 15% increase over the previous year; in 2014, Water System rates represented a 15% increase over the previous year; and in 2015, Water System rates represented a 15% increase over the previous year. Beginning June 1, 2016,

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and every year thereafter, annual Water System rates are required to be adjusted, if applicable, by applying to the previous year's rates the rate of inflation, calculated based on the Consumer Price Index -Urban Wage Earners and Clerical Workers (Chicago All Items) published by the United States Bureau of Labor Statistics for the 365-day period ending on the most recent January 1. Any such annual increase, however, shall be capped at 5% of the previous year's rate. The City Council may take action at any time to alter the then-current schedule of water rates. There was no increase in Water System rates for 2016. Effective June 1, 2017, the Water System rates increased by 1.83% or \$.07 per 1,000 gallons, making the rate \$3.88 per 1,000 gallons of water. See "FINANCIAL OPERATIONS."

### **Chicago Water and Sewer Tax**

On September 14, 2016, the City Council approved a tax on the use or consumption of water in the City, and on the transfer of wastewater to the City's sewer system (the "Sewer System") from properties located in the City (subject to certain exceptions) (the "Chicago Water and Sewer Tax") to fund pension contributions by the City. The Chicago Water and Sewer Tax revenues are not Gross Revenues of the Water System and will not be utilized for the operations of the Water System, and the Chicago Water and Sewer Tax revenues will not be pledged to the repayment of the Bonds. The Chicago Water and Sewer Tax will be phased in over four years, starting March 1, 2017 at a rate of \$.295 per 1,000 gallons of water and \$.295 per 1,000 gallons of wastewater. The 2018 rate will be \$.64 per 1,000 gallons of water and \$.64 per 1,000 gallons of wastewater. The 2019 rate will be \$1,005 per 1,000 gallons of water and \$1,005 per 1,000 gallons of wastewater. The 2020 rate will be \$1,255 per 1,000 gallons of water and \$1,255 per 1,000 gallons of wastewater. The Chicago Water and Sewer Tax appears as a separately stated item on the unified bill for City-provided water, sewer and refuse collection services. Pursuant to the Municipal Code of Chicago (the "Municipal Code"), payments on the unified bill are allocated pro rata among the charges shown on the bill, with oldest unpaid amounts being paid first. See "INVESTMENT CONSIDERATIONS - Other Considerations - Unified Billing" for a discussion of certain risks related to the inclusion of the Chicago Water and Sewer Tax, together with the other charges, on the unified bill.

### PLAN OF FINANCING

#### Refunding of Refunded Bonds

The proceeds from the sale of the Bonds will be used to (i) advance refund the Refunded Bonds, and (ii) pay costs of issuance of the Bonds.

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The following table sets forth the maturity, interest rate, principal amount, redemption date, price and CUSIP for each maturity of the Refunded Bonds:

| REFUNDED BONDS Principal |                         |                 |                     |                   |
|--------------------------|-------------------------|-----------------|---------------------|-------------------|
| <u>Redemption Date</u>   | <u>Maturity</u>         | <u>Interest</u> | <u>Amount</u>       | <u>Redemption</u> |
|                          | <u>Prior Bond Issue</u> |                 |                     |                   |
|                          | <u>Price</u>            | <u>CUSIP</u>    | <u>(November 1)</u> | <u>Rate</u>       |
|                          |                         |                 |                     | <u>Refunded</u>   |



To provide for the payment and retirement of the Refunded Bonds, certain proceeds of the Bonds will be used to purchase certain Governmental Obligations ("Defeasance Obligations"). The principal of and interest on the Defeasance Obligations, together with available cash deposits, will be sufficient (i) to pay when due the interest on the Refunded Bonds to their redemption dates, and (ii) to pay or redeem the Refunded Bonds on their redemption dates at their respective principal amounts or Redemption Prices.

The Defeasance Obligations purchased with certain proceeds of the Bonds, together with available cash deposits, will be held in escrow under an escrow agreement with The Bank of New York Mellon Trust Company, N.A., as escrow agent (the "Escrow Agreement"). Neither the cash on deposit, the maturing principal of the Defeasance Obligations nor the interest to be earned thereon will serve as security or be available for the payment of the principal of or the interest on the Bonds.

The mathematical computation of (i) the adequacy of maturing principal of and interest earnings on the Defeasance Obligations together with initial cash deposit held under the Escrow Agreement to provide for payments on the Refunded Bonds as described above and (ii) the actuarial yields on the Bonds and the Defeasance Obligations will be verified at the time of the delivery of the Bonds by Robert Thomas, CPA, LLC, Shawnee Mission, Kansas, independent certified public accountants. See "CERTAIN VERIFICATIONS."

#### SOURCES AND USES OF PROCEEDS

The following table sets forth the estimated application of the proceeds of the Bonds as described under "PLAN OF FINANCING."

##### **SOURCE OF FUNDS AMOUNTS**

Principal Amount of Bonds

Original Issue Premium/Discount

Total

##### **USE OF FUNDS**

Deposit for Refunding

Costs of Issuance (including Underwriters'  
discount)

Total Uses of Funds

#### DESCRIPTION OF THE BONDS

##### **General**

The Bonds will be dated the date of their delivery and will bear interest from that date until paid, payable semiannually on each May 1 and November 1, commencing May 1, 2018. The Bonds will bear interest at the rates per year, and mature in the principal amounts on November 1 in each year, as set forth on the inside cover of this Official Statement. Interest on the Bonds is computed on the basis of a 360-day year consisting of twelve 30-day months. The Bonds will be issued in denominations of \$5,000 or integral multiples thereof. The Bonds are subject to redemption prior to maturity, as described below under the heading "- Redemption."

Principal of and interest on the Bonds will be paid by the Trustee. If any payment on any Bonds is due on a day other than a

Business Day, it will be made on the next Business Day, and no interest will accrue as a result.

The Bonds initially will be issued through a book-entry only system operated by The Depository Trust Company, New York, New York ("DTC"). Details of payments of the Bonds when in book-entry form and the book-entry only system are described below under the heading "-Book-Entry Only System." Except as described under the heading "-Book-Entry Only System" below, beneficial owners of the Bonds will not receive or have the right to receive physical delivery of Bonds, and will not be or be considered to be the Owners thereof. Accordingly, each beneficial owner must rely upon (i) the procedures of DTC and, if such beneficial owner is not a DTC "Participant," the Participant who will act on behalf of such beneficial owner to receive notices and payments of principal of and interest on the Bonds, and to exercise voting rights and (ii) the records of DTC and, if such beneficial owner is not a Participant, such beneficial owner's Participant, to evidence its beneficial ownership of the Bonds. So long as DTC or its nominee is the registered Owner of the Bonds, references herein to Bondholders or Owners of such Bonds mean DTC or its nominee and do not mean the beneficial owners of such Bonds.

## **Redemption**

**Optional Redemption.** The Bonds maturing on or after November 1, 2028\* are subject to redemption prior to maturity at the option of the City, in whole or in part, on any date on or after November 1, 2027\*, and if in part, in such order of maturity as the City shall determine and within any maturity and interest rate by lot, at a Redemption Price equal to the outstanding principal amount of such Bonds, together with accrued interest to the date fixed for redemption.

## **General Redemption Procedures**

*For a description of the giving of notices while the Bonds are in the Book-Entry system, see "- Book-Entry Only System " below.*

Unless waived by any owner of Bonds to be redeemed, notice of the call for any optional redemption shall be given by the Trustee on behalf of the City by mailing the redemption notice by first class mail at least 30 days and not more than 45 days prior to the date fixed for redemption to the registered owner of the Bond to be redeemed at the address shown on the Bond Register or at such other address as is furnished in writing by such registered owner to the Trustee. The failure to mail any such notice or any defect therein as to any Bond shall not affect the validity of the proceedings for the redemption of any other Bond. Any notice of redemption mailed as described above shall be conclusively presumed to have been given whether or not actually received by the addressee. Notice of the redemption of Bonds or any portion thereof to be redeemed will specify, at a minimum, (i) the series name and designation and certificate numbers of Bonds being redeemed, (ii) the CUSIP numbers of the Bonds being redeemed, (iii) the principal amount of Bonds being redeemed and the redeemed amount for each certificate (for partial calls), (iv) the redemption date, (v) the Redemption Price, (vi) the date of issuance of the Bonds being redeemed, (vii) the interest rate and Maturity Date of the Bonds being redeemed,

(viii) the date of mailing of notices to registered owners and information services (if required), and (ix) the name of the employee of the Trustee who may be contacted with regard to such notice. With respect to an optional redemption of Bonds, such notice may state that said redemption is conditioned upon the receipt by the Trustee on or prior to the date fixed for redemption of moneys sufficient to pay the Redemption Price of the Bonds being redeemed. If such moneys are not so received, such redemption notice shall be of no force and effect, the City shall not redeem such Bonds and the Trustee will give notice, in the same manner in which the notice of redemption was given, that such moneys were not so received and that such Bonds will not be redeemed. Unless the notice of redemption shall be made conditional as provided above, on or prior to any redemption date for Bonds, the City will deposit with the Trustee an amount of money sufficient to pay the Redemption Price of all such Bonds or portions thereof which are to be redeemed on that date.

Notice of redemption having been given as described above, the Bonds, or portions thereof, to be redeemed will, on the

redemption date (unless such redemption shall have been canceled as described above), become due and payable at the Redemption Price therein specified, and from and after such date (unless the City shall default in the payment of the Redemption Price) such Bonds, or portions thereof, shall cease to bear interest. Upon surrender of such Bonds for redemption in accordance with said notice, such Bonds will be paid by the Trustee at the Redemption Price. Installments of interest due on or prior to the redemption date shall be payable as provided in the Indenture for payment of interest. Upon surrender for any partial redemption of any Bond, there will be prepared for the registered owner a new Bond or Bonds of the same interest rate and maturity in the amount of the unpaid principal. If any Bond, or portion thereof, called for redemption shall not be so paid upon surrender thereof for redemption, the

\* Preliminary; subject to change.

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principal shall, until paid, bear interest from the redemption date at the rate borne by such Bond, or portion thereof, so called for redemption.

### **Selection of Bonds for Redemption**

In the event of the redemption of fewer than all the Bonds of the same maturity and interest rate, the aggregate principal amount thereof to be redeemed shall be in an Authorized Denomination, and the Trustee shall assign to each Bond of such maturity and interest rate a distinctive number for each minimum Authorized Denomination of such Bond and shall select by lot from the numbers so assigned as many numbers as, at such minimum Authorized Denomination for each number, equals the principal amount of such Bonds to be redeemed. The Bonds to be redeemed shall be those which were assigned numbers so selected; provided that only so much of the principal amount of each Bond shall be redeemed as shall equal such minimum Authorized Denomination for each number assigned to it and so selected. For purposes of any redemption of fewer than all of the outstanding Bonds of a single maturity and interest rate, the particular Bonds or portions thereof to be redeemed shall be selected not more than 60 days prior to the redemption date by the Trustee. So long as DTC or its nominee is the registered owner of the Bonds, if fewer than all of the Bonds of any maturity and interest rate are called for redemption, the particular Bonds or portions of Bonds of such maturity and interest rate will be selected by lot by DTC in such manner as DTC may determine. Sec " - Book-Entry Only System."

### **Bond Registration and Transfers**

For a description of the procedure to transfer ownership of a Bond while in the book-entry only system, see "-Book-Entry Only System" below. Subject to the limitations described below, the Bonds are transferable upon surrender thereof at the principal office of the Trustee, duly endorsed by, or accompanied by a written instrument or instruments of transfer in form satisfactory to the Trustee and duly executed by the Bondholder or such Bondholder's authorized agent duly authorized in writing. Any Bond, upon surrender of such Bond at the principal office of the Trustee, may, at the option of the Bondholder, be exchanged for an equal aggregate principal amount of Bonds of like date and tenor of any Authorized Denomination. The Trustee may charge a fee sufficient to cover any tax, fee or other governmental charge in connection with any exchange or transfer of any Bond, except in the case of issuance of one or more Bonds for the unredeemed portion of a Bond surrendered for redemption in part.

The Trustee shall not be required to transfer or exchange any Bond during the period commencing on the Record Date next preceding any Interest Payment Date of such Bond and ending on such Interest Payment Date, or to transfer or exchange such Bond after the mailing of notice calling such Bond for redemption has been made as described above under "- General Redemption Procedures" or during the period of 15 days next preceding the giving of notice of redemption of Bonds of the same maturity and interest rate.

### **Book-Entry Only System**

*The following information has been furnished by The Depository Trust Company for use in this Official Statement, and neither the City nor any of the Underwriters takes any responsibility for its accuracy or completeness.*

The Depository Trust Company ("DTC"), New York, New York, will act as securities depository for the Bonds. The Bonds will be issued as fully registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully registered Bond certificate will be issued for each maturity of

the Bonds, each in the aggregate principal amount thereof set forth herein, and will be deposited with DTC.

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DTC, the world's largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC's participants ("Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants"). DTC has an S&P Global Ratings rating of AA-+. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission (the "SEC"). More information about DTC can be found at [www.dtcc.com](http://www.dtcc.com) <<http://www.dtcc.com>>.

Purchases of the Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Bonds on DTC's records. The ownership interest of each actual purchaser of each Bond ("Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in Bonds, except in the event that use of the book entry system for the Bonds is discontinued.

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

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of the Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the Bonds, such as redemptions, tenders, defaults, and proposed amendments to the Bond documents. For example, Beneficial Owners of the Bonds may wish to ascertain that the nominee holding the Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial

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Owners may wish to provide their names and addresses to the Trustee and request that copies of notices be provided directly to them.

Redemption notices shall be sent to DTC. If fewer than all of the Bonds of a maturity are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in the Bonds to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the City as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Redemption proceeds, distributions, and interest payments on the Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the City or the Trustee, on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Trustee or the City, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of redemption proceeds, distributions, and interest payments to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the City or the Trustee, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as securities depository with respect to the Bonds at any time by giving reasonable notice to the City or the Trustee. Under such circumstances, in the event that a successor securities depository is not obtained, certificates for the Bonds are required to be printed and delivered.

The City may decide to discontinue use of the system of book-entry only transfers through DTC (or a successor securities depository). In that event, certificates for the Bonds will be printed and delivered to DTC.

The information in this section concerning DTC and DTC's book-entry only system has been obtained from sources that the City believes to be reliable, but the City takes no responsibility for the accuracy thereof.

Additional Information. For every transfer and exchange of the Bonds, DTC, the Trustee and the Participants may charge the Beneficial Owner a sum sufficient to cover any tax, fee or other charge that may be imposed in relation thereto.

NEITHER THE CITY NOR THE TRUSTEE WILL HAVE ANY RESPONSIBILITY OR OBLIGATION TO ANY PARTICIPANTS, OR TO THE PERSONS FOR WHOM THEY ACT AS NOMINEES WITH RESPECT TO THE BONDS, OR TO ANY BENEFICIAL OWNER IN RESPECT OF THE ACCURACY OF ANY RECORDS MAINTAINED BY DTC OR ANY PARTICIPANT OR INDIRECT PARTICIPANT OF ANY AMOUNT IN RESPECT OF THE PRINCIPAL OF OR INTEREST ON THE BONDS, OR ANY NOTICE WHICH IS PERMITTED OR REQUIRED TO BE

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GIVEN WITH RESPECT TO THE BONDS, INCLUDING ANY NOTICE OF REDEMPTION OR OTHER ACTION TAKEN, BY DTC AS REGISTERED OWNER OF THE BONDS.

The City is entitled to treat Owners as absolute owners of the Bonds for all purposes.

In reading this Official Statement it should be understood that while the Bonds are in the Book-Entry Only System, references in other sections of this Official Statement to registered owners should be read to include the person for which a Participant acquires an interest in the Bonds, but (a) all rights of ownership must be exercised through DTC and the Book-Entry Only System and (b) notices that are to be given to registered owners will be given only to DTC.

#### **General Provisions of the Bonds When Not in Book-Entry Only System**

The Owners of the Bonds have no right to the appointment or retention of a securities depository for the Bonds, [f (i) the City determines, or (ii) the City receives notice that the securities depository has received notice from its Participants having interests in at least 50 percent in principal amount of the Bonds of a given series, that the securities depository or its successor is incapable of discharging its responsibilities as a securities depository, or that it is in the best interests of the beneficial owners that they obtain certificated Bonds, the City may (or, in the case of clause (ii) above, the City shall) cause the Trustee to authenticate and deliver Bond

certificates for such series. The City shall have no obligation to make any determination described in this paragraph.

If, following a determination or event specified in the preceding paragraph, the City discontinues the maintenance of the Bonds in book-entry form with the then-current securities depository, the City will issue replacement Bonds to the replacement securities depository, if any, or, if no replacement securities depository is selected for the Bonds, directly to the Participants as shown on the records of the former securities depository or, to the extent requested by any Participant, to the beneficial owners of the Bonds shown on the records of such Participant. The City and the Trustee may conclusively rely upon (i) a certificate of the securities depository as to the identity of the participants in the book-entry system and (ii) a certificate of such participants as to the identity of, and the respective principal amounts of Bonds beneficially owned by, the beneficial owners. Replacement Bonds shall be in fully registered form and in Authorized Denominations, be payable as to interest on the Interest Payment Dates of the Bonds by check mailed to each Owner at the address of such Owner as it appears on the Bond Register or at the option of any Owner of not less than \$1,000,000 principal amount of Bonds, by wire transfer to any address in the United States of America on such Interest Payment Date to such Owner as of such Record Date, if such Owner provides the Trustee with written notice of such wire transfer address not later than the Record Date (which notice may provide that it will remain in effect with respect to subsequent Interest Payment Dates unless and until changed or revoked by subsequent notice). Principal and premium, if any, on the replacement Bonds are payable only upon presentation and surrender of such replacement Bond or Bonds at the designated corporate trust office of the Trustee.

## **SECURITY FOR THE BONDS**

### **General**

The Bonds are limited obligations of the City having a claim for payment of principal, redemption premium, if any, and interest solely from the property conveyed by the City to the Trustee pursuant to the granting clauses of the Indenture (the "Trust Estate") and pledged to such payment under the Indenture. Neither the full faith and credit nor the taxing power of the City is pledged to the payment of the principal of, redemption premium, if any, or interest on the Bonds. The Bonds do not constitute an indebtedness of the City within the meaning of any constitutional or statutory provision or limitation as to

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indebtedness. The Bonds do not have a claim for payment from any taxes of the City. The Bonds are not secured by a lien on or security interest in the physical assets of the Water System.

As described herein, the Bonds are Second Lien Bonds and, together with (i) the Outstanding Second Lien Bonds and any Second Lien Parity Bonds issued from time to time in the future and (ii) amounts constituting Section 2.08 Obligations and Section 2.09 Obligations under the Indenture, are secured by a pledge of Second Lien Bond Revenues that are derived from the Net Revenues Available for Bonds in the City's Water Fund and deposited from time to time into the Second Lien Bonds Account (but excluding monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other series of Second Lien Bonds issued or to be issued), which claim is junior and subordinate to the claim of Senior Lien Bonds. The Bonds are further secured by amounts on deposit from time to time in any Accounts established for the Bonds in the Ordinance and the Indenture. See APPENDIX B - SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - Flow of Funds - Second Lien Bonds Account."

"Net Revenues Available for Bonds" means that portion of the Net Revenues remaining in any period, minus any amounts deposited during that period in the Water Rate Stabilization Account as provided in the Ordinance (other than amounts deposited to that Account upon the issuance of the Series 1993 Bonds or any Senior Lien Parity Bonds) and plus the amounts withdrawn during that period from that Account.

### **Pledge of Second Lien Bond Revenues**

Under the Ordinance and the Indenture, the Bonds are secured by, and payable from, the Trust Estate, including Second Lien Bond Revenues and amounts on deposit in the Second Lien Bonds Account (but excluding monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other series of Second Lien Bonds issued or to be issued), and amounts held by the Trustee under the terms of the Indenture. Pursuant to the Ordinance and the Indenture, such Second Lien Bond Revenues are pledged to the payment of the principal of, premium, if any, and interest on all Second Lien Bonds (including the Bonds) without priority or distinction of one series of Second Lien Bonds over any other series of

## Second Lien Bonds.

To the extent set forth in the Indenture, the Trust Estate and all moneys and securities held or set aside or to be held or set aside by the Trustee under the Indenture or any Supplemental Indenture have been pledged to secure the payment of the principal and Redemption Price of, and interest on, the Second Lien Bonds and the payment of all amounts constituting Section 2.08 Obligations and Section 2.09 Obligations, subject only to the provisions of the Indenture or any Supplemental Indenture requiring or permitting the payment, setting apart or appropriation of such moneys and securities for or to the purposes and on the terms, conditions, priorities and orders set forth in or provided under the Indenture or such Supplemental Indenture.

The claim of the Second Lien Bonds, Section 2.08 Obligations and Section 2.09 Obligations to Net Revenues Available for Bonds is junior and subordinate to the claim of the Senior Lien Bonds (and all Senior Lien Debt Service Reserve Account Credit Instruments). The City has met certain of its Senior Lien Debt Service Reserve Account Requirements with certain credit instruments, including surety policies. Subject to the provisions of the Ordinance, the City reserves the right to issue unlimited amounts of Senior Lien Bonds.

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## Flow of Funds

The City maintains the Water Fund as a separate fund of the City to, among other things, carry out the provisions of the ordinances authorizing Senior Lien Bonds, Second Lien Bonds, Subordinate Lien Obligations, Commercial Paper Notes and Water System Line of Credit Notes (collectively, "Water Revenue Bonds"). Gross Revenues of the Water System are credited as they are deposited to the Water Fund, which is held by a depository bank which is currently not the depository for the City's General Fund. The Water Fund constitutes a trust fund and has been and is irrevocably pledged to the owners of the Senior Lien Bonds, Second Lien Bonds (but solely with respect to those amounts on deposit in the Second Lien Bonds Account as described in this Official Statement) and other Water Revenue Bonds (but solely with respect to funds on deposit in the respective applicable Account in the Water Fund). Moneys in the Water Fund are expended only as provided in the Ordinance and in the ordinances authorizing Water Revenue Bonds for (a) paying Operation and Maintenance Costs, (b) paying the principal of, redemption premium, if any, and interest on Senior Lien Bonds (or purchasing Senior Lien Bonds), and (c) establishing and maintaining (for the purposes specified in related ordinances) the Senior Lien Bonds Construction Accounts, the Accounts in the Water Fund established by the Ordinance and described below, including, without limitation, the Accounts securing the Bonds and other Second Lien Bonds, and all other reserve funds or accounts which are required to be established and maintained in the ordinances authorizing the issuance of Water Revenue Bonds. Any funds available after these requirements have been satisfied or which are not necessary to satisfy these requirements may be used for any lawful purpose of the Water System.

Net Revenues Available for Bonds are required to be transferred, without any further official action or direction, from the Water Fund to the following accounts in the following order of priority for the uses described below:

1. The Senior Lien Principal and Interest Account is used only to pay principal of, redemption premium, if any, and interest, whether upon maturity, redemption or otherwise, on the Outstanding Senior Lien Bonds. At least 10 days before each date that such debt service payments are due with respect to Senior Lien Bonds, sufficient amounts to make such payments are required to be deposited into this Account.
2. The Senior Lien Debt Service Reserve Account consists of one or more subaccounts established for each series of Senior Lien Bonds, each of which is required to contain a balance, either in cash on deposit in such subaccount or the deposit of one or more Senior Lien Debt Service Reserve Account Credit Instruments, equal to the Senior Lien Debt Service Reserve Requirement for the related series of Senior Lien Bonds. Funds or Senior Lien Debt Service Reserve Account Credit Instruments on deposit in any subaccount of the Senior Lien Debt Service Reserve Account are used to pay principal of, redemption premium, if any, and interest on the Outstanding Senior Lien Bonds of the series to which the subaccount relates (or when series of Senior Lien Bonds are secured on a parity basis by subaccounts relating to those various series, then funds in each such Subaccount shall be so used on a parity basis to pay principal of, redemption premium, if any,

and interest on the Senior Lien Bonds to which those various Subaccounts relate) as the same become due at any time when there are insufficient funds available for such purpose in the Senior Lien Principal and Interest Account (after any available amounts in the Water Rate Stabilization Account have first been applied to that purpose). Within the next 12 months succeeding any deficiency in any subaccount of the Senior Lien Debt Service Reserve Account, the City is required to deposit funds from the Water Fund into such subaccount of the Senior Lien Debt Service Reserve Account sufficient to maintain the applicable balance in such subaccount at least equal to, in the aggregate, the Senior Lien Debt Service Reserve Requirement for such subaccount.

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3. The Senior Lien Rebate Accounts are used at the direction of the City to make required rebate payments of arbitrage to the United States with respect to any Senior Lien Bonds and, to the extent not needed for such purpose, are then transferred to the Water Fund, provided that earnings on the investment of amounts on deposit in the Senior Lien Rebate Accounts shall not be Investment Earnings, shall not be considered Gross Revenues and shall be retained in the respective Senior Lien Rebate Accounts except to the extent no longer required for rebate purposes.

4. The Second Lien Bonds Account is used to pay the principal of and interest on the Bonds and any other Second Lien Bonds. The City also is required to make deposits in the Second Lien Bonds Account to meet other payment obligations under the Indenture and any ordinance or indenture authorizing Second Lien Bonds, including deposits of monies and/or Qualified Reserve Account Credit Instruments to meet any series reserve account requirement. Moneys deposited in the Second Lien Bonds Account shall be transferred by the Chief Financial Officer on the date so deposited to the Trustee and the trustee or paying agent for each series of Second Lien Bonds in order to satisfy the debt service and other payment obligations under the Indenture and any ordinance or indenture authorizing such Second Lien Bonds. Moneys on deposit in the Second Lien Bonds Account shall be applied without priority as to any particular series of Second Lien Bonds (other than moneys, instruments and securities or any Qualified Reserve Account Credit Instrument in any Debt Service Reserve established within the Second Lien Bonds Account for any particular series of Second Lien Bonds).

5. The Subordinate Lien Obligations Account is used to make debt service payments and other required deposits with respect to any Subordinate Lien Obligations. The City is obligated to make required debt service and other deposits to all subaccounts established in the Subordinate Lien Obligations Account on the Business Day immediately preceding each May 1 and November 1 in amounts specified in a certificate of its Chief Financial Officer reflecting the amount required by any ordinance authorizing the issuance of Subordinate Lien Obligations. Moneys on deposit in the Subordinate Lien Obligations Account shall be applied without priority to any subaccounts established in the Subordinate Lien Obligations Account.

6. The Commercial Paper Account is used to make debt service payments and other required deposits with respect to any Commercial Paper Notes authorized and issued under any ordinances or related indentures. The moneys on deposit in the Commercial Paper Account are required to be transferred by the Chief Financial Officer on the date so deposited to the appropriate paying agents or trustees for the related Commercial Paper Notes for the purpose of paying such amounts as may be required to be paid by the ordinances and related indentures authorizing such Commercial Paper Notes.

7. The Line of Credit Notes Account is used to make debt service payments and other required deposits with respect to any Water System Line of Credit Notes authorized and issued under any ordinances or related Water System Line of Credit Agreements. The moneys on deposit in the Line of Credit Notes Account are required to be transferred by the Chief Financial Officer on the date so deposited to the appropriate owners of or paying agents or trustees for the related Water System Line of Credit Notes for the purpose of paying such amounts as may be required to be paid by the ordinances and related Water System Line of Credit Agreements authorizing Water System Line of Credit Notes.

8. The Water Rate Stabilization Account is used at the City's discretion, in any year, to pay any expenses of or obligations of the Water System, including, without limitation. Operation and Maintenance Costs, deposits in the Senior Lien Principal and Interest Account,

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deposits in the Senior Lien Debt Service Reserve Account, deposits when due in the Second Lien Bonds Account (but only if and to the extent no amounts are required to be deposited in the Senior Lien Principal and interest Account and the Senior Lien Debt Service Reserve Account), deposits when due in the Subordinate Lien Obligations Account (but only if and to the extent no amounts are required to be deposited in the Senior Lien Principal and Interest Account, the Senior Lien Debt Service Reserve Account or the Second Lien Bonds Account), deposits when due in the Commercial Paper Account (but only if and to the extent no amounts are required to be deposited in the Senior Lien Principal and Interest Account, the various Subaccounts of the Senior Lien Debt Service Reserve Account, in the Second Lien Bonds Account or the Subordinate Lien Obligations Account), deposits when due in the Line of Credit Notes Account (but only if and to the extent no amounts are required to be deposited in the Senior Lien Principal and Interest Account, the various Subaccounts of the Senior Lien Debt Service Reserve Account, in the Second Lien Bond Accounts, in the Subordinate Lien Obligations Account or in the Commercial Paper Account), any costs of repairs, replacements, renewals, improvements, equipment or extensions to the Water System or any other cost or expense relating to the Water System or the financing or refinancing of the Water System. The Water Rate Stabilization Account must be used to make all required deposits to the Senior Lien Principal and Interest Account and the Senior Lien Debt Service Reserve Account when no other funds are available for that purpose. Any Net Revenues remaining in any period and not required to be deposited in the Senior Lien Principal and Interest Account, the Senior Lien Debt Service Reserve Account, any Senior Lien Rebate Account, the Second Lien Bonds Account, the Subordinate Lien Obligations Account, the Commercial Paper Account or the Line of Credit Notes Account may be transferred to the Water Rate Stabilization Account at any time upon the direction of the Chief Financial Officer.

Sec APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - Flow of Funds."

The following chart shows the priority of the flow of funds from the Water Fund into each of the accounts established pursuant to the Ordinance as described in greater detail above and in APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - Flow of Funds."

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**Ordinance Flow of Funds**

**Water Fund**

Senior Lien Principal and Interest Account

**Trustee Held Accounts**

Senior Lien DS Reserve Account  
Subordinate Lien Obligations Account  
Commercial Paper Account  
Line of Credit Notes Account

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Senior Lien Rebate Account Second Lien Bonds Account

Water Rate Stabilization Account

To provide for debt service on the Bonds, the City, on or before each May 1 and November 1 (each a "Deposit Date"), commencing May 1, 2018, is required to deposit into the 2017-2 Second Lien Bonds Subaccount established within the Second Lien Bonds Account pursuant to the Ordinance, from amounts on deposit in the Second Lien Bonds Account (other than monies, instruments or securities or any "Qualified Resource Account Credit Instrument" on deposit in a Debt Service Reserve Account for any other series of Second Lien Bonds issued or to be issued), an amount equal to the aggregate of the following amounts (such amounts are calculated by the Trustee and transferred by the City to the Trustee in accordance with the Ordinance on or before each such Deposit Date):

a) for deposit into the Principal and Interest Account of the 2017-2 Second Lien Bonds Subaccount, an amount equal to the Principal and Interest Account Requirement; and

b) for deposit into the Program Fee Account of the 2017-2 Second Lien Bonds Subaccount, the amount estimated by the City to be required as of the close of business on the related Deposit Date to pay all Program Fees payable from amounts in the Program Fee Account during the semi-annual period commencing on such related Deposit Date and, in the case of the initial Deposit Date, any fees payable from the Date of Issuance to, but not including, such initial Deposit Date.

"Principal and Interest Account Requirement," as used in the preceding sentence, means an amount, calculated as of each Deposit Date, equal to the total principal installments and interest due on the Bonds on such Deposit Date. Except as otherwise provided in the Indenture, moneys on deposit in the

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Principal and Interest Account will be held by the Trustee for the sole and exclusive benefit of the Bonds and used for the purpose of paying the principal of and interest on the Bonds when due. See APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE -Application of Bond Proceeds - Deposits into 2017-2 Second Lien Bond Subaccount and Accounts Therein."

### **Senior Lien Parity Bonds**

As long as there are any Outstanding Senior Lien Bonds, no bonds, notes or other obligations of any kind which are payable from Net Revenues Available for Bonds or any Accounts of the Water Fund with a claim senior to that of the Senior Lien Bonds shall be issued. Senior Lien Parity Bonds may be issued for any lawful purpose of the Water System, including without limitation paying the cost of repairs, replacements, renewals, improvements, equipment or extensions to the Water System, funding capitalized interest and reserve funds for Senior Lien Bonds, funding working capital for the Water System, refunding Outstanding Senior Lien Bonds or obligations payable from revenues of the Water System on a basis subordinate to the Senior Lien Bonds, including Second Lien Bonds Subordinate Lien Obligations, Commercial Paper Notes and Water System Line of Credit Notes, or for paying costs of issuance of Senior Lien Bonds. The issuance of Senior Lien Parity Bonds is subject to certain conditions, including compliance with

debt service coverage covenants.

### **Second Lien Parity Bonds**

As long as there are any Outstanding Second Lien Bonds, the City may issue Second Lien Parity Bonds for any lawful purpose of the Water System, including to refund Outstanding Senior Lien Bonds, Second Lien Bonds, Subordinate Lien Obligations or obligations payable from revenues of the Water System on a basis subordinate to the Second Lien Bonds and Subordinate Lien Obligations. The issuance of Second Lien Parity Bonds is subject to certain conditions, including compliance with debt service coverage covenants, which are summarized in APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE" - Additional Second Lien Bonds."

See "OUTSTANDING DEBT AND ANNUAL DEBT SERVICE - Additional Obligations" below for a description of certain additional Second Lien Bonds which have been authorized by the City Council of the City which may be issued subsequent to the issuance of the Bonds.

For additional descriptions of the Accounts in the Water Fund, the application of Net Revenues Available for Bonds, the Second Lien Bonds Rate Covenant and the restrictions on the issuance of additional Water Revenue Bonds, see APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE."

### **Subordinate Lien Obligations and Other Subordinate Obligations**

The Ordinance does not restrict the City's ability to issue obligations payable on a basis subordinate to the Bonds, including Subordinate Lien Obligations, Commercial Paper Notes and Water System Line of Credit Notes. As of December 1, 2017, there was \$248.3 million outstanding aggregate principal amount of Subordinate Lien Obligations in the form of I EPA loans. There are no amounts currently outstanding under any Water System Line of Credit Notes nor are there any Commercial Paper Notes currently outstanding. See "OUTSTANDING DEBT AND ANNUAL DEBT SERVICE -Commercial Paper Notes and Water System Line of Credit Notes."

### **Deficiencies and Excesses**

In the event of a deficiency in any Fiscal Year in the Senior Lien Principal and Interest Account, any subaccount of the Senior Lien Debt Service Reserve Account, any Senior Lien Rebate Account, the Second Lien Bonds Account, the Subordinate Lien Obligations Account, the Commercial Paper Account or the Line of Credit Notes Account, the amount of such deficiency shall be included in the amount to be transferred from the Water Fund and deposited into such account during the next 12-month period or succeeding Fiscal Year. Whenever the balance in any subaccount of the Senior Lien Debt Service Reserve Account exceeds the amount required to be on deposit in that subaccount, such excess may be transferred to the Senior Lien Principal and Interest Account and whenever the balance in any subaccount of any Senior Lien Rebate Account exceeds the amount required to be on deposit in such account, the excess may be transferred to the Water Fund, provided that no such transfers shall be made when any debt service payments on outstanding obligations of the City (including the Bonds) that are payable by their terms from the revenues of the Water System are past due. Any funds that remain in the Water Fund at the end of any Fiscal Year shall be retained in the Water Fund and shall be available for appropriation for any proper purpose of the Water System.

### **Cash and Investments**

Cash, cash equivalents or investments in the Senior Lien Principal and Interest Account, the Subaccounts of the Senior Lien Debt Service Reserve Account, the Second Lien Bonds Account, the Subordinate Lien Obligations Account, the Commercial Paper Account, the Line of Credit Notes Account, the various construction accounts and the Senior Lien Rebate Accounts of the Water Fund are to be held in separate bank accounts and in separately identifiable investments. Other cash, cash equivalents or investments in the Water Fund are or may be (except to the extent prohibited by ordinances authorizing indebtedness of the Water System) deposited in bank accounts and invested on a pooled basis with a variety of other funds of the City, including its General Fund. The City has

maintained these pooled accounts and investments so as to meet obligations of the Water Fund in a timely fashion. Notwithstanding the foregoing, cash, cash equivalents or investments in any of the Accounts of the Water Fund are only expended for lawful purposes of the Water Fund. See APPENDIX C - "CITY OF CHICAGO, ILLINOIS WATER FUND BASIC FINANCIAL STATEMENTS AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015, REQUIRED SUPPLEMENTARY INFORMATION, ADDITIONAL INFORMATION, AND INDEPENDENT AUDITORS' REPORT."

### **Investment of Funds**

Money held in the funds, accounts and subaccounts established under the Indenture shall be invested and reinvested in Permitted Investments; provided however that moneys in the Principal and Interest Account shall only be invested in Government Obligations scheduled to mature on the earlier of (i) (A) 30 days from the date of investment for amounts representing principal of the Bonds, or (B) six months from the date of investment for amounts representing interest payable on the Bonds, or (ii) the date upon which such moneys will be required to be used in accordance with the Indenture. The interest earned on any investment of money held under the Indenture, any profit realized from such investment and any loss resulting from such investment shall be credited or charged to the fund, account or subaccount for which such investment was made.

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## **OUTSTANDING DEBT AND ANNUAL DEBT SERVICE**

### **Senior Lien and Second Lien Obligations**

The outstanding indebtedness of the Water System as of December 1, 2017, consists of \$9,621,360 aggregate principal amount of Senior Lien Bonds and, prior to the issuance of the Bonds, \$2,168,745,000 aggregate principal amount of Second Lien Bonds. The City does not expect to issue any additional Senior Lien Bonds. The Subordinate Lien Obligations and other subordinate obligations outstanding are described under the caption "- Subordinate Obligations" below. The debt service on the Senior Lien Bonds and the Second Lien Bonds, prior to the issuance of the Bonds, is as shown in the following table.

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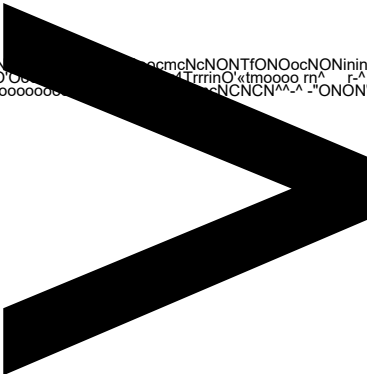
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The City has entered into loan agreements with the Illinois Environmental Protection Agency ("IEPA") as shown in the following table to fund Water System projects. Each loan constitutes a Subordinate Lien Obligation. It is anticipated that the City will enter into additional IEPA loans in the future. Subordinate Lien Obligations, including the IEPA loans, have a claim to payments from amounts in the Water Fund that is subordinate to the claim of the Bonds.

### IEPA WATER FUND LOANS OUTSTANDING

| Loan                                              |                                 |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
|---------------------------------------------------|---------------------------------|------------------------|----------|-----------|----------|----------|----------|----------|-----------|----------|----------|----------|-----------|-----------------------|-------------|
| L17-1247                                          | L17-2054                        | L17-3767 <sup>21</sup> | L17-377C | LI 7-3769 | L17-4564 | L17-4686 | L17-4687 | L17-4864 | LI 7-4865 | L17-5199 | L17-5025 | L17-5281 | LI 7-5232 | L17-5332              | Total       |
| Outstanding Principal Balance                     |                                 |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
|                                                   |                                 |                        |          |           |          |          |          |          |           |          |          |          |           | <u>Final Maturity</u> | <u>Date</u> |
| 11/1/2022 11/1/2025 9/9/2037 12/2/2031 I 1/1/2032 |                                 |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 12/21/2031 11/1/2032                              |                                 |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 12/27/2032 3/21/2034 7/16/2034 6/17/2035          |                                 |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 10/16/2034 4/14/2035 1/31/2036 6/1/2036           |                                 |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| <b>Interest</b>                                   | <b>Amount of</b>                |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| <b><u>Rate (%)</u></b>                            | <b><u>Loan Outstanding"</u></b> |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 2.905                                             | S 1,122,655.55                  |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 2.570                                             | 1,259,552.35                    |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 1.995                                             | 40,450,214.94                   |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 0.000                                             | 6,610,632.06                    |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 1.250                                             | 1,207,242.55                    |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 1.250                                             | 4,496,130.58                    |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 1.250                                             | 1,187,413.12                    |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 1.250                                             | 4,959,957.56                    |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 2.295                                             | 5,601,915.94                    |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 1.930                                             | 34,491,605.13                   |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 1.995                                             | 43,158,815.77                   |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 1.930                                             | 13,151,716.95                   |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 1.995                                             | 13,768,141.59                   |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 2.210                                             | 57,439,327.85                   |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| 1.860                                             | 19,395,973.64                   |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |
| S24ft.3M.295,.5.8, <sup>(3)</sup>                 |                                 |                        |          |           |          |          |          |          |           |          |          |          |           |                       |             |

Source: City of Chicago, Department of Water Management.

<sup>11</sup> The outstanding principal amounts are as of December 1, 2017.

<sup>121</sup> Loan L17-3767 will enter repayment in March 2018 with a principal amount of \$40.5 million. A balance of \$10.4 million remains to be drawn, with the remaining loan balance expected to be fully drawn in early 2018.

<sup>(1)</sup> This total does not include six IKPA loans which the Department has closed with IEPA. Until IEPA has fully disbursed these loans to the Department, the exact principal amounts of the loans, the debt service schedules and the maturity dates are not set. The six IEPA loans are as follows. L17-5331 for \$80,420,000 with a projected interest rate of 1.86% and an estimated maturity date of 2039, expected to be fully disbursed prior to December 21, 2019; L17-5417 for \$40,210,000 with a projected interest rate of 1.86% and an estimated maturity date of 2039, expected to be fully disbursed prior to December 22, 2019; L. 17-5384 for \$22,326,600 with a projected interest rate of 1.64% and an estimated maturity date of 2037, expected to be fully disbursed prior to April 10, 2018. L17-5229 for \$28,257,020 with a projected interest rate of 1.86% and an estimated maturity date of 2039, expected to be fully disbursed prior to February 16, 2020; L17-5361 for \$6,707,240.04 with a projected interest rate of 1.64% and an estimated maturity date of 2039, expected to be fully disbursed prior to November 15, 2019; and L17-5319 for \$40,431,567 with a projected interest rate of 1.64% and an estimated maturity date of 2041, expected to be fully disbursed prior to October 9, 2021.

Ordinances of the City authorizing the issuance of water revenue bonds also authorize the issuance from time to time of Commercial Paper Notes and Water System Line of Credit Notes for the purposes of financing or refinancing capital improvements to the Water System or providing funds to meet the cash flow needs of the Water System, among others. The maximum aggregate principal amount of all Commercial Paper Notes and Water System Line of Credit Notes outstanding at any one time may not exceed \$200,000,000 without further authorization from the City Council. There are no Commercial Paper Notes outstanding (nor are there any letters of credit or other instruments in effect and available to support any Commercial Paper Notes), nor are there any Line of Credit Notes outstanding. Should either of these obligations be issued in the future, the claim of any Commercial Paper Notes or Water System

Line of Credit Notes for payment from moneys in the Water Fund will be subordinate to the claim of the Bonds.

All interest rate swaps associated with the City's Second Lien Bonds have been terminated, however the City reserves its rights to enter into interest rate swaps in connection with Second Lien Bonds in the future.

## **DEPARTMENT OF WATER MANAGEMENT**

The City's Department of Water Management (the "Department") is an executive department of the City with responsibility for the operation, maintenance, repair, improvement and extension of the Water System and the Sewer System. Separate water and sewer funds are maintained to comply with legal requirements.

The budgeted employment level of the Department for 2017 for Water System employees was 1,431 and Sewer System employees was 500 (this represents the total number of employees on the City's payroll and excludes leaves of absence and duty disability). The Department includes employees with professional qualifications in the fields of engineering, law, science, construction management, public sector management and financial management, as well as skilled technical personnel. Substantially all of the Department's employees are covered by collective bargaining agreements that have expired or are expiring in 2017. While negotiations continue on successor agreements to those collective bargaining agreements, those prior agreements remain in effect. The 2018 Water Fund budget anticipates the impact of future funding increases, which includes wage increases and anticipated wage increases with respect to such successor collective bargaining agreements. The Department has worked to increase use of seasonal employees, lower the hourly rates for apprentice workers, lengthen probationary periods and reduce overtime rates for certain trades. The Department believes these efforts will create greater flexibility in managing the Water System's work force and make it more competitive with private construction companies.

The Department is building efficiencies and cost savings for the City by coordinating the activities of the Water System with the work of other City agencies, the Office of the Mayor, other City departments and private utility providers. For example, the Department and other City agencies participate in regularly scheduled coordination meetings to review critical infrastructure requirements, share in the costs of administration, set program deadlines, work with tax-increment financing capital planning and ensure that the Chicago Department of Transportation manages rights of way scheduling and construction. The Department has increased its use of mapping and technology. Some of the key benefits from these programs include but are not limited to: (i) the ability to update existing systems like 311 from the field; (ii) the ease of integrating the Geographic Information System with other systems such as the Department's work order management system, metering system, and scheduling software; (iii) the ability to coordinate with field crews and off-site contractors directly; and (iv) having live data presented in a visual format that provides a full operational picture and true status updates. The Department pushes information out into the field using mobile devices so that the construction and maintenance crews can quickly and easily follow the plan and report back live information and progress of their work.

### **Organization and Staffing**

The chief administrator of the Department is the Commissioner, who is appointed by the Mayor with the approval of the City Council. On June 3, 2017, Alfonzo Conner was appointed as Commissioner of the Department. Under the direction of the Commissioner, the Department is organized into five bureaus and the Commissioner's office as follows:

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**Commissioner's Office:** The office is responsible for the oversight and management of general and project-specific initiatives for the other bureaus. This office also includes security and safety.

**Administrative Support:** This bureau is responsible for the collection and dissemination of all financial information, procurement and contract administration, personnel, labor relations, information technology and payroll.

**Operations and Distribution:** This bureau is responsible for the maintenance, repair and installation of water and sewer mains and appurtenances, including valves, fire hydrants, manholes, catch basins and valve basins.

**Water Supply:** This bureau is responsible for the treatment, purification, pumping and monitoring the quality and purity of the water supply.

**Engineering Services:** This bureau is responsible for providing engineering and inspection support for the planning, design, expansion, rehabilitation, operating, monitoring and inspection of the Water and Sewer Systems.

**Meter Service:** This bureau is responsible for water meter installation, reading and repair.

The City maintains a self-insurance program, including casualty coverage, general liability coverage and workers' compensation for the Department. The City also maintains replacement-cost property insurance that covers the major facilities of the Water System.

## **WATER SYSTEM**

### **Description of Facilities**

**Treatment Plants.** The Department operates the world's two largest conventional water treatment facilities, the Eugene Sawyer Purification Plant and the James W. Jardine Water Purification Plant, aggregating a continuous service capacity of 2.16 billion gallons per day ("BGD"). The Eugene Sawyer Water Purification Plant (previously named South Water Purification Plant) has a rated capacity of 720 million gallons per day ("MGD") and serves the City south of 39<sup>th</sup> Street and the City's south and southwest suburban customers. This plant was placed into service in 1947 with a rated capacity of 480 MGD. In 1966, this plant was expanded by 50 percent which increased its capacity by 240 MGD to its current rated capacity. The James W. Jardine Water Purification Plant is the largest fresh water purification plant in the world with a rated capacity of 1.44 BGD. It has been in operation since 1964 serving the City north of 39<sup>th</sup> Street, the DuPage Water Commission and the City's other western and northern suburban customers.

These plants are supplied from four water intakes, two of which are water intake cribs located in Lake Michigan two to four miles from shore and two of which are shore intakes (one at each plant).

**Pumping Stations; Water Supply Tunnels; Water Distribution.** Water is transported throughout the Water System by 64 miles of water supply tunnels. These tunnels are located 40 to 100 feet below the surface of the ground and range in size from six feet to 20 feet in diameter. Water is raised from the tunnels by the pumps in the 12 pumping stations and delivered to customers through a water distribution system of approximately 4,295 miles of water mains (ranging in size from four to 60 inches in diameter), approximately 48,190 fire hydrants and approximately 48,670 valves.

### **Capital Improvement Program**

The City, through the Department, continually improves and rehabilitates the Water System. To provide for future additions to the Water System, replacement of facilities and rehabilitation of existing facilities, the Department has prepared a projected capital improvement program covering a ten-year period from 2012 to 2021 (the "Capital Improvement Program"). The Capital Improvement Program includes a series of annual benchmarks that the Department intends to achieve in order to implement the entire Capital Improvement Program. The Capital Improvement Program addresses the renewal and replacement of the Water System's infrastructure, and focuses on four major areas: (i) water main replacement, (ii) meter installation, (iii) electrification of pumping stations, and (iv) rehabilitation and upgrading of the Water System's two purification plants.

Now in the sixth year of the ten-year Capital Improvement Program, the Department has generally remained on track with its goals. Over the ten-year period from 2012 through 2021, the Department planned to replace 880 miles of water mains (500 miles will have been completed by the end of 2017), install 204,000 meters, design the electrification of pumping stations (two designs are complete and one is in progress), electrify three pumping stations (one has been completed and one is in progress) and rehabilitate and upgrade the water system's two purification plants. Since 2012, the Department has replaced 106,184 water meters, exceeding its goal of replacing 15,000 meters per year through 2017. The Department intends to continue to install 15,000 water meters in each of

the years from 2017 through 2020. With respect to water main replacement, the Department replaced 70 miles of water mains in 2013 and 2014, and 90 miles in 2015 and 2016, more than twice as many water mains as it had been replacing prior to the implementation of the Capital Improvement Program. The Department plans to replace an additional 90 miles of water mains in each of the years 2017 through 2019, and 100 miles in 2020. With respect to the electrification of pumping stations, the Department has completed the electrification of the Springfield pumping station and the Department is in the process of bidding the design plans for the conversion of the Central Park pumping station from steam to electric power. With respect to the rehabilitation and upgrading of the Water System's two purification plants, the Department is in the process of replacing all the medium voltage electrical power distribution systems and installing standby generators, improving the switchgear, and replacing the filter backwash controls at the Eugene Sawyer Purification Plant. At the Jardine Water Purification Plant, the Department is in the process of improving the chlorine system, improving the electrical switchgear, and installing standby generators, and recently completed a new roof on the East Filter Building.

The ongoing projects of the Department will ensure continued economical and reliable delivery of water. The Department 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 efficient operation of the Water System.

The Water System's expenditures for 2013 through 2016 and projected expenditures for 2017 through 2020 under the Capital Improvement Program are summarized in the table below. The information presented in the table reflects the Department's expected allocations of resources to various projects, but does not necessarily represent an expectation of actual cash expenditures for these projects, which are subject to annual approval of the Budget Office. The primary sources of funds to undertake these projects are expected to be proceeds from contemplated debt issuances, IEPA loans, as well as funding from current water revenue (also referred to as "pay-go").

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2013-2020 HISTORICAL AND PROJECTED CAPITAL IMPROVEMENT PROGRAM  
FUNDING BY SOURCE (Dollars in Millions)

Funding Sources  
Bonds Pay-Go IEPA Loans  
Total

2013

\$179 56 56

**\$295**

2014

\$152 146 104

\$402

**2015**

\$157 94 112

IM2

2017

2016 2

195 140 \$335

\$164 \$ 53 144

**2018**

\$

213 180

**\$393**

2019

\$130 136 175  
S44J.  
2020  
\$195 113 150  
i458.

Source: City of Chicago, Department of Water Management.

## Quality of Water Supplied

The quality of the water drawn by the City from Lake Michigan meets currently applicable federal and State standards in all material respects. The water operations of the Department are subject to the requirements of the federal Safe Drinking Water Act of 1974, 42 U.S.C. §300f et seq., as amended in 1986 and 1996 by Congress (the "Safe Drinking Water Act"). The Safe Drinking Water Act sets the regulatory agenda of the United States Environmental Protection Agency ("USEPA"), to include, among other things, the development of drinking water standards for more than 90 contaminants. In addition, the Department is subject to compliance of Title 35, Subtitle F, Chapter 1, Part 611 of Illinois Administrative Code as the IEPA has primary authority over drinking water utilities within Illinois.

The Department is in compliance with all physical, chemical, radiological, and bacteriological standards established by the regulations currently in effect under the Safe Drinking Water Act, and is studying the potential impacts of proposed rules as well as those still under development by the USEPA. As the USEPA promulgates additional regulations, the Department could potentially be required to modify operations and/or construct facilities beyond those contemplated by the Capital Improvement Program. The Department believes, however, that planned capital projects should address all current regulatory requirements.

Water treatment at each plant includes the addition of chlorine to disinfect, fluoride to help fight tooth decay, coagulants to settle out impurities in the water and blended phosphate to coat pipes and service lines.

The Department has microbiology and chemistry laboratories at each plant that conduct compliance sampling for the treatment process and distribution system. Additionally, the Department maintains water quality laboratories at each plant that analyze the water throughout the treatment process continuously.

The IEPA implemented a Source Water Assessment Program ("SWAP") to assist with watershed protection of public drinking water supplies. The SWAP inventoried potential sources of contamination and determined the susceptibility of the source water to contamination. The IEPA has completed the SWAP for the City's water supply. The SWAP, as implemented helps the City make important decisions about how to protect Lake Michigan, its drinking water source. By working to ensure safe drinking water supplies, the health and economy of the community, as well as the preservation of natural resources, may be greatly improved. However, at certain times of the year the potential for contamination still exists due to wet-weather flows. In addition, the crib structures serve to attract waterfowl, gulls and terns that frequent the Great Lakes area, thereby concentrating fecal deposits at the intakes and thus compromising the source water quality. Additionally, the shore intakes may be susceptible to contaminants from storm

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water runoff, marinas and shoreline point sources due to the influx of groundwater to the lake. Having this information allows the Department to continually monitor water quality throughout the treatment process to ensure compliance with all standards established by the regulations currently in effect under the Safe Drinking Water Act.

**Lead and Copper Rule Compliance.** Pursuant to the Safe Drinking Water Act, the Department is required to conduct Lead and Copper Rule (LCR) monitoring every three years. Compliance monitoring in 2015 demonstrated that the Department continues to be in compliance with the LCR; its only LCR violation was in 1993. Further, to reduce the leaching of metals, including lead, the Department adds a blended phosphate to the water before it enters the distribution system, which promotes the formation of a protective coating inside pipes and plumbing; this system of corrosion control corrected the LCR violation found in 1993.

**Monitoring.** The City continues monitoring for *Cryptosporidium*, *Giardia* and *E. coli* in its source water as part of its water quality program. To date, *Cryptosporidium* has not been detected in these samples, but *Giardia* was detected in one raw lake water sample collected in September 2010. Treatment processes have subsequently been optimized to provide effective barriers for removal of *Cryptosporidium* oocysts and *Giardia* cysts in the source water, effectively removing these organisms in the treatment process. By

maintaining low turbidity through the removal of particles from the water, the possibility of Cryptosporidium and Giardia organisms getting into the drinking water system is greatly reduced.

Currently, the City has also continued monitoring for hexavalent chromium, also known as chromium-6. USEPA has not yet established a standard for chromium-6, a contaminant of concern which has both natural and industrial sources.

A diagram of the City's water treatment process is set forth below:

# Cb •Blended

Phosphate

Mix Flocculation' Sedimentation

**Total System Capacity-2.16 BGD Jardine Plant-1.44 BGD Sawyer (South) Plant - 0.72 BGD**

Reservoir

Distribution System

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## **WATER SYSTEM SERVICE AREA**

### **Service Area**

The Water System supplied water to a service area of approximately 806 square miles as of December 31, 2016. The City accounted for approximately 228 square miles and the suburban customers accounted for approximately 578 square miles of the service area.

Included in the current service area are seven suburbs (Elk Grove Village, Hanover Park, Hoffman Estates, Mount Prospect, Rolling Meadows, Schaumburg and Streamwood) which formed the Northwest Suburban Municipal Joint Action Water Agency ("JAWA") which, in turn, has built facilities necessary to obtain water from the City. These facilities were acquired by the City from JAWA over time by crediting a portion of the charges for water purchased by JAWA under a contract between JAWA and the City.

In May 1992, 24 suburbs, acting through the DuPage Water Commission ("DWC"), became customers of the Water System, expanding the Water System's service area by approximately 24 percent. The Department supplies water to DWC with existing facilities and has not incurred any substantial capital costs in providing such service. DWC is responsible for the construction of pumping, water retention and related facilities at delivery points just within the City's territorial limits. These facilities were acquired by the City from DWC over time by crediting a portion of the charges for water purchased by DWC under a contract between DWC and the City.

### Population Served

The following table shows the population for the City and the suburban customers of the Water System as shown in each decennial census since 1970:

#### WATER SYSTEM SERVICE AREA POPULATION<sup>(1)</sup>

##### Year

1970 1980 1990 2000 2010

##### Chicago

3,369,357 3,005,072 2,783,726 2,896,016 2,695,598

##### Suburban Customers

1,127,446 1,152,614 1,589,557 2,410,021 2,600,496

##### Total

4,496,803 4,157,686 4,373,283 5,306,037 5,296,094

##### Number of Suburbs Served

72 75 95 125 125

Source of population figures: U.S. Department of Commerce, Census Bureau.

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The following table lists the 125 suburban customers currently served, directly or indirectly, by the Water System.

#### SUBURBAN CUSTOMERS SERVED BY THE WATER SYSTEM

Addison Alsip  
Bedford Park  
Bellwood  
Bensenville  
Berkeley  
Berwyn  
Bloomingdale  
Blue Island  
Bolingbrook  
Bridgeview  
Broadview  
Brookfield

Burnham  
Burr Ridge  
Calumet City  
Calumet Park  
Carol Stream  
Central Stickney  
    Sanitary District Chicago Ridge Cicero  
Clarendon Hills  
Country Club Hills  
Countryside  
Crestwood  
Darien  
Des Plaines  
Dixmoor  
Dolton  
Downers Grove East Hazel Crest Elk Grove Village  
Elmhurst Elmwood Park Evergreen Park Flossmoor Forest Park Forest View Franklin Park Garden Homes  
    Sanitary District Glen Ellyn Glendale Heights Glenview Golf  
Hanover Park Harvey  
Harwood Heights  
Hazel Crest  
Hickory Hills  
Hillside  
Hinsdale  
Hodgkins  
Hoffman Estates  
Homer Township  
Hometown  
Homewood  
IAWC<sup>(1)</sup>  
Indian Head Park Itasca Justice La Grange La Grange Highland Sanitary District La Grange Park  
Leyden Township Lincolnwood Lisle Lombard Lyons Markham Matteson Maywood McCook Melrose Park Merrionette Park  
Midlothian Mokena Morton Grove Mount Prospect Naperville New Lenox Niles Norridge North Riverside Northlake Oak Brook Oak  
Forest Oak Lawn Oak Park Oakbrook Terrace Olympia Fields Orland Park Palos Heights Palos Hills Palos Park Park Ridge Phoenix  
Posen  
River Forest River Grove Riverdale Riverside Robbins  
Rolling Meadows Roselle Rosemont Schaumburg Schiller Park South Holland South Stickney  
    Sanitary District Stickney Stone Park Streamwood Summit Thornton Tinley Park Villa Park Westchester Westmont Wheaton  
Willow Springs Willowbrook Winfield Wood Dale Woodridge Worth

Source: City of Chicago, Department of Water Management.

<sup>(1)</sup> IAWC (Illinois American Water Company, formerly Citizens' Utilities Company of Illinois) serves 11 unincorporated areas in Cook and DuPage Counties, Illinois.

## **Water Accounts**

As of December 31, 2016, the Water System supplied 494,264 accounts. Of these, 206,913 were non-metered and 287,351 were metered. The number of metered accounts has recently exceeded the number of non-metered accounts as a result of the Meter Installation Program for all single-family and two-family dwellings within the City. Water meters are required on all new construction of single-family and two-family dwellings within the City and on any new services to existing buildings in the City. All suburban customers (primarily municipal corporations) are metered.

The following table reflects the total accounts of the Water System, non-metered and metered, for the past 10 years:



**WATER SYSTEM ACCOUNTS**

| <b>Year Ended</b> | <b>December 31</b> | <b>Non-metered</b> | <b>Metered Total</b> |
|-------------------|--------------------|--------------------|----------------------|
| 2007              | 320,579            | 175,256            | 495,835              |
| 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              |

Source: City of Chicago, Department of Water Management.

**Non-City Customers**

Suburbs. The Department's service to its suburban customers is based on various contracts and on an Illinois statute which establishes and authorizes the operation of the Metropolitan Water Reclamation District of Greater Chicago (the "Water Reclamation District"), formerly known as the Metropolitan Sanitary District of Greater Chicago. Among other things, the statute requires the City to supply water at the City limits to any municipal corporation within the Water Reclamation District at no greater price or charge than that applicable to similar large users in the City. The Water Reclamation District currently serves municipalities in the Chicago area and its function is to construct, maintain and operate sewage treatment plants, necessary sewers and drainage outlets.

Currently, the Department's outstanding contracts with its suburban customers generally have terms of 10 years with three 10-year extensions for a total of 40 years and include certain water supply and planning provisions, such as requiring the suburban customers to maintain storage capacity for a two-day supply of water and establishing the maximum rate at which suburban customers may withdraw water from the Department's mains. The Department has continued to supply water at the current water rate to those suburban customers that have not yet renewed their contracts. While the City may be precluded from shutting off water service to suburban customers for failure to pay amounts owed, the City has available legal remedies to enforce such contracts.

The respective contracts which the City has executed with JAWA and DWC are substantially similar, but are different from the standard contracts described above. The contracts with JAWA and DWC are for 40-year terms, expiring in 2032 and 2023, respectively. JAWA and DWC have made substantial capital investments to connect with the Water System. The Village of Oak Lawn (which serves several other south and southwestern suburban customers) entered a contract with the Department in 2013 with a 30-year term, expiring at the end of calendar year 2042 with an option to extend the contract for a further ten years. In 2016, DWC was the Department's largest suburban customer, Oak Lawn was the second largest suburban customer and JAWA was the third largest suburban customer, with sales of approximately \$102.7 million, \$39.5 million and \$38.1 million, respectively.

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In 2016, the suburban customers accounted for approximately 38 percent of water pumpage and approximately 49 percent of net water sales of the Water System.

Listed below are the Department's 10 largest suburban customers in 2016. Several of these customers supply one or more other suburban customers.

**10 LARGEST SUBURBAN CUSTOMERS OF THE WATER SYSTEM**  
**IN 2016**

| <u>Customer</u>                                               | <u>Amount of Sales<br/>(in Thousands)</u> |
|---------------------------------------------------------------|-------------------------------------------|
| DuPage Water Commission (DWC)                                 | \$102,711                                 |
| Oak Lawn, Illinois                                            | 39,539                                    |
| Northwest Suburban Municipal Joint Action Water Agency (JAWA) | 38,086                                    |
| Bedford Park, Illinois                                        | 29,817                                    |
| Harvey, Illinois                                              | 12,033                                    |
| Cicero, Illinois                                              | 11,460                                    |
| Melrose Park Illinois                                         | 11,053                                    |
| Niles, Illinois                                               | 8,227                                     |
| Alsip, Illinois                                               | 8,095                                     |
| <u>McCook, Illinois</u>                                       | <u>7,361</u>                              |
| Total                                                         | \$268,382                                 |

Source: City of Chicago, Department of Water Management.

From time to time, including at the present time, the City is notified that one or more suburban communities that now receive water service from the City are considering potential alternative sources for their water supply. In April 2017, the City received a letter (the "April Letter") from a law firm representing both the Village of Niles, Illinois ("Niles") and the Village of Morton Grove, Illinois ("Morton Grove"). The April Letter stated that both villages were pursuing an alternative water supply source and requested that the City enter into a new 10-year water supply agreement with each village that would include, among other things, the following provisions: (i) each village would purchase an agreed-upon minimum amount of water necessary to demonstrate the operability of its respective water supply system, and (ii) the City would provide an emergency water supply to each village, at then-current water rates, in the event that either village required such service. The Department responded to the April Letter by means of a letter sent the following month (the "May Letter"), which estimated that to enter into a water supply agreement as requested in the April Letter, Niles would be required to draw 3.0 MGD and Morton Grove would be required to draw 1.5 MGD. The May Letter pointed out that for the prior year, Niles' average usage of City water was 5.9 MGD and Morton Grove's average usage was 2.7 MGD. The City has not to date received a response to the May Letter from either village. No assurance can be given as to whether either village will continue to purchase water from the City or whether any other suburban communities may similarly explore alternative water supply sources.

See "LITIGATION" for a discussion of certain litigation by the City against the City of Harvey, Illinois ("Harvey") to recover moneys owed by Harvey to the City under its water supply contract.

State of Illinois. The State of Illinois (the "State") is obligated to make payments to the City in instances where it is a user of the Water System, except in situations and to the extent that the applicable State property qualifies for an exemption. The revenue from the State as user constitutes less than one

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percent of the Water System's annual operating revenues. No operating revenues from any users of the Water System (other than the State) flow through the State; all such revenues are paid directly to the City.

#### Water Pumpage

During 2016, the Water System pumped approximately 256.6 billion gallons of water. Because the Water System supplies water to non-metered customers and certain exempt users, many of which are also not metered, it is impossible for the Department to account exactly for its total system pumpage. However, the Department estimates that, in 2016, total water losses were approximately 6.26% of total pumpage.

#### WATER PUMPAGE TO CITY AND SUBURBAN CUSTOMERS (in Millions of Gallons)

Total  
City  
Year

## JAWA

## DWC

| 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 199,492 | 191,778 | 185,197 | 176,773 | 176,718 | 182,050 | 173,877 | 173,804 | 164,187 | 159,161 |
| 12,003  | 11,542  | 11,560  | 11,087  | 10,938  | 11,364  | 10,616  | 10,503  | 10,296  | 10,130  |
| 315,916 | 302,024 | 292,568 | 282,368 | 281,505 | 289,545 | 276,039 | 274,552 | 262,606 | 256,620 |
| 31,855  | 30,235  | 29,017  | 28,729  | 28,194  | 29,800  | 28,113  | 27,219  | 26,776  | 26,938  |

Other Suburban Customers

|        |        |        |        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 72,566 | 68,469 | 66,794 | 65,779 | 65,655 | 66,331 | 63,433 | 63,026 | 61,347 | 60,391 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|

Source: City of Chicago, Department of Water Management.

As the table below indicates, from 2007 through 2016 the Water System's maximum daily pumpage ranged from 41 percent to 61 percent of the Water System's capacity.

WATER SYSTEM PUMPAGE AND CAPACITY

| Year | Daily<br>Annual<br>Pumpage<br>(MGD) | Daily<br>Pumpage<br>(MOD) | Daily<br>Pumpage<br>(MGD) | System's                     | Maximum                        | Maximum | Rated |
|------|-------------------------------------|---------------------------|---------------------------|------------------------------|--------------------------------|---------|-------|
|      |                                     |                           |                           | Total                        | Average                        |         |       |
|      |                                     |                           |                           | Pumpage<br>Capacity<br>(MGD) | Pumpage<br>as % of<br>Capacity |         |       |
| 2007 | 315,916                             | 8661,200                  | 2,160                     | 56                           |                                |         |       |
| 2008 | 302,024                             | 8271,136                  | 2,160                     | 53                           |                                |         |       |
| 2009 | 292,568                             | 8021,112                  | 2,160                     | 51                           |                                |         |       |
| 2010 | 282,368                             | 7731,012                  | 2,160                     | 47                           |                                |         |       |
| 2011 | 281,505                             | 7711,317                  | 2,160                     | 61                           |                                |         |       |
| 2012 | 289,545                             | 7931,248                  | 2,160                     | 58                           |                                |         |       |
| 2013 | 276,039                             | 756                       | 1,095                     | 2,160                        | 51                             |         |       |
| 2014 | 274,552                             | 7521,023                  | 2,160                     | 47                           |                                |         |       |
| 2015 | 262,606                             | 7198,902                  | 2,160                     | 41                           |                                |         |       |
| 2016 | 256,620                             | 701,903                   | 2,160                     | 42                           |                                |         |       |

Source: City of Chicago, Department of Water Management.

**Lake Michigan Allocations**

City Allocations. Diversion of water from Lake Michigan began in 1900 when the flow of the Chicago River was reversed. In 1922, the State of Wisconsin filed the first lawsuit relating to the diversion of Lake Michigan water at Chicago. The United States Supreme Court referred the case to a Special Master and a decree was issued in 1930 which allowed the State to divert 6,500 cubic feet per second ("cfs") until 1938 and 1,500 cfs thereafter. Water pumpage for potable water supply use was not chargeable to the amounts allowed for diversion under the decree. In 1957, the State of Wisconsin again filed suit in the United States Supreme Court. The suit led to the appointment of a Special Master and the resultant 1967 decree, based on the Special Master's findings, restricted the State from diverting more than 3,200 cfs (2,068 MGD). This limitation on diversion includes water pumpage for potable water supply.

In a related matter, on July 26, 1996, the State, the seven other Great Lakes states, the United States and the Water Reclamation District entered into a Memorandum of Understanding ("MOU") with respect to water diversion from Lake Michigan. The MOU was designed to address a dispute among the states as to an alleged violation of the decrees of the United States Supreme Court (discussed above) limiting the total amount of water diverted by the State and its political subdivisions. The other Great Lakes states contended that the water being diverted had exceeded the Supreme Court's limitation of 3,200 cfs.

To address the other Great Lakes states' concern that the State was exceeding its diversion limit, the State agreed to (1) maintain its diversions at the Supreme Court's limit and in fact, to use less than the 3,200 cfs for the next 20 years, (2) reduce leakage at the Chicago River Controlling Works, (3) reduce diversion for navigation make-up, and (4) complete allocation proceedings regarding all domestic and industrial Illinois Lake Michigan water users. The MOU also provided that the State shall use its power to ensure that municipalities using water from Lake Michigan, including the City, comply with allocation limits, unaccounted-for-flow

requirements, and conservation requirements required by State law, regulation, court order, consent decree or settlement agreement.

The City was not a signatory to the MOU, but in 1996, in an effort to assist the State in meeting the diversion requirements set out in the MOU, voluntarily agreed to expand a Water Conservation Plan initially implemented by the Department in 1989. The City's 1996 Water Conservation Plan (the "1996 Plan") expanded the repair program to eliminate or prevent delays in leak repairs, expanded its public education program and required the metering of various large non-metered water users. Since the MOU, the City has seen a decrease in its actual water usage.

Illinois Allocations. The Illinois Department of Natural Resources ("IDNR"), previously a part of the Illinois Department of Transportation ("IDOT"), is responsible for the apportionment of Lake Michigan water within the State pursuant to the Level of Lake Michigan Act (615 ILCS 50/1 et seq.). On July 28, 1999, IDNR entered its allocation Order LMO 99-3 with respect to its allocations of Lake Michigan water. The allocations under Order LMO 99-3 are as follows:

**LAKE MICHIGAN ALLOCATION UNDER ORDER LMO 99-3 TO CITY AND  
SUBURBS SERVED BY CITY<sup>(1)</sup>**

| <b>Year</b>    |         |         |  |
|----------------|---------|---------|--|
| 2000           | 2010    | 2020    |  |
| <b>City</b>    |         |         |  |
| 713.0          | 737.1   | 750.1   |  |
| <b>Suburbs</b> |         |         |  |
| 334.3          | 362.2   | 388.0   |  |
| <b>Total</b>   |         |         |  |
| 1,047.3        | 1,099.3 | 1,138.1 |  |

Source: IDNR. Allocations are rounded to tenths, actual allocations are specific to .001 MGD.

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Order LMO 99-3 modified Order LMO 89-2 entered by IDOT in 1989 and decreased the allocations of Lake Michigan water to the City. For example, under Order 89-2 (as revised in 1995) the Year 2000 allocations to the City and the suburbs that the City serves would have been 833.3 MGD for the City and 344.0 MGD for the suburbs. But, under Order LMO 99-3 the same allocations for the year 2000 were decreased to 713 MGD for the City and 334.3 MGD for the suburbs, as reflected in the table above.

The IDNR reduced the City's allocation because: (1) the State had agreed in connection with the MOU to reduce State-wide usage; and (2) the City's actual water usage had decreased from over 800 MGD in the late 1980s to approximately 680 MGD in 1998. The City's decreased usage is, in part, a result of its successful undertaking to conserve water pursuant to its 1996 Plan.

The City fully expects that its allocation will be sufficient to meet its water needs for the next 20 years. In addition, IDNR rules allow the City to petition for an increase in its allocation in the event the City's expected water needs exceed its allocation.

Also, in 1999, the City amended the 1996 Plan to further conserve water and reduce unaccounted-for flow. This amended plan expands the 1996 Plan in four primary respects: (1) the continuation of water main replacements at an annual rate of approximately 45 miles; (2) increased leak detection and repair activities; (3) the installation of meters in certain un-metered municipal and commercial buildings; and (4) the adoption of an accelerated suburban meter repair program which provides for accuracy testing and repair if necessary of all active meters every two years. Order LMO 99-3 reflects the acceptance by the IDNR of the City's amended plan.

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## FINANCIAL OPERATIONS

### Rates, Fees and Users

The Water Fund receives no share of any state or local property or income taxes. Revenues from the sale of water provide for the operation, maintenance and debt service of the Water System. The City obtains Water System operating revenues only from the users of the Water System. The operating revenues from users of the Water System do not flow through the State, any State agency or any other political subdivision, but are paid directly to the City. The State is, however, like any other user, obligated to make payments to the City in instances where it is a user of the Water System (with the exception of situations and to the extent that the applicable property qualifies for an exemption). See "WATER SYSTEM SERVICE AREA -Non-City Customers."

Water System rates are set by City Council. No regulation by any administrative agency applies to Water System rates. Water System rates for metered accounts are based on a dollar rate per thousand cubic feet. The assessment of non-metered users is based on a formula primarily involving the front width of the building and the number of stories therein plus a charge for an outside hose connection and extra charges for large water-using devices such as water-cooled air conditioners. See " - Water System Rates" below.

Certain publicly owned properties and not-for-profit organizations enjoy exemptions from the payment of Water System rates in connection with metered accounts. These exemptions range from 100% (e.g., for many publicly owned entities such as properties owned by the City and certain not-for-profit organizations that have net assets or fund balances at the end of the year preceding the water rate charge of less than \$1 million) to 25% (e.g., for not-for-profit organizations having net assets or fund balances at the end of the year preceding the water rate charge of greater than or equal to \$10 million but less than \$250 million).

Whenever projected Gross Revenues will not be sufficient to comply with the Rate Covenant in the Ordinance and the Indenture, the City is required to prepare a rate study for the Water System identifying the rate charges necessary to comply with the Rate Covenant, and the Budget Office and the Chief Financial Officer are required to recommend appropriate action to the City Council to comply with the Rate Covenant, which may include rate increases and/or expenditure reductions. See "INTRODUCTION - Rate Covenant."

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## Water System Rates

Historical Water System rates, as authorized by the City Council, are summarized in the table below. By ordinance, annual Water System rates are now automatically adjusted by applying to the previous year's rates the rate of inflation, calculated based on the Consumer Price Index published by the United States Bureau of Labor Statistics for the 365-day period ending on the most recent January 1. Such increases do not require further action by the City Council. Any such automatic annual increase, however, shall be capped at 5% of the previous year's rate. Subject to applicable rate covenants, the City Council may take action at any time to alter the then-current schedule of water or sewer rates.

### HISTORICAL WATER RATE INCREASES

#### Date Effective

Jan. 1, 2007 Jan. 1, 2008 Jan. 1, 2009 Jan. 1, 2010 Jan. 1, 2011 Jan. 1, 2012 Jan. 1, 2013 Jan. 1, 2014 Jan. 1, 2015 June 1, 2016 June 1, 2017

#### 1,000 Cubic Feet

9.95 11.44 13.15 15.00 15.00 18.75 21.56 24.80 28.52 28.52 29.04

#### 1,000 Gallons

1.33 1.53 1.76 2.01 2.01 2.51 2.88 3.31 3.81 3.81 3.88

#### Increase Over Prior Rate

(%)

0.00 15.00 15.00 14.00  
0.00 25.00 15.00 15.00 15.00  
0.00  
1.83

Source: City of Chicago, Department of Water Management.

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### Water Rate Comparisons

The following chart compares the Water System's single family cost per 7,500 gallons of water to the rates charged for the same level of water usage by water systems serving other selected U.S. cities. The reader should note, however, that other cities' water rates shown below may be based on different assumptions which could render any comparison less reliable. Further, the Water System rate shown below applies only to metered accounts for the Water System and not to non-metered accounts.

#### Water Rate Comparison (as of September 2017)

##### Chicago and Other Selected U.S. Cities Single Family Cost per 7,500 Gallons of Water

Source: City of Chicago, Department of Water Management.  
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### Collections and Delinquencies

The Department of Finance follows the same collection strategy for collecting water accounts and sewer accounts, as described below. The Department of Finance bills most large industrial accounts each month, with a few exceptions that are billed quarterly. Metered commercial and residential accounts are billed once every two months. Non-metered accounts are billed once every six months. Chicago residents receiving both water and sewer service from the City, as well as refuse collection services provided by the City's Department of Streets and Sanitation, are sent a unified utility bill which details the charges for each service. Pursuant to the Municipal Code, payments on the unified bills are allocated pro rata among the charges shown on the bills, with oldest unpaid amounts being paid first. The first unified bills which included refuse collection services were sent between April and

September 2016 to residents. Beginning in March 2017, the unified bills also include the Chicago Water and Sewer Tax as a separate charge (see "THE BONDS - Chicago Water and Sewer Tax"). To date, the allocation of partial payments on the unified bills to sewer accounts and refuse collection services has not had a material adverse effect on the collection by the City of water charges. See "INVESTMENT CONSIDERATIONS - Other Considerations - Unified Billing" for a discussion of certain risks related to the inclusion of the refuse collection services fee, together with the water and sewer charges, on a unified bill.

Payments on both metered and non-metered accounts are due 21 days after the bills are issued. A late payment penalty assessed at a monthly rate of one and one-fourth percent is imposed on all sewer charges in excess of \$10.00 for which payment in full is not received within 30 calendar days from the date the bill was issued.

Delinquency notices, which were generated at an average rate of 24,319 per week in 2016, are sent to delinquent account holders when their balances are 30 days past due. A second delinquency notice is sent after 60 days. A third delinquency notice is sent after 90 days. After an active account reaches 210 days past due with a balance greater than \$300, the account is referred to an outside law firm for collections. Inactive accounts (those that do not currently have water or sewer service) that are 91 days past due with balances of \$200 or greater are referred to an outside law firm for collection. The outside law firm may pursue collection by obtaining a judgment at the City of Chicago Department of Administrative Hearings, recording a lien against the property, or by additional legal collection actions.

Additionally, active accounts are eligible to be posted for shutoff by the Department where account balances have not been paid for 60 days or longer and the account balance is \$350 or greater. Properties which have been posted are eligible for water service to be shut off by the Department if the accounts remain past due 12 days after posting and the balance requirement is met. Due to the concern for public health, the Department of Finance makes every effort to collect delinquent accounts prior to the Department terminating water service. It is not possible to terminate use of the Sewer System by an individual user unless water service is terminated. Further, by ordinance, when a property is transferred, a deed cannot be recorded with the Cook County Recorder of Deeds unless the Department of Finance certifies that all water and sewer service charges and penalties due and owing for service to that property have been paid in full.

See also "LITIGATION" for a discussion of certain litigation by the City against Harvey to recover moneys owed by Harvey to the City under its water supply contract.

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### Distribution of Revenues by Type of Account

The following table identifies the approximate percentage distribution of revenues by type of account for the years 2007 through 2016:

#### City Service Area

##### **Residential**

| <b>Year</b> | <b>Metered</b> | <b>Non-Metered</b> |
|-------------|----------------|--------------------|
| 2007        | 14%            | 19%                |
| 2008        | 19             | 21                 |
| 2009        | 19             | 21                 |
| 2010        | 20             | 21                 |
| 2011        | 19             | 18                 |
| 2012        | 18             | 22                 |
| 2013        | 20             | 19                 |



|      |    |    |
|------|----|----|
| 2014 | 19 | 18 |
| 2015 | 21 | 17 |
| 2016 | 22 | 15 |

| <b>Industrial and Suburban</b> |                   |                     |    |
|--------------------------------|-------------------|---------------------|----|
| <b>Total</b>                   | <b>Commercial</b> | <b>Service Area</b> |    |
| <b>33%</b>                     | <b>20%</b>        | <b>47%</b>          |    |
| <b>40</b>                      | <b>13</b>         | <b>47</b>           |    |
| 40                             | 13                | 47                  |    |
| 41                             | 12                | 47                  |    |
| 41                             | 37                | 15                  | 48 |
| 41                             | 40                | 14                  | 46 |
| 41                             | 39                | 14                  | 47 |
| 37                             | 16                | 47                  |    |
| 38                             | 15                | 47                  |    |
| 38                             | 37                | 14                  | 49 |

Source: City of Chicago, Department of Water Management.

### Annual Budget Review and Implementation of Annual Budget

The Department's annual budget is developed and implemented as part of the City's annual budget and is based upon an analysis of its historical Operation and Maintenance Costs. If the projected Gross Revenues are not sufficient to satisfy the Water System rate covenants, taking into account net transfers from the Water Rate Stabilization Account, proposed rate increases are included in the Department's proposed annual budget. See INTRODUCTION - "Rate Covenant" and APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCES AND THE INDENTURES -Second Lien Bonds Rate Covenant." In addition to or in lieu of rate increases, the City could take other steps to meet the Water System rate covenants. See "Historical and Projected Financial Operations" under this caption.

Once the Department has prepared and finalized its proposed annual budget, the Director of the Office of Budget and Management (the "Budget Director") considers the Department's proposed budget along with the proposed annual budgets recommended and submitted by all of the other departments and agencies whose budgets become part of the City's proposed annual budget. Following the Budget Director's approval, the budgets must be approved by the Mayor, the City Council's Committee on Budget and Governmental Operations and the City Council. After the City Council has approved the proposed annual budgets as the City's annual appropriation ordinance, the ordinance is forwarded to the Mayor for approval.

Should the Mayor veto the approved annual appropriation ordinance, the City Council may override the veto with a two-thirds vote.

The City Council may also refuse to approve the Mayor's proposed annual budget. In such a case, the appropriate process for passage of the City budget may have to be judicially determined. By law, the City's budget must be approved by December 31 of the year preceding the budget year. The City's 2018 budget was approved by the City Council on November 21, 2017.

During each year, the City allocates certain funds to meet debt service requirements and central services and General Fund reimbursements. The Budget Director uses an allotment system to manage each department's expenditures against its respective annual appropriation. The Budget Director requires departments to submit quarterly allotment budgets which the Budget Director, in turn, monitors. Should any department's expenditures exceed its receipt of revenues, the Budget Director, through the quarterly budget allotment procedure, has the authority to institute economy measures against such department to ensure that its expenditures do not exceed or outpace its revenue collection. During 2016, there were no such restrictions in the Department's quarterly expenditures.

### Historical and Projected Financial Operations

Following are the Water Fund's Statements of Operations as summarized from the audited financial statements of the Water Fund for the years ended December 31, 2012 through December 31, 2016 together with projected financial operations and projected debt service coverage calculations for the years ending December 31, 2017 through December 31, 2020, reflecting the issuance of the Bonds and the application of the proceeds therefrom.

The Water Fund's operating revenues for 2016 decreased by \$8.0 million compared to prior year operating revenues. This decrease of 1.0% is primarily due to the continued conversion of non-metered accounts to metered accounts and the absence of a water rate increase in 2016.

The Water Fund's operating expenses before depreciation and amortization for 2016 decreased \$199.4 million from the year ended 2015 due to a decrease in pension expenses. Operating expenses exclusive of pension expense decreased by \$3.4 million in 2016, primarily due to decreases in power and pumping costs, administrative costs, and general fund reimbursements. Depreciation and amortization increased due to an increase in utility plant.

For 2017, projected operating revenues are estimated to decrease by 1.5%, primarily due to the lack of a rate increase for the first 5 months of the year and a decrease in other operating revenues. The projections include a rate increase of 1.83% on June 1, 2017 (which occurred on such date) based on 2016 growth in the Consumer Price Index. Rates are conservatively projected to increase by 1.5% on June 1 of 2018, 2019, and 2020 based on anticipated Consumer Price Index growth. Future rate increases are projected to be offset by decreases in consumption due to water conservation efforts, including increased meter installation. Therefore, operating revenues are projected to decrease from 2017 to 2020.

Projected operating expenses (excluding pension contributions) in 2017 through 2020 are reflective of an expected 2.0% increase in expenses based on historical trends. Projected operating expenses reflect an increase in each year based on growth in indirect costs being charged to the Water Fund as reimbursements to the General Fund, including public safety departments. The methodology for charging these indirect costs to the Water Fund is consistent with generally accepted accounting principles.

Indirect pension contributions allocable to the Water Fund are budgeted at \$14.9 million and \$16.8 million in 2017 and 2018, respectively, and are projected to grow by 10% yearly thereafter. Direct pension contributions are budgeted at \$24.5 million and \$32.1 million in 2017 and 2018, respectively, and are projected to be \$38.5 million and \$45.8 million in 2019 and 2020, respectively.

In addition to rate increases, the City could achieve compliance with its covenant to maintain Net Revenues Available for Bonds (see INTRODUCTION - "Rate Covenant" and APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCES AND THE INDENTURES -Second Lien Bonds Rate Covenant") in some other manner. Such other manner could include any combination of rate increases, decreases in operating expenses, changes in its Capital Improvement

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Program or in the timing and amounts of future borrowings or changes in net transfer to (from) the Water Rate Stabilization Account. Contributions to the Water Rate Stabilization Account are projected in amounts necessary to maintain an account balance equal to three months of Water Fund operating expenses. See "Annual Budget Review and Implementation of Annual Budget" above.

*The City has prepared the projections discussed herein and summarized in the tables below. The City believes that the underlying assumptions provide a reasonable basis for the projections, and that the projections present, to the best of the City's knowledge and belief, the City's expected course of action. However, some of the assumptions upon which the projections are based may not materialize and unanticipated events and circumstances may occur. The accompanying prospective financial information was not prepared with a view toward complying with the guidelines established by the American Institute of Certified Public Accountants with respect to prospective financial information, but, in the view of the City's management, was prepared on a reasonable basis, reflects the best currently available estimates and judgments, and presents, to the best of management's knowledge and belief, the expected course of action and the expected future financial performance of the Water System. Accordingly, these projections are not, and should not be viewed as being, necessarily indicative of future results. Readers of this Official Statement are cautioned not to place undue reliance on the projected financial operations of the Water System which are contained herein.*

Neither the City's independent auditors, nor any other independent accountants, have compiled, examined, or performed any procedures with respect to the prospective financial information contained herein, nor have they expressed any opinion or any other form of assurance on such information or its achievability. Such parties assume no responsibility for, and disclaim any association

with, the prospective financial information.

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The amounts of annual net water sales and cash collected from the then current and prior years' billings are included in the following table:

NET WATER SALES AND CASH COLLECTIONS

Year

2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

Net Water Sales"

|                                                                                                                             |             |             |             |             |             |             |             |             |
|-----------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| \$320,470,772                                                                                                               | 332,364,712 | 355,135,872 | 397,214,059 | 446,723,999 | 436,781,646 | 572,402,645 | 604,283,431 | 692,966,242 |
| 769,334,533                                                                                                                 | 764,277,595 |             |             |             |             |             |             |             |
| Cash Collected During Year for Current and Prior Years' Sales \$320,979,596 330,913,045 350,809,042 385,590,932 427,570,333 |             |             |             |             |             |             |             |             |
| 433,070,239                                                                                                                 | 542,570,130 | 594,826,380 | 666,968,092 | 756,185,018 | 758,387,972 |             |             |             |

Percentage of Sales Collected

100.2 99.6 98.8 97.1 95.7 99.2 94.8 98.4 96.2 98.3 99.2

Source: City of Chicago, Department of Water Management.

<n Actual amounts billed during calendar year differs from Water Fund Basic Financial Statements which include charges accrued for calendar year regardless of year in which billed.

Pension Costs

Determination of Pension Contributions. Pension costs paid out of the Water Fund constitute Operation and Maintenance Costs for purposes of determining Net Revenues Available for Bonds and compliance with the City's covenants (including the Rate Covenant) under the Ordinance and the Indenture. Sec "INTRODUCTION - Rate Covenant."

The City participates in four single-employer defined-benefit pension plans for City employees: the Municipal Employees' Annuity and Benefit Fund of Chicago ("MEABF"), the Laborers' and Retirement Board Employees' Annuity and Benefit Fund of Chicago ("LABF," and together with MEABF, the "Municipal and Laborers' Funds"), the Policemen's Annuity and Benefit Fund ("PABF"), and the Firemen's Annuity and Benefit Fund ("FABF," and together with PABF, the "Public Safety Funds," which, together with the Municipal and Laborers' Funds, are referred to herein as the "Retirement Funds"). Water System employees participate in the

## Municipal and Laborers' Funds.

Certain of the comprehensive annual financial reports of the Retirement Funds and certain of the actuarial valuations of the Retirement Funds may be obtained by contacting the Retirement Funds. Certain of these reports may also be available on the Retirement Funds' websites ([www.mcabf.org](http://www.mcabf.org) <<http://www.mcabf.org>>; [www.labfchicago.org](http://www.labfchicago.org) <<http://www.labfchicago.org>>; [www.chipabf.org](http://www.chipabf.org) <<http://www.chipabf.org>> and [www.fabf.org](http://www.fabf.org) <<http://www.fabf.org>>); provided, however, that the contents of these reports and of the Retirement Funds' websites are not incorporated herein by such reference.

Members of each Retirement Fund are eligible (individually, an "Eligible Member," and collectively, "Eligible Members") for an annual annuity payment (the "Annuity Benefits") if they meet certain age, years of service and prior service credit requirements (the "Eligibility Factors"). Benefits to

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each Eligible Member are statutorily established based on a combination of the Eligibility Factors and the Eligible Member's average annual salary for certain years prior to retirement (the "Annuity Factors").

Annuity Benefits for each of the Retirement Funds are funded from three sources: (i) contributions from the City (the "City Contributions") which are funded from the proceeds of a property tax levy on all taxable property located within the City or other available funds, including payments from the Department on behalf of Water System employees, (ii) contributions from Eligible Members (the "Employee Contributions," and together with the City Contributions, the "Contributions"), and (iii) investment returns. The Department has historically contributed its pro rata share of City Contributions to the Retirement Systems (the "Department Portion") based on the Annuity Factors for the number of Water System employees who are Eligible Members. See APPENDIX C -"CITY OF CHICAGO, ILLINOIS WATER FUND BASIC FINANCIAL STATEMENTS AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015, REQUIRED SUPPLEMENTARY INFORMATION, ADDITIONAL INFORMATION, AND INDEPENDENT AUDITORS" REPORT-Notes to Basic Financial Statements - 6. Pension Plans." Pension liabilities are not recorded at the fund level for the Water Fund.

The City Contributions and Employee Contributions are each established by the Illinois Pension Code (the "Pension Code"). Historically, the Contributions required under the Pension Code do not relate to, and in recent years have been substantially less than, the contribution amounts that would have been required if the Retirement Funds were funded based on actuarial determinations of the contribution amounts necessary to fully fund the Annuity Benefits to Eligible Members of each Retirement Fund over an extended period. See "INVESTMENT CONSIDERATIONS - Unfunded Pensions" herein. In an effort to improve the funded status of the Public Safety Funds, the Illinois General Assembly passed Public Act 96-1495 ("P.A. 96-1495"), which modified provisions of the Pension Code with respect to PABF and FABF.

### *Public Safety Funds*

The Pension Code establishes the Employee Contributions to PABF at 9.0 percent of the salary of each employee on an annual basis and Employee Contributions to FABF at 9.125 percent of the salary of each employee on an annual basis and establishes Annuity Benefits for Eligible Members of the Public Safety Funds hired prior to January 1, 2011 based on the Annuity Factors, subject to 3.0 percent automatic annual increases after each member's first full year of retirement. Prior to the effectiveness of P.A. 96-1495, the Pension Code established the City Contribution to PABF at an amount based upon a fixed multiplier of 2.00 times the annual employee contributions to PABF and the City Contribution to FABF at an amount based upon a fixed multiplier of 2.26 times the employee contributions to FABF.

P.A. 96-1495 provided for the City to contribute the actuarially determined amounts necessary to achieve a 90 percent funded ratio in the Public Safety Funds by 2040, but made no changes to the Annuity Benefits for Eligible Employees hired before January 1, 2011 and established Annuity Benefits for Eligible Members hired on or after January 1, 2011 based on the Annuity Factors, but with the average annual salary capped at a certain amount, and the annual increases to the Annuity Benefits tied to the lesser of 3.0 percent or the consumer price index. Additionally, for Eligible Members hired on or after January 1, 2011, Act 1495 reduced a survivor's Annuity Benefit equal to 2/3 of the Annuity Benefits that the deceased Eligible Member was receiving at the time of his or her death.

Beginning with the contribution to be made to the Retirement Funds in 2016, the City's contributions to PABF and FABF will be determined pursuant to Public Act 99-506 ("P.A. 99-506") (which modified the funding approach for unfunded liabilities set forth

in P.A. 96-1495), rather than the multiplier funding formula. P.A. 99-506 (i) extends the period by which the unfunded liabilities of the

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Public Safety Funds are amortized, on a level percentage of payroll basis, to a 90 percent funded ratio from 2040 to 2055 and (ii) institutes a phase-in period during 2016-2020 to allow for a more gradual increase in the City Contributions to the Public Safety Funds than originally required by P.A. 96-1495.

#### *Municipal and Laborer's Funds*

The Pension Code establishes Annuity Benefits for Eligible Members of the Municipal and Laborers' Funds hired prior to January 1, 2011 based on the Annuity Factors, subject to 3 percent automatic annual increases after the Eligible Members' first full year of retirement and Annuity Benefits for Eligible Members hired on or after January 1, 2011 based on the Annuity Factors, but with the average annual salary capped at a certain amount, and the annual increases to the Annuity Benefits are tied to the consumer price index. Further, the Pension Code establishes the Employee Contribution for MEABF and LABF Eligible Members hired prior to January 1, 2017 at 8.5 percent of the salary of each employee on an annual basis. Pursuant to Public Act 100-23 ("P.A. 100-23"), MEABF and LABF Eligible Members hired on or after January 1, 2017 ("New Members") will contribute 11.5 percent of their salaries to their respective Retirement Funds and will be eligible for benefits at age 65 (as opposed to age 67 for Eligible Members hired between January 1, 2011 and January 1, 2017) ("Tier II Member"). In addition, Tier II Members of MEABF and LABF will be eligible to receive benefits at age 65 provided that such Tier II Members agree to contribute an additional 3.0 percent of their salaries to their respective Retirement Funds.

Prior to the effectiveness of P.A. 100-23, the City Contributions were established at an amount based on a fixed multiplier of 1.25 times the annual Employee Contributions for MEABF and 1.00 times the annual Employee Contributions for LABF. P.A. 100-23 requires that the City contribute the actuarially determined amounts required to achieve a 90 percent funded ratio in each of MEABF and LABF by 2058, following a phase-in of increased City Contributions ending in 2022.

#### *2017-2018 Budgeted Contributions*

The City's Fiscal Year 2017 budget includes the following contributions to the Retirement Funds (as indicated by total annual contribution and the Water Fund's proportional share): (i) \$267 million for MEABF, of which \$18.9 million, or approximately seven percent, is the Water Fund's proportional share; and (ii) \$36 million for LABF, of which \$5.5 million, or approximately fifteen percent, is the Water Fund's proportional share. The City's Fiscal Year 2018 budget includes the following contributions to the Retirement Funds (as indicated by total annual contribution and the Water Fund's proportional share): (i) \$402.2 million for MEABF, of which \$24.5 million, or approximately six percent, is the Water Fund's proportional share; and (ii) \$36 million for LABF, of which \$7.7 million, or approximately sixteen percent, is the Water Fund's proportional share. The Water Fund does not contribute to FABF and PABF.

### INVESTMENT CONSIDERATIONS

*The following discussion of investment considerations should be reviewed by prospective investors prior to purchasing the Bonds. Any one or more of the investment considerations discussed herein could lead to a decrease in the market value and the liquidity of the Bonds or, ultimately, a payment default on the Bonds. There can be no assurance that other factors not discussed herein will not become material in the future.*

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#### **Effect of Potential Future Ratings Downgrades**

The City does not anticipate that any potential credit downgrades would affect collection or availability of Net Revenues Available for Bonds in any material respect. However, such events could have an adverse effect on the Water System because the City funds ongoing capital improvement projects to the Water System, in part, through the sale of indebtedness of the Water System. Downgrades could increase the cost, or decrease the availability, or both, of such borrowing. If this occurred, additional pressure may be placed on Water System rates or capital funding. Additionally, ratings downgrades may have an adverse effect on the market value or liquidity of the Bonds.

### **Unfunded Pensions**

The Retirement Funds have significant unfunded liabilities and low funding ratios. The City's contributions to the Retirement Funds in accordance with the Pension Code have not been sufficient, when combined with employee contributions and investment returns, to offset increases in the Retirement Funds' liabilities, which has contributed to the significant underfunding of the Retirement Funds. Moreover, the contributions to the Retirement Funds in accordance with the Pension Code have had the effect of deferring the funding of the Retirement Funds' liabilities, which increases the costs of such liabilities and the associated financial risks, including the risk that each Retirement Fund will not be able to pay its obligations when due. Furthermore, increases in the City's contributions to the Retirement Funds (such as those scheduled to occur under Act 1495, as modified by Act 506, and under Act 23) caused the City to increase its revenues and may require the City to further increase its revenues, reduce its expenditures, or some combination thereof, which may impact the services provided by the City or limit the City's ability to generate additional revenues for other purposes in the future.

See "FINANCIAL OPERATIONS - Pension Costs" for a more complete discussion of the City's unfunded pension liabilities.

### **Environmental Regulations**

As described herein under "WATER SYSTEM - Quality of Water Supplied," the City is subject to state and federal environmental laws and regulations applicable to the Water System. These laws and regulations are subject to change, and the City may be required to expend substantial funds to meet the requirements of such changing laws and regulations in the future. Failure to comply with these laws and regulations may result in the imposition of administrative, civil and criminal penalties, or the imposition of an injunction requiring the City to take or refrain from taking certain actions. While the Department has budgeted for future capital and operating expenditures to comply with these laws and regulations, it is possible that new or stricter standards could be imposed that will require additional capital expenditures or raise operating costs.

### **Security of the Water System**

Damage to the Water System resulting from vandalism, sabotage, or terrorist activities may adversely affect the operations and finances of the Water System. There can be no assurance that the City's security, emergency preparedness and response plans will be adequate to prevent or mitigate such damage, or that the costs of maintaining such security measures will not be greater than currently anticipated.

The Department relies on information technology systems with respect to customer service and billing and accounting. In addition, the Department relies on these systems to track utility assets and to manage maintenance and construction projects, materials and supplies. A loss of these systems, or major

problems with the operation of these systems, could have a material adverse effect on the financial condition and results of operations of the Department. Information technology systems may be vulnerable to damage or interruption from the following types of cyber security attacks or other events:

- power loss, computer systems failures, and internet, telecommunications or data network failures;
- operator negligence or improper operation by, or supervision of, employees;
- physical and electronic loss of data;

- computer viruses, cyber security attacks, intentional security breaches, hacking, denial of service actions, misappropriation of data and similar events;
- difficulties in the implementation of upgrades or modification to information technology systems; and
- fires, floods, severe weather events and other natural disasters.

Although the Department does not believe that its systems are at a materially greater risk of cyber security attacks than other similar utilities, its information technology systems may be vulnerable to damage or interruption from the types of cyber security attacks or other events listed above or other similar actions, and such incidents or other events may go undetected for a period of time.

### **Water Conservation**

Decreased customer water consumption as a result of water conservation efforts may adversely affect demand for water services and may reduce revenues and earnings. There may be declines in water usage per customer as a result of an increase in conservation awareness, and the structural impact of an increased use of more efficient plumbing fixtures and appliances. Difficulty obtaining future rate increases to offset decreased customer water consumption to cover investments and expenses, may adversely affect the business, financial condition, and results of operations of the Department.

### **Limited Obligations**

The Bonds are limited obligations of the City payable solely from Second Lien Bond Revenues. The Bonds are not secured by a lien upon any physical properties of the Water System, nor has the City established a debt reserve fund or obtained any third-party credit enhancement, credit support, surety bond or insurance with respect to the Bonds.

### **Second Lien Status of Bonds**

The Bonds are secured by a junior lien on Net Revenues Available for Bonds. Therefore, the security for the payment of the principal of and interest on the Bonds could be adversely affected by the amount of debt service payable with respect to Senior Lien Bonds.

### **Issuance of Additional Bonds**

Subject to certain financial tests and limitations contained in the Indenture, the City may issue Water Revenue Bonds senior to or on a parity with the Bonds. The debt service requirements for the payment of any such additional Water Revenue Bonds may be substantial.

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The financial tests that must be satisfied to permit the issuance of additional bonds are based on certain assumptions concerning future revenue and debt service requirements. Actual debt service requirements may exceed assumed requirements and result in lower debt service coverage on the Bonds.

### **Adverse Change in Laws**

There are a variety of State and federal laws, regulations and constitutional provisions that apply to the City's ability to raise taxes, fund its pension obligations or to reorganize its debts. There is no assurance that there will not be any change in, interpretation of, or addition to such applicable laws, regulations and provisions. Any such change, interpretation or addition may have a material adverse effect, either directly or indirectly, on the City or the taxing authority of the City, which could materially adversely affect the City's operations or financial condition.

Interest on the Bonds could become subject to federal and/or State income tax as a result of changes in tax laws. For example, recent legislative tax proposals in the U.S. Congress would eliminate, reduce or otherwise alter the tax benefits currently provided to certain owners of state and local government bonds. The Bonds will not be subject to mandatory redemption, and the

interest rates on the Bonds will not be subject to adjustment, in the event of any change in the tax treatment of interest on the Bonds. In such event, the market value and of and ability of owners to sell the Bonds could be adversely affected. No assurance can be provided, and no predictions can be made, as to whether there will be any change in tax laws relating to state and local government bonds, including the Bonds, or to what effect.

Investors in the Bonds should consult their own financial and tax advisors in connection with their purchase of the Bonds.

### **Bankruptcy**

Under federal law, municipalities, including the City, are ineligible for bankruptcy unless specifically authorized to be a debtor in bankruptcy by state law or by a governmental officer or organization empowered by state law to authorize such entity to be a debtor in a bankruptcy. State law does not currently permit municipalities, including the City, to be debtors in bankruptcy, and therefore municipalities, including the City, are currently ineligible for bankruptcy.

As with all State law, the current prohibition on municipal bankruptcies is subject to review or change by State government. From time to time, legislation has been introduced in the Illinois General Assembly which, if enacted, would permit Illinois municipalities to be debtors in bankruptcy. The City is unable to predict whether the Illinois General Assembly will adopt any such legislation or the form of such legislation if enacted.

In the event of a change in State law to provide that the City is eligible to be a debtor in bankruptcy, and that authority is acted upon, there is no guarantee that the bankruptcy court would consider the Bondholders to have a secured claim under the Bankruptcy Code with respect to Second Lien Bond Revenues that are derived from the remittance of Gross Revenues into the Water Fund or amounts on deposit in any Second Lien Construction Accounts. The Water Fund is not held by the Trustee, and is not subject to a statutory lien in favor of the Bondholders. In addition, the Second Lien Bond Revenues may not be "special revenues" as defined in the Bankruptcy Code.

### **Uncertain Enforcement Remedies**

The remedies available to bondholders upon nonpayment of principal of or interest on the Bonds are uncertain and in many respects dependent upon discretionary judicial actions. See APPENDIX B-

### **"SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE- Defaults and Remedies."**

The Indenture does not contain a provision allowing for the acceleration of the Bonds in the event of a default in the payment of principal of and interest on the Bonds when due.

### **Force Majeure Events**

Certain unanticipated events beyond the City's control could have a material adverse effect on the Department's and the City's operations and financial conditions if they were to occur. These events include fire, flood, earthquake, epidemic, adverse health conditions or other unavoidable casualties or acts of God, freight embargo, labor strikes or work stoppages, civil commotion, new acts of war or escalation of existing war conditions, sabotage, terrorism or enemy action, pollution, unknown subsurface or concealed conditions affecting the environment, and any similar causes. No assurance can be provided that such events will not occur, and, if any such events were to occur, the effect of such event or events on the Department's and the City's operations and financial condition on the Net Revenues Available for Bonds cannot be predicted.

### **Other Considerations**

Debt Covenants. The City is obligated to comply with the Rate Covenant. Failure to comply with such Rate Covenant, if not cured or waived, could result in the City being required to repay or finance the related borrowings before their due date, limit future borrowings, cause cross default issues, and increase borrowing costs. If forced to repay or refinance (on less favorable terms) these borrowings, the Department's business, financial condition, and results of operations could be adversely affected by increased costs and rates.

**Water Rates.** While there is currently no State statute regulating Water System rates, future State statutes or court decisions could limit or otherwise adversely affect the City's ability to set Water System rates. See "-Adverse Change in Laws" above.

**Unified Billing.** As described herein under "FINANCIAL OPERATIONS-Collections and Delinquencies," partial bill payments made pursuant to the unified bill are allocated on a pro rata basis among the water, sewer and refuse collection charges and fees, with the oldest unpaid amounts being paid first. As of January 1, 2017, the City has also imposed the Chicago Water and Sewer Tax on the use or consumption of water in the City, and on the transfer of wastewater to the Sewer System from properties located in the City, which appears on the unified bill. Partial bill payments made, starting in 2017, on the unified bill are applied pro rata among the water, sewer, refuse collection and Chicago Water and Sewer Tax charges, with the oldest unpaid amount being paid first. No assurance can be given, however, that this will always be the method of allocation of partial payments. It is possible that partial payments may be allocated in the future in a non-pro rata manner, in which event water charges could receive a lower priority than refuse collection charges, sewer charges and/or the Chicago Water and Sewer Tax in allocating partial payments. No assurance can be given as to the impact of the unified bill on the collection by the City of water charges.

### **Forward Looking Statements**

This Official Statement contains certain statements relating to future results that are forward-looking statements. When used in this Official Statement, the words "estimate," "intend," "expect" and similar expressions identify forward-looking statements. Any forward-looking statement is subject to uncertainty and risks that could cause actual results to differ, possibly materially, from those

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contemplated in such forward-looking statements. Inevitably, some assumptions used to develop forward-looking statements will not be realized or unanticipated events and circumstances may occur. Therefore, bondholders and potential investors should be aware that there are likely to be differences between forward-looking statements and actual results; those differences could be material. The City does not undertake any obligation to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

### **LITIGATION**

There are no pending legal proceedings to which the City is a party or to which any of its property is subject that may materially affect the City's ability to pay the principal of and interest on the Bonds when they become due.

The City, like other large municipalities, is involved in various litigation relating principally to claims arising from contracts, personal injury, property damage, tax claims, police conduct and other matters. However, there is neither litigation pending nor, to the best of the City's knowledge, threatened, seeking to restrain or enjoin the issuance or delivery of the Bonds, or except as disclosed herein, materially adversely affecting the collection, pledge or application of any moneys or security provided for the payment of the Bonds.

**City of Harvey.** In December 2012, the City filed suit in the Circuit Court of Cook County (the "Circuit Court") against Harvey, one of the suburban customers receiving water service from the City, to recover monies owed by Harvey to the City under its water supply contract. Harvey had been delinquent in fully paying for water service since November 2008, although some partial payments have been received by the City since then. The City's complaint further named five other suburbs which purchase water from Harvey and sought appointment of a trustee to collect funds paid by those five suburbs. On August 29, 2014, the court entered an order restraining Harvey from depositing its water revenues from its municipal customers in a fund other than a water fund and from using its water revenues on anything other than water-related expenses. On January 20, 2015, the court entered a consent decree requiring, inter alia, that Harvey pay its current water charges by their due date and pay monthly installments of past due principal. Harvey committed multiple defaults under the consent decree, resulting in reinstatement of the judgment against it on January 20, 2017. In addition, the Court ordered the five suburban municipalities who receive water from Harvey to make all future water payments directly to the City until all amounts owed have been paid in full, and directed the bank depository of Harvey's water fund account to wire all money in that account directly to the City. The judgment against Harvey is currently \$19,200,708.58, and Harvey has continued to default on its payment obligations to the City, and has not paid any current water bills since October 2016. Additionally, the City has recently filed a motion to appoint a receiver as an independent monitor to oversee the operation of Harvey's water fund to ensure that it is run in accordance with the dictates of State law and the consent decree. Harvey has filed an appeal from



the appointment of the receiver; the appeal is pending. The City intends to pursue this case vigorously.

Gordon Berry and Ilya Peysin et al. v. City of Chicago. On February 18, 2016, three individual residents of the City filed a putative class action complaint against the City (Tatjana Blotkevic et al. v. City of Chicago) in the Circuit Court alleging actions taken by the City that increased lead levels in drinking water supplied to the plaintiffs' homes. The City filed a motion to dismiss the complaint on May 12, 2016, which was granted on October 6, 2016. Two of the three named plaintiffs were dismissed from the action. In June 2017, two plaintiffs filed an amended class action complaint, titled Gordon Berry and Ilya Peysin et al. v. City of Chicago. The amended complaint alleges that the partial replacement of the lead service line that runs between the water main and a resident's home is causing elevated and unsafe lead levels in the water to travel through lead service pipes into homes. Plaintiffs request that the City pay

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the costs of diagnostic testing necessary to detect lead levels in individuals, and to require the City to replace the service lines in full. The plaintiffs seek certification of a class consisting of City residents who have resided in an area where the City replaced water mains since January 1, 2008, as well as residents for whom the City installed water meters during the same period. The City has filed a motion to dismiss the amended complaint and intends to defend this case vigorously.

## RATINGS

The Bonds have received underlying ratings of "A" (stable) from S&P, "AA-" (negative) from I-tch Ratings and "AA" (stable) from KBRA, based on the creditworthiness of the Water System. The City did not request a rating from any other rating service for the Bonds. Any explanation of the significance of such ratings may be obtained only from the respective Rating Agencies. Certain information and materials concerning the Bonds, the City and the Water System were furnished to the Rating Agencies by the City and others. There is no assurance that any of the ratings will be maintained for any given period of time or that any of them may not be raised, lowered or withdrawn entirely by the respective Rating Agency, if, in its judgment, circumstances so warrant. Any change in or withdrawal of any rating may have an adverse effect on the price at which the Bonds may be resold.

## CERTAIN LEGAL MATTERS

Legal matters incident to the authorization and issuance of the Bonds are subject to the separate approving opinions of Reyes Kurson, Ltd., Chicago, Illinois, and Burke Burns & Pinelli, Ltd., Chicago, Illinois, Co-Bond Counsel. The proposed form of their opinions is included herein as APPENDIX D - "PROPOSED FORM OF OPINIONS TO BE DELIVERED BY CO-BOND COUNSEL."

Certain legal matters will be passed upon for the City by (i) its Corporation Counsel, and (ii) in connection with the preparation of this Official Statement, Duane Morris LLP, Chicago, Illinois, and Golden Holley James LLP, Chicago, Illinois, Co-Disclosure Counsel to the City. Certain legal matters will be passed on for the Underwriters by Ice Miller LLP, Chicago, Illinois.

## INDEPENDENT AUDITORS

The basic financial statements of the City of Chicago, Illinois Water Fund as of and for the years ended December 31, 2016 and 2015 and included as APPENDIX C to this Official Statement have been audited by Deloitte & Touche LLP, independent auditors, as stated in their report appearing herein.

## FINANCIAL ADVISOR AND INDEPENDENT REGISTERED MUNICIPAL ADVISOR

The City has retained Acacia Financial Group, Inc., Chicago, Illinois, to act as financial advisor (the "Financial Advisor") in connection with the issuance and sale of the Bonds. The Financial Advisor has provided advice on the plan of financing and structure of the Bonds and has reviewed certain documents, including this Official Statement, with respect to financial matters. The Financial Advisor has not independently verified the

factual information contained in this Official Statement but has relied on the information provided by the City and other sources. The Financial Advisor is a "municipal advisor" as defined in SEC Rule 15c1-1.

The City has retained Martin J. Luby LLC as its independent registered municipal advisor (the "IRMA") as defined in SEC Rule 15c1-1 to evaluate financing proposals and recommendations in connection with the City's various bond issuance programs and other financing ideas being considered by the City; however, the IRMA will not advise on the investment of City funds held by the Office of the City Treasurer. The IRMA's compensation is not dependent on the issuance of the Bonds.

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### CERTAIN VERIFICATIONS

Robert Thomas, CPA, LLC, Shawnee Mission, Kansas (the "Verifier"), upon delivery of the Bonds, will deliver to the City, Co-Bond Counsel and the Underwriters a report stating that the firm, at the request of the City and the Underwriters, has reviewed the mathematical accuracy of certain computations based on certain assumptions relating to (i) the sufficiency of the principal and interest received from the investment in the Defeasance Obligations, together with any initial cash deposit, to meet the timely payment of the applicable principal or Redemption Price of and interest on the Refunded Bonds, as described under "PLAN OF FINANCING" and (ii) the yields on the Bonds and on the Defeasance Obligations.

The Verifier will express no opinion on the attainability of any assumptions or the tax-exempt status of the Bonds. The computations verified by the Verifier are intended in part to support conclusions of the City and Co-Bond Counsel concerning the federal income tax status of the Bonds.

### UNDERWRITING

Mesirow Financial, Inc., as representative on behalf of itself and the other underwriters listed on the cover of this Official Statement (the "Underwriters"), has agreed, subject to certain conditions, to purchase the Bonds at a price of \$ (which represents the aggregate principal amount of the Bonds plus/minus a premium/discount of \$ , less an Underwriters' discount of \$ .

The obligation of the Underwriters to accept delivery of the Bonds is subject to various conditions set forth in a Bond Purchase Agreement between the Underwriters and the City. The Underwriters are obligated to purchase all of the Bonds if any of the Bonds are purchased.

The Bonds are being offered for sale to the public at the prices shown on the inside cover page hereof. The Underwriters reserve the right to lower such initial offering prices as they deem necessary in connection with the marketing of the Bonds. The Underwriters may offer and sell the Bonds to certain dealers (including dealers depositing the Bonds into investment trusts) and others at prices lower than the initial public offering price or prices set forth in this Official Statement. The Underwriters reserve the right to join with dealers and other underwriters in offering the Bonds to the public.

The Underwriters and their respective affiliates are full service financial institutions engage in various activities, which may include sales and trading, commercial investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services. Certain of the Underwriters and their respective affiliates have provided, and may in the future provide, a variety of these services to the City and to persons and entities with relationships with the City, for which they received or will receive customary fees and expenses.

### TAX MATTERS

#### Federal Tax Exemption

Federal tax law contains a number of requirements and restrictions which apply to the Bonds, including investment restrictions, periodic payments of arbitrage profits to the United States, requirements regarding the proper use of bond proceeds and the facilities financed therewith, and certain other matters. The City has covenanted to comply with all requirements that must be

satisfied in order for the interest on the Bonds to be excluded from gross income for federal income tax purposes. Failure to comply with

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certain of such covenants could cause interest on the Bonds to become includible in gross income for federal income tax purposes retroactively to the date of issuance of the Bonds.

Subject to the City's compliance with the above-referenced covenants, under present law, in the opinion of Co-Bond Counsel, interest on the Bonds is excluded from the gross income of the owners thereof for federal income tax purposes, and is not included as an item of tax preference in computing the federal alternative minimum tax for individuals and corporations. Interest on the Bonds is taken into account, however, in computing an adjustment used in determining the federal alternative minimum tax for certain corporations.

In rendering their opinions, Co-Bond Counsel will rely upon certifications of the City and certain other parties with respect to certain material facts solely within their knowledge relating to the facilities financed or refinanced and to be financed or refinanced with the Bonds, the application of the proceeds of the Bonds and certain other matters pertinent to the tax exemption of the Bonds. Co-Bond Counsel's opinions represent each firm's legal judgment based upon its review of the law and the facts that it deems relevant to render such opinion and is not a guarantee of a result. Co-Bond Counsel assumes no obligation to revise or supplement their opinions to reflect any facts and circumstances that may come to their attention or any changes in law that may occur after their opinions are delivered.

The Internal Revenue Code of 1986, as amended (the "Code"), includes provisions for an alternative minimum tax ("AMT") for corporations in addition to the corporate regular tax in certain cases. The AMT, if any, depends upon the corporation's alternative minimum taxable income ("AMTI"), which is the corporation's taxable income with certain adjustments. One of the adjustment items used in computing AMTI of a corporation (with certain exceptions) is an amount equal to 75% of the excess of such corporation's "adjusted current earnings" over an amount equal to its AMTI (before such adjustment item and the alternative tax net operating loss deduction). "Adjusted current earnings" would include certain tax-exempt interest, including interest on the Bonds.

Ownership of the Bonds may result in collateral federal income tax consequences to certain taxpayers, including, without limitation, corporations subject to the branch profits tax, financial institutions, certain insurance companies, certain S corporations, individual recipients of Social Security or Railroad Retirement benefits and taxpayers who may be deemed to have incurred (or continued) indebtedness to purchase or carry tax exempt obligations. Prospective purchasers of the Bonds should consult their tax advisors as to applicability of any such collateral consequences.

The Internal Revenue Service (the "Service") has an ongoing program of auditing tax-exempt obligations to determine whether in the view of the Service, interest on such tax-exempt obligations is includable in the gross income of the owners thereof for federal income tax purposes. It cannot be predicted whether or not the Service will commence an audit of the Bonds. If an audit is commenced, under current procedures the Service will treat the City as the taxpayer and the Bondholders may have no right to participate in such procedure. The commencement of an audit could adversely affect the market value and liquidity of the Bonds until the audit is concluded, regardless of the ultimate outcome.

There are or may be pending in the Congress of the United States legislative proposals, including some that carry retroactive effective dates, that, if enacted, could alter or amend the federal tax matters referred to above or affect the market value of the Bonds, including certain legislative proposals currently pending in Congress which, if enacted, would significantly change the individual and corporate income tax rates and eliminate the alternative minimum tax for individuals and corporations effective for tax years beginning after 2017. It cannot be predicted whether or in what form any such proposal might be enacted or whether, if enacted, it would apply to Bonds issued prior to enactment. Prospective purchasers of the Bonds should consult their own tax advisors regarding any pending or proposed federal tax

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legislation. Co-Bond Counsel expresses no opinion regarding any pending or proposed federal tax legislation.

### **Bond Premium**

An investor may purchase a Bond at a price in excess of its stated principal amount. Such excess is characterized for federal income tax purposes as "bond premium" and must be amortized by an investor on a constant yield basis over the remaining term of the Bond in a manner that takes into account potential call dates and call prices. An investor cannot deduct amortized bond premium relating to a tax-exempt bond. The amortized bond premium in that case is treated as a reduction in the tax-exempt interest received. As bond premium is amortized, it reduces the investor's basis in the Bond.

The rules governing amortization of bond premium are complex. Investors who purchase a Bond at a premium should consult their own tax advisors regarding the amortization of bond premium and its effect on the Bond's basis for purposes of computing gain or loss in connection with the sale, exchange, redemption or early retirement of the Bond.

### **Original Issue Discount**

The issue price (the "Issue Price") for each maturity of the Bonds is the price at which a substantial amount of such maturity of that series of the Bonds is first sold to the public. The Issue Price of a maturity and series of the Bonds may be different from the prices set forth, or the prices corresponding to the yields set forth, on the inside cover page hereof.

If the Issue Price of a maturity of the Bonds is less than the principal amount payable at maturity, the difference between the Issue Price of each such maturity, if any, of the Bonds (the "OID Bonds") and the principal amount payable at maturity is "original issue discount."

For an investor who purchases an OID Bond that is a Bond in the initial public offering at the Issue Price for such maturity and who holds such OID Bond to its stated maturity, subject to the condition that the City complies with the covenants discussed above, (a) the full amount of original issue discount with respect to such OID Bond constitutes interest that is excluded from the gross income of the owner thereof for federal income tax purposes; (b) such owner will not realize taxable capital gain or market discount upon payment of such OID Bond at its stated maturity; and (c) such original issue discount is not included as an item of tax preference in computing the alternative minimum tax for individuals and corporations under the Code. (The recognition of tax-exempt income may have collateral tax consequences for certain taxpayers, as described above in connection with the receipt of tax-exempt interest on the Bonds.) Based upon the stated position of the Illinois Department of Revenue under State income tax law, accreted original issue discount on such OID Bonds is subject to taxation as it accretes, even though there may not be a corresponding cash payment until a later year. Owners of OID Bonds should consult their own tax advisors with respect to the state and local tax consequences of original issue discount on such OID Bonds.

Owners of Bonds who dispose of Bonds prior to the stated maturity (whether by sale, redemption, or otherwise), who purchase Bonds in the initial public offering, but at a price different from the Issue Price, or who purchase Bonds subsequent to the initial public offering should consult their own tax advisors.

### **Market Discount**

If a Bond is purchased at any time for a price that is less than the Bond's stated Redemption Price at maturity or, in the case of an OID Bond, its Issue Price plus accreted original issue discount reduced by payments of interest included in the computation of original issue discount and previously paid (the "Revised Issue Price"), the purchaser will be treated as having purchased a Bond with market discount subject to the market discount rules of the Code (unless a statutory de minimis rule applies). Accrued market discount is treated as taxable ordinary income (even in the case of obligations bearing interest that is excluded from gross income for federal income tax purposes) and is recognized when a Bond is disposed of (to the extent such accrued discount does not exceed gain realized) or, at the purchaser's election, as it accrues. Such treatment would apply to any purchaser who purchases an OID Bond for a price that is less than its Revised Issue Price, even if the purchase price exceeds par. The applicability of the market discount rules

may adversely affect the liquidity or secondary market price of such Bond. Purchasers should consult their own tax advisors regarding the potential implications of market discount with respect to the Bonds.

#### **No State Tax Exemption**

Interest on the Bonds is not exempt from present Illinois income taxes. Ownership of the Bonds may result in other state and local tax consequences to certain taxpayers. Co-Bond Counsel express no opinion regarding any such collateral consequences arising with respect to the Bonds. Prospective purchasers of the Bonds should consult their tax advisors regarding the applicability of any such state and local taxes.

### **SECONDARY MARKET DISCLOSURE**

The City will enter into a Continuing Disclosure Undertaking (the "Undertaking") for the benefit of the Beneficial Owners of the Bonds to send certain information annually and to provide notice of certain events to the Municipal Securities Rulemaking Board (the "MSRB") to enable the Underwriters to meet the requirements of Section (b)(5) of Rule 15c2-12 (the "Rule") adopted by the SEC under the Exchange Act. The MSRB has designated its Electronic Municipal Market Access system, known as "EMMA," as the system to be used for continuing disclosures to investors. The information to be provided on an annual basis, the events which will be noticed on an occurrence basis and a summary of other terms of the Undertaking, including termination, amendment and remedies, are set forth below.

A failure by the City to comply with the Undertaking will not constitute a default under the Bonds or the Ordinance and Beneficial Owners of the Bonds are limited to the remedies described in the Undertaking. See "- Consequences of Failure of the City to Provide Information" under this caption. A failure by the City to comply with the Undertaking must be reported in accordance with the Rule and must be considered by any broker, dealer or municipal securities dealer before recommending the purchase or sale of the Bonds in the secondary market. Consequently, such a failure may adversely affect the transferability and liquidity of the Bonds and their market price.

The following is a brief summary of certain provisions of the Undertaking of the City and does not purport to be complete. The statements made under this caption are subject to the detailed provisions of the Undertaking, a copy of which is available upon request from the City.

#### **Annual Financial Information Disclosure**

The City covenants that it will disseminate to EMMA its Annual Financial Information and its Audited Financial Statements (as described below) to the MSRB, commencing with the Audited Financial

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Statements for the fiscal year ended December 31, 2017, prepared in accordance with generally accepted accounting principles applicable to government units (as described below).

Annual Financial Information means financial information and statistical data generally consistent with that contained under the table included under the caption "WATER SYSTEM - 2013-2020 Historical and Projected Capital Improvement Program Funding by Source" (total amounts only), the tables captioned "Water System Service Area Population," "Water System Accounts" and "Water System Pumpage and Capacity" under the caption "WATER SYSTEM SERVICE AREA" and the five-year historical data contained in the tables captioned "Historical and Projected Financial Operations" under the caption "FINANCIAL OPERATIONS."

Audited Financial Statements means the audited basic financial statements of the Water Fund prepared in accordance with generally accepted accounting principles applicable to governmental units as in effect from time to time.

Annual Financial Information exclusive of Audited Financial Statements (commencing with the Audited Financial Statements for the fiscal year ended December 31, 2017) will be provided to the MSRB on EMMA, not more than 210 days after the last day of the City's fiscal year, which currently is December 31. If Audited Financial Statements are not available when the Annual Financial Information is filed, unaudited financial statements will be included, and Audited Financial Statements will be filed within 30 days of availability to the City.

### **Reportable Events Disclosure**

The City covenants that it will disseminate in a timely manner, not in excess of ten business days after occurrence, to the MSRB the disclosure of the occurrence of a Reportable Event (defined below). Certain Reportable Events are required to be disclosed only to the extent that such Reportable Event is material, as materiality is interpreted under the Exchange Act. The "Reportable Events," certain of which may not be applicable to the Bonds, are:

- a) principal and interest payment delinquencies;
- b) non-payment related defaults, if material;
- c) unscheduled draws on debt service reserves reflecting financial difficulties;
- d) unscheduled draws on credit enhancements reflecting financial difficulties;
- e) substitution of credit or liquidity providers, or their failure to perform;
- f) adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, notices of proposed issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the Bonds, or other material events affecting the tax status of the Bonds;
- g) modifications to rights of security holders, if material;
- h) bond calls, if material, and tender offers;
- i) defeasances;

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- (j) release, substitution or sale of property securing repayment of the securities, if material; (k) rating changes;

(l) bankruptcy, insolvency, receivership or similar event of the City (considered to have occurred in the following instances: the appointment of a receiver, fiscal agent or similar officer for the City in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the City, or if the jurisdiction of the City has been assumed by leaving the City Council and the City's officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the City);

(m) the consummation of a merger, consolidation, or acquisition involving the City or the sale of all or substantially all of the assets of the Water System, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material; and

- (n) appointment of a successor or additional trustee or the change of name of a trustee, if material.

### **Consequences of Failure of the City to Provide Information**

The City shall give notice in a timely manner to the MSRB of any failure to provide disclosure of Annual Financial Information and Audited Financial Statements when the same are due under the Undertaking.

In the event of a failure of the City to comply with any provision of the Undertaking, the beneficial owner of any Bond may seek mandamus or specific performance by court order, to cause the City to comply with its obligations under the Undertaking. The

Undertaking provides that any court action must be initiated in the Circuit Court. A default under the Undertaking shall not be deemed a default under the Bonds, the Ordinance or the Indenture, and the sole remedy under the Undertaking in the event of any failure of the City to comply with the Undertaking shall be an action to compel performance.

#### **Amendments; Waiver**

Notwithstanding any other provision of the Undertaking, the City may amend the Undertaking, and any provision of the Undertaking may be waived, if:

(a) (1) the amendment or waiver is made in connection with a change in circumstances that arises from a change in legal requirements, change in law, or change in the identity, nature or status of the City or type of business conducted;

ii) the Undertaking, as amended, or the provision, as waived, would have complied with the requirements of the Rule at the time of the primary offering, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and

iii) the amendment or waiver does not materially impair the interests of the beneficial owners of the Bonds, as determined by a party unaffiliated with the City (such as the

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Trustee or co-bond counsel), or by approving vote of the owners of the Bonds at the time of the amendment or waiver; or

(b) the amendment or waiver is otherwise permitted by the Rule.

#### **EMMA**

All documents submitted to the MSRB through EMMA pursuant to the Undertaking shall be in electronic format and accompanied by identifying information as prescribed by the MSRB, in accordance with the Rule. All documents submitted to the MSRB through EMMA will be word-searchable PDFs, configured to permit documents to be saved, viewed, printed and electronically retransmitted.

#### **Termination of Undertaking**

The Undertaking shall be terminated if the City shall no longer have any legal liability for any obligation on or relating to repayment of the Bonds.

#### **Additional Information**

Nothing in the Undertaking will be deemed to prevent the City from disseminating any other information, using the means of dissemination set forth in the Undertaking or any other means of communication, or including any other information in any Annual Financial Information or Audited Financial Statements or notice of occurrence of a Reportable Event, in addition to that which is required by the Undertaking. If the City chooses to include any information in any Annual Financial Information or Audited Financial Statements or notice of occurrence of a Reportable Event in addition to that which is specifically required by the Undertaking, the City shall have no obligation under the Undertaking to update such information or include it in any future Annual Financial Information or Audited Financial Statements or notice of occurrence of a Reportable Event.

#### **Corrective Action Related to Certain Bond Disclosure Requirements**

The City failed to comply with certain continuing disclosure undertakings previously entered into by it pursuant to the Rule as described below. Such non-compliance may or may not be material.

Annual Financial Information and Audited Financial Statements were not filed by the City in 2011 for the Fiscal Year ended December 31, 2010, and in 2012 for the Fiscal Year ended December 31, 2011, with respect to the City of Chicago O'Hare International Airport General Airport Third Lien Revenue and Revenue Refunding Bonds, Series 201 OA

through Series 201 OF. Annual Financial Information and Audited Financial Statements were not filed by the City in 2011 for the Fiscal Year ended December 31, 2010, and in 2012 for the Fiscal Year ended December 31, 2011, with respect to the City of Chicago O'Hare International Airport Passenger Facilities Charge Revenue and Revenue Refunding Bonds, Series 201 OA through Series 201OD. On October 12, 2016, the City filed with EMMA such Annual Financial Information and Audited Financial Statements with respect to such bonds.

Annual Financial Information and Audited Financial Statements were not filed by the City in 2012 for the Fiscal Year ended December 31, 2011, with respect to the City of Chicago O'Hare International Airport General Airport Third Lien Revenue Bonds, Series 2011A through Series 2011C. Annual Financial Information and Audited Financial Statements were not filed in 2012 for the Fiscal Year ended December 31, 2011, with respect to the City of Chicago O'Hare International Airport Passenger Facility Charge Revenue Bonds, Series 2011A and Series 201 IB. On October 12, 2016, the City filed

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with EMMA such Annual Financial Information and Audited Financial Statements with respect to such bonds.

With respect to the City's Collateralized Single Family Mortgage Revenue Bonds, Series 2006A (the "Series 2006A Bonds"), S&P lowered its rating on the Series 2006A Bonds from "AA + " to "AA " and placed the Series 2006A Bonds on "Credit Watch with negative implications" effective December 16, 2011. The City did not cause the trustee as dissemination agent to file a notice of a reportable event with EMMA at that time. Subsequently, S&P upgraded the rating on the Series 2006A Bonds from "AA " to "AA \*." effective March 12, 2012. On March 18, 2012, S&P removed the "Credit Watch with negative implications" characterization from the Series 2006A Bonds. The City caused the trustee, as dissemination agent, for the Series 2006A Bonds to file a notice of a reportable event with EMMA on March 26, 2012 disclosing the downgrade and subsequent upgrade of the Series 2006A Bonds by S&P.

With respect to multiple series of the City's Chicago O'Hare International Airport General Airport Third Lien Revenue Bonds, American Airlines is an "obligated person " with respect to such bonds. On November 29, 2011, AMR Corporation (the parent company of American Airlines and Envoy Air (formerly American Eagle)) and certain of its United States-based subsidiaries (including American Airlines and American Eagle) filed voluntary petitions for Chapter 11 reorganization in the United States Bankruptcy Court for the Southern District of New York. The City filed a notice with EMMA with respect to this event on March 30, 2012 (not within the 10 business-day deadline imposed by the Rule). On December 9, 2013, American Airlines merged with US Airways. The City filed a notice with EMMA with respect to this event on August 25, 2014 (not within the 10 business-day deadline imposed by the Rule).

With respect to the City's Outstanding Motor Fuel Tax Revenue Bonds, the City's pledge of Additional City Revenues to the payment of such bonds (in addition to the pledge of Motor Fuel Tax Revenues) became effective as of March 19, 2013. The City filed a notice with EMMA describing the pledge of this additional source of revenue on May 16, 2013.

With respect to the City's Outstanding O'Hare International Airport Customer Facility Charge Senior Lien Revenue Bonds, Series 2013, Simply Wheel/., LLC d/b/a Advantage Rent A Car ("Advantage") is an "obligated person" with respect to such bonds. Advantage filed a voluntary bankruptcy petition in the Southern District of Mississippi on November 5, 2013. The City filed a notice with EMMA with respect to this event on December 5, 2013.

The rating agencies took certain rating actions with respect to the ratings of Ambac Assurance Corporation and Financial Security Assurance Inc. (collectively, the "Bond Insurers"). The Bond Insurers provided municipal bond insurance policies relating to certain series of the City's Chicago Midway Airport revenue bonds. Event notices with respect to such rating changes were not filed with EMMA. The City made such filings on May 22, 2014.

Ambac provided a municipal bond insurance policy relating to the City's Motor Fuel Tax Revenue Bonds, Series 2003A and Assured Guaranty Corp. provided municipal bond insurance policies relating to the City's Motor Fuel Tax Revenue Bonds, Series 2008. Event notices with respect to the rating changes taken by the Rating Agencies with respect to these insurers were not filed. The City made filings with EMMA on June 3, 2014 and August 22, 2014 with respect to these rating changes.

The City failed to file timely material event notices with respect to certain rating changes affecting the City's bonds subject to



the Rule and for which the City is an "obligated person " under the Rule (collectively, the "Prior Bonds") or affecting bond insurance companies which insured any Prior Bonds (collectively, the "Prior Bond Insurers"). The City filed with EMMA on August 29, 2014 a notice

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with respect to all rating changes known to the City and affecting the Prior Bonds (including certain Senior Lien Bonds and Second Lien Bonds) occurring over the last ten years. The City filed with EMMA on August 27, 2014 a notice with respect to all rating changes known to the City and affecting the Prior Bond Insurers occurring during the last seven years.

On January 15, 2016, S&P upgraded the rating of the City's Midway Second Lien Bonds from A-to A. On May 17, 2016, the City filed with EMMA an event notice relating to this rating upgrade.

On May 18, 2015, S&P downgraded the rating of the City's then-outstanding second lien water revenue bonds from AA- to A. The City timely filed a material event notice on EMMA regarding this rating downgrade for all of its then-outstanding second lien water revenue bonds except the Series 201 OB Bonds and the Series 2010C Bonds. On November 28, 2017, the City filed a material event notice on EMMA relating to this rating downgrade with respect to the Series 2010B Bonds and the Series 2010C Bonds.

In July 2015, the City filed on EMMA on a timely basis the audited financial statements for the Water Fund for the year 2014 for all then-outstanding water revenue bonds, except with respect to the Series 2010B Bonds and the Series 2010C Bonds. On November 28, 2017, the City filed on EMMA the 2014 audited financial statements for the Water Fund with respect to the Series 2010B Bonds and the Series 2010C Bonds. On November 30, 2017, the City filed on EMMA a notice regarding its failure to file on a timely basis the 2014 audited financial statements with respect to the Series 2010B Bonds and the Series 2010C Bonds.

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### MISCELLANEOUS

The foregoing summaries or descriptions of provisions of the Ordinance and the Indenture and all references to other materials not purporting to be quoted in full, are qualified in their entirety by reference to the complete provisions of the documents and other materials summarized or described. Copies of these documents may be obtained from the office of the Chief Financial Officer.

The references, excerpts and summaries of all documents referred to herein do not purport to be complete statements of the provisions of such documents, and reference is directed to all such documents for full and complete statements of all matters of fact relating to the Bonds, the security for the payment of the Bonds and the rights and obligations of the Owners thereof.

Any statements made in this Official Statement involving matters of opinion, projection or estimates, whether or not so expressly stated, are set forth as such and not as representations of fact, and no representation is made that any of the projections or estimates will be realized. Neither this Official Statement nor any statement that may have been made orally or in writing shall be construed as a contract with the Owners or Beneficial Owners of the Bonds.

CITY OF CHICAGO

Carole L. Brown Chief Financial Officer

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## APPENDIX A GLOSSARY OF CERTAIN TERMS

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### APPENDIX A

#### CERTAIN DEFINITIONS

*Capitalized words and terms used in this Official Statement that are not otherwise defined in this Official Statement shall have the meanings set forth below in this Appendix A, unless the context clearly indicates that some other meaning is intended.*

"Aggregate Second Lien Bonds Requirement" means, as of any particular date of computation and with respect to a particular Bond Year or other specified 12-month period, an amount of money equal to 110 percent of Aggregate Second Lien Debt Service with respect to such Bond Year or other specified 12-month period with respect to the Second Lien Bonds of all series and all Section 2.08 Obligations and Section 2.09 Obligations, provided that for purposes of the provisions of the Master Indenture relating to the issuance of Second Lien Parity Bonds, "Aggregate Second Lien Bonds Requirement" means, as of any particular date of computation and with respect to a particular Bond Year or other specified 12-month period, 110 percent of Annual Second Debt Lien Debt Service with respect to such Bond Year or other specified 12-month period, and for purposes of calculating interest payable during such Bond Year or other specified 12-month period in respect of any Variable Rate Bonds, the rate of interest shall be assumed to equal the average of the BMA Municipal Index for the immediately preceding 36 months or, if higher, the rate of interest paid with respect to such Variable Rate Bonds on the Interest Payment Date immediately preceding the date of calculation.

"Aggregate Second Lien Debt Service" means, as of any particular date of computation and with respect to a particular Bond Year or other specified 12-month period, an amount of money equal to the aggregate amounts required by the provisions of all Supplemental Indentures creating series of Second Lien Bonds and all instruments creating Section 2.08 Obligations and Section 2.09 Obligations to be deposited from Second Lien Bond Revenues in all sub-funds, accounts and subaccounts created under such Supplemental Indentures in such Bond Year or other specified 12-month period, provided that for purposes of calculating interest payable during such Bond Year or other specified 12-month period in respect to any Variable Rate Bonds, the rate of interest shall be assumed to equal the average of the BMA Municipal Index for the immediately preceding 36 months or, if higher, the rate of interest paid with respect to such Variable Rate Bonds on the Interest Payment Date immediately preceding the date of calculation.

"Aggregate Senior Lien Debt Service" means, as of any particular date of computation and with respect to a particular Bond Year or other specified 12-month period, an amount of money equal to the aggregate of the amounts of Annual Senior Lien Debt Service with respect to such Bond Year or other specified 12-month period and to the Senior Lien Bonds of all series.

"Aggregate Subordinate Lien Debt Service" means, as of any particular date of computation and with respect to a particular Bond Year or other specified 12-month period, an amount of money equal to the aggregate of the amounts of Annual Subordinate Lien Debt Service with respect to such Bond Year or other specified 12-month period and to the Subordinate Lien Obligations of all series.

"Annual Second Lien Debt Service" means, as of any particular date of computation and with respect to a particular Bond Year or other specified 12-month period and with respect to Second Lien Bonds of a particular series or consisting of a particular Section 2.08 Obligation or Section 2.09 Obligation, an amount of money equal to the sum of (a) all interest, costs or fees payable during such Bond Year or other specified 12-month period with respect to all Second Lien Bonds of said series, such Section 2.08 Obligation and Section 2.09 Obligation Outstanding on said date of computation and (b) all

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Principal Installments payable during such Bond Year or other specified 12-month period with respect to all Second Lien Bonds of said series, such Section 2.08 Obligation and Section 2.09 Obligation Outstanding on said date of computation, all calculated on the assumption that such Second Lien Bonds, Section 2.08 Obligation and Section 2.09 Obligation will after said date of computation cease to be Outstanding by reason, but only by reason, of the payment when due and application in accordance with the Master Indenture and the Supplemental Indenture creating such series or the instrument creating such Section 2.08 Obligation or Section 2.09 Obligation of Principal Installments payable at or after said date of computation.

"Annual Senior Lien Debt Service" means, as of any particular date of computation and with respect to a particular Fiscal Year or other specified 12-month period and with respect to Senior Lien Bonds of a particular series, an amount of money equal to the sum of (a) all interest payable during such Bond Year or other specified 12-month period on all Senior Lien Bonds of said series Outstanding on said date of computation and (b) all Principal Installments payable during such Bond Year or other specified 12-month period with respect to all Senior Lien Bonds of said series Outstanding on said date of computation, all calculated on the assumption that Senior Lien Bonds will after said date of computation cease to be Outstanding by reason, but only by reason, of the payment when due and application in accordance with the Senior Lien Bond Ordinances of Principal Installments payable at or after said date of computation.

"Annual Subordinate Lien Debt Service" means, as of any particular date of computation and with respect to a particular Fiscal Year or other specified 12-month period and with respect to Subordinate Lien Obligations of a particular series, an amount of money equal to the sum of (a) all interest payable during such Fiscal Year or other specified 12-month period on all Subordinate Lien Obligations of said series Outstanding on said date of computation and (b) all Principal Installments payable during such Fiscal Year or other specified 12-month period with respect to all Subordinate Lien Obligations of said series Outstanding on said date of computation, all calculated on the assumption that Subordinate Lien Obligations will after said date of computation cease to be Outstanding by reason, but only by reason, of the payment when due and application in accordance with the Subordinate Lien Obligation Ordinances of Principal Installments payable at or after said date of computation.

"Authorized Denominations" means, with respect to a particular Bond, \$5,000 and any integral multiple of \$5,000.

"BiVIA Municipal Index" means The Bond Market Association Municipal Swap Index as of the most recent date for which such index was published or such other weekly, high-grade index comprised of seven-day, tax-exempt variable rate demand notes produced by Municipal Market Data, Inc. or its successor, or as otherwise designated by The Bond Market Association; provided, however, that if such index is no longer produced by Municipal Market Date, Inc. or its successor, then "BMA Municipal Index" means such other reasonably comparable index selected by the City.

"Bond Register" means the registration books of the City kept by the Trustee (in its capacity as Bond Registrar) to evidence the registration and transfer of Bonds.

"Bond Registrar" means the Trustee.

"Bond Year" means a 12-month period commencing on November 1 of a calendar year to and including October 31 of the next succeeding calendar year.

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"Bonds" means the aggregate principal amount of Second Lien Water Revenue Refunding Bonds, Series 2017-2 of the City authorized to be issued pursuant to the Eleventh Supplemental Indenture.

"Business Day" means any day of the year on which banks located in the city, or cities, respectively, in which are located the designated corporate trust office of the Trustee are not required or authorized to remain closed on and which The New York Stock Exchange is not closed.

"Chief Financial Officer" means the Chief Financial Officer appointed by the Mayor of the City or, in the event no person is at the time then so appointed and acting, the City Comptroller of the City.

"City Clerk" means the duly elected and qualified person serving as the City Clerk of the City.

"Code" means the United States Internal Revenue Code of 1986, as amended. References to the Code and to sections of the Code shall include relevant final, temporary or proposed regulations as in effect from time to time and, with reference to any series of Second Lien Bonds, as applicable, to obligations issued on the date of issuance of such series.

"Commercial Paper Account" means the separate and segregated account of that name established and existing in the Water Fund.

"Commercial Paper Notes" means obligations commonly described as "Commercial Paper" issued by City from time to time and payable from the Commercial Paper Account.

"Constitution" means the 1970 Constitution of the State of Illinois.

"Costs of Issuance" means all fees and costs incurred by the City relating to the issuance of the Bonds, including, without limitation, printing costs, authenticating agent's initial fees and charges, Bond Registrar's fees and charges, Paying Agent's fees and charges, Escrow Agent's Fees and Charges, financial advisory fees, costs of credit ratings, engineering fees, legal fees, accounting fees, the cost of any premiums for municipal bond insurance to insure the Bonds, and the cost of any related services with respect to the Bonds.

"Costs of Issuance Account" means the account designated the "Series 2017-2 Bonds, Costs of Issuance Account" established pursuant to the Eleventh Supplemental Indenture into which Bond proceeds are to be deposited to pay Costs of Issuance, as described in Appendix B hereto under the caption "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE -Application of Bond Proceeds."

"Deposit Date" means May 1 and November 1 of each year.

"Escrow Agent" means The Bank of New York Mellon Trust Company, N.A.

"Escrow Agreement" means the Escrow Deposit Agreement dated December 1, 2017, between the City and the Escrow Agent.

"Federal Compliant Obligation Authorization" means subsidies, tax credits or other incentives or benefits, pursuant to legislation hereafter enacted by the Congress of the United States, to provide at various subsidy levels to state and local governments in connection with the issuance of debt obligations by such governments, which incentives or benefits may, but need not, be similar to those direct payments being made by the United States Treasury Department to

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the City of a portion of the interest payable by the City on the 201 OB Second Lien Bonds and the 201OC Second Lien Bonds.

"Federal Subsidies" means (i) the direct payments by the Treasury Department to the City of a portion of the interest payable by the City on the 201 OB Second Lien Bonds and the 201 OC Second Lien Bonds and (ii) to the extent hereafter provided in Federal Compliant Obligation Authorization, payments by the Treasury Department to the City resulting from subsidies, tax credits or other incentives or benefits to state and local governments in connection with the issuance of debt obligations by such governments.

"Fiscal Year" means the period beginning January 1 and ending December 31 of any year.

"Governmental Obligations" means securities which are obligations described in clause (a) of the definition of "Permitted Investments" set forth below.

"Gross Revenues" means all income and receipts from any source which under generally accepted accounting principles are properly recognized as being derived from the operation of the Water System, including without limitation (a) charges imposed for water service and usage, (b) charges imposed for sales of water to municipalities (other than the City) and other users of water service, (c) charges imposed for inspections and permits for connection to the Water System, (d) grants (excluding grants received for capital projects) and (e) Investment Earnings. Gross Revenues do not include (1) amounts credited to customers on their bills, such as for payment of the price of purchasing from them capital assets of the water systems; (2) Federal Subsidies; or (3) Chicago Water and Sewer Tax revenues.

"IEPA" means the Illinois Environmental Protection Agency, and its successors and assigns, or in the case of Loans made

pursuant to the IEPA Program, the authorized lender under such program.

"IEPA Program" means the Illinois Clean Water Initiative Public Water Supply Loan Program or any successor program administered by the State, and any similar program through which funds authorized by the United States Government, including the United States Environmental Protection Agency, and administered by the State or any federally authorized agency.

"Interest Payment Date" means each May 1 and November 1, commencing on May 1, 2018.

"Investment Earnings" means interest plus net profits and less net losses derived from investments made with any portion of the Gross Revenues or with any money in the Accounts in the Water Fund (other than the Senior Lien Rebate Accounts) specified in the Ordinance. Investment earnings do not include interest or earnings on investments of the account established when the Escrow Agreement or any Second Lien Rebate Accounts established under the Indenture.

"Line of Credit Notes Account" means the separate and segregated account of that name established and existing in the Water Fund.

"Loan" means, collectively, the borrowing or borrowings by the City from the IEPA under the IEPA Program and evidenced by one or more Loan Agreements.

"Loan Agreement" means each loan agreement to be entered into or to be entered into between the City and the IEPA setting forth the terms of the Loan.

"Maturity Date" means November 1 of any year in which Principal Installments become due on the Bonds.

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"Mayor" means the Mayor of the City.

"Net Revenues" means that portion of the Gross Revenues remaining in any period after providing sufficient funds for Operation and Maintenance Costs.

"Net Revenues Available for Bonds" means that portion of the Net Revenues remaining in any period, minus any amounts deposited during that period in the Water Rate Stabilization Account as provided in the Ordinance (other than amounts deposited to that Account upon the issuance of the Series 1993 Bonds or upon the issuance of any Senior Lien Parity Bonds) and plus the amounts withdrawn during that period from that Account.

"Operation and Maintenance Costs" means all expenses reasonably incurred by the City in connection with the operation, maintenance, renewal, replacement and repair of the Water System, which under generally accepted accounting principles are properly chargeable to the Water System and not capitalized, including, without limitation, salaries, wages, taxes, contracts for services, costs of materials and supplies, purchase of power, fuel, insurance, reasonable repairs and extensions necessary to render efficient service, the costs related to any agreements or other arrangements entered into pursuant to the Ordinance, Paying Agent's fees, and all incidental expenses, but excluding any provision for depreciation or for interest on Senior Lien Bonds, Second Lien Bonds, Subordinate Lien Obligations, Commercial Paper Notes, Water System Line of Credit Notes or other obligations for borrowed money payable from the Net Revenues, Net Revenues Available for Bonds, Second Lien Bond Revenues or Subordinate Lien Obligation Revenues and, from and after the earlier to occur of (i) the date all Senior Lien Bonds issued prior to the date of issuance of the 2000 Senior Lien Bonds are no longer Outstanding or (ii) the effective date of amendments to the ordinances authorizing Outstanding Senior Lien Bonds issued prior to the date of issuance of the 2000 Senior Lien Bonds which permit the following to be included in the definition of Operation and Maintenance Costs, the fees of the trustee and any remarketing agent, paying agent or bond registrar for the Second Lien Bonds, and the paying agent, if any, for Subordinate Lien Obligations, the costs related to any agreements or other arrangements entered into pursuant to the Ordinance or the Master Indenture.

"Opinion of Bond Counsel" means a written opinion of one or more firms of nationally recognized bond counsel designated by the Corporation Counsel of the City in form and substance acceptable to the City and the Trustee, which opinion may be based on a ruling or rulings of the Internal Revenue Service.

"Ordinance" means the ordinance passed by the City Council on November 8, 2017, authorizing the Bonds, the Eleventh Supplemental Indenture and the Second Lien Bond Determination Certificate of the Chief Financial Officer in connection with the Bonds as modified or amended from time to time pursuant to the terms of the ordinance.

"Outstanding" means, with reference to any series of Second Lien Bonds, all of such obligations issued under the Master Indenture or incurred pursuant to the Master Indenture that are outstanding and unpaid, provided that such term shall not include obligations:

- i) which have been paid or redeemed in full both as to principal, redemption, premium, if any, and interest; or
- ii) which have matured or which have been duly called for redemption and for the payment of which money is on deposit with designated paying agents for such Second Lien Bonds or are otherwise properly available, sufficient to pay the principal of, redemption premium, if any, and interest on such Second [Jen Bonds; or

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iii) for which the City has provided for payment by depositing in an irrevocable trust or escrow, cash or Governmental Obligations, in each case the maturing principal of and interest on which will be sufficient, without reinvestment, to pay at maturity, or if called for redemption on the applicable redemption date, the principal of, redemption premium, if any, and interest on such Second Lien Bonds; or

- iv) which are owned by the City.

When used with respect to Senior Lien Bonds or Subordinate Lien Obligations, "Outstanding" shall have the meaning ascribed to such term in the related Senior Lien Bond Ordinances or Subordinate Lien Obligation Ordinance as applicable.

"Paying Agent" means the Trustee and any other bank, national banking association or trust company designated by the City or the Trustee pursuant to the Eleventh Supplemental Indenture as a paying agent for the Bonds, and any successor or successors appointed by the Chief Financial Officer or the Trustee under the Eleventh Supplemental Indenture.

"Payment Date" means any date on which a Principal Installment or interest on any series of Second Lien Bonds is payable in accordance with its terms and the terms of the Master Indenture and the Supplemental Indenture creating such series, or, in the case of any Section 2.08 Obligation or amounts which are payable under any Section 2.09 Obligation, in accordance with the terms of the instrument creating such Section 2.08 Obligation or such Section 2.09 Obligation.

"Permitted Investments" means to the extent permitted by law and under the Master Indenture at the time of such investment, any of the following:

a) direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America; and

b) shares of a money market fund registered under the Investment Company Act of 1940, whose shares are registered under the Securities Act of 1933, as amended, including those for which the Trustee or an affiliate performs services for a fee, whether as custodian, transfer agent.

"Principal Installment" means:

a) as of any particular date of computation and with respect to Senior Lien Bonds of a particular series, an amount of money equal to the aggregate of (i) the principal amount of Outstanding Senior Lien Bonds of said series which mature on a single future date, reduced by the aggregate principal amount of such Outstanding Senior Lien Bonds which would at or before said future date be retired by reason of the payment when due and the application in accordance with the Senior Lien Bond Ordinances authorizing the issuance of each series of Senior Lien Bonds of Sinking Fund Payments payable at or before said future date for the retirement of such Outstanding Senior Lien Bonds, plus (ii) the amount of any Sinking Fund Payments payable on said future date for the retirement of any Outstanding Senior Lien Bonds of such series, and for all

purposes of the Indenture, said future date shall be deemed to be the date when such Principal Installment is payable and the date of such Principal Installment;

b) as of any particular date of computation and with respect to Second Lien Bonds of a particular series or consisting of a particular Section 2.08 Obligation, an amount of money equal to the aggregate of (i) the principal amount of Outstanding Second Lien Bonds of said

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series or Section 2.08 Obligation which mature on a single future date, reduced by the aggregate principal amount of such Outstanding Second Lien Bonds which would at or before said future date be retired by reason of the payment when due and the application in accordance with the Indenture, with respect to the Second Lien Bonds, or the ordinance or trust indenture creating any other series of Second Lien Bonds or the instrument creating such Section 2.08 Obligation, of Sinking Fund Payments payable at or before said future date for the retirement of such Outstanding Second Lien Bonds, plus (ii) the amount of any Sinking Fund Payments payable on said future date for the retirement of such Outstanding Second Lien Bonds, and for all purposes of the Indenture, said future date shall be deemed to be the date when such Principal Installment is payable and the date of such Principal Installment; and

(c) as of any particular date of computation and with respect to Subordinate Lien Obligations of a particular series, an amount of money equal to the aggregate of (i) the principal amount of Outstanding Subordinate Lien Obligations of said series which mature on a single future date, reduced by the aggregate principal amount of such Outstanding Subordinate Lien Obligations which would at or before said future date be retired by reason of the payment when due and the application in accordance with the Subordinate Lien Obligation Ordinance authorizing the issuance of each series of Subordinate Lien Obligations of Sinking Fund Payments payable at or before said future date for the retirement of such Outstanding Subordinate Lien Obligations, plus (ii) the amount of any Sinking Fund Payments payable on said future date for the retirement of any Outstanding Subordinate Lien Obligations of such series, and for all purposes of the Indenture, said future date shall be deemed to be the date when such Principal Installment is payable and the date of such Principal Installment.

"Program Fee Account" means the account designated the "Series 2017-2 Bonds, Program Fee Account" established in the 2017-2 Second Lien Bonds Subaccount as described in Appendix B hereto under the caption "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - 2017-2 Second Lien Bonds Subaccount."

"Program Fees" means:

a) the fees, expenses and other charges payable to each fiduciary, including the applicable Trustee, the applicable Trustee's Agent and any Paying Agent, pursuant to the provisions of the Master Indenture and the corresponding Supplemental Indenture; provided that if at any time there shall be any Series of Second Lien Bonds Outstanding under a Supplemental Indenture other than the corresponding series of Bonds, then "Program Fees" for such purposes, shall mean only such portion of such fees, expenses and other charges as shall be payable with respect to, or properly allocable to, the duties performed by each such fiduciary with respect to such Bonds;

b) ongoing fees payable to any Rating Agency maintaining a rating on such Bonds,  
and

c) any other fees, expenses and other charges of a similar nature payable by the City to any person under such Supplemental Indenture or otherwise with respect to such Bonds.

"Qualified Reserve Account Credit Instrument" means, with respect to Second Lien Bonds, a letter of credit, surety bond or non-cancelable insurance policy issued by a domestic or foreign bank, insurance company or other financial institution whose debt obligations are rated "Aa" or "AA" or better by a Rating Agency as of its date of issuance.

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"Qualified Second Lien Swap Agreement" means an agreement between the City and a swap provider under which the City agrees to pay the swap provider an amount calculated at an agreed-upon rate or index based upon a notional amount and the swap provider agrees to pay the City for a specified period of time an amount calculated at an agreed-upon rate or index based upon such notional amount, where (i) each Rating Agency (if such Rating Agency also rates the unsecured obligations of the swap provider or its guarantor) has assigned to the unsecured obligations of the swap provider or of the person or entity who guarantees the obligation of the swap provider to make its payments to the City, as of the date the swap agreement is entered into, in one of the highest credit rating categories (without regard to any refinement or gradation of such rating by a numerical modifier or otherwise) of such Rating Agency, and (ii) the City has notified each Rating Agency (whether or not such Rating Agency also rates the unsecured obligations of the swap provider or its guarantor) in writing, at least 15 days prior to executing and delivering the swap agreement of its intention to enter into the swap agreement and, if the City's Second Lien Bonds have an unenhanced rating from such Rating Agency, the City has received from such Rating Agency a written indication that the entering into of the swap agreement by the City will not in and of itself cause a reduction or withdrawal by such Rating Agency of its unenhanced rating on the Second Lien Bonds.

"Rating Agencies" or "Rating Services" means the nationally recognized rating services, or any of them, that shall have assigned ratings to any Bonds Outstanding as requested by or on behalf of the City, and which ratings are then currently in effect.

"Record Date" means, with respect to the Bonds, each April 15 and October 15 (whether or not a Business Day).

"Redemption Price" means with respect to the Bonds, the redemption prices set forth under the caption "DESCRIPTION OF THE BONDS - Redemption" and, with respect to any other series of Second Lien Bonds, the redemption price of such Second Lien Bonds pursuant to the provisions of such Second Lien Bonds or the Supplemental Indenture creating such Second Lien Bonds, or such other redemption price as may be specified in such Second Lien Bonds or Supplemental Indenture.

"Refunded Bonds" means the Series 2008 Second Lien Bonds maturing on November 1 of the years and in the amounts set forth below:

Maturity Principal (November 1) Amount

"Registered Owner" means the person or persons in whose name or names a Bond is registered in the registration books kept by the Bond Registrar.

"Second Lien Bond Determination Certificate" means the certificate of the Chief Financial Officer with respect to the Bonds filed with the Office of the City Clerk or the Deputy City Clerk, addressed to the City Council as provided in the Ordinance.

"Second Lien Bond Revenues" means all sums, amounts, funds or moneys which are deposited to the Second Lien Bonds Account pursuant to the Ordinance, subject to the priority for the deposit of Net Revenues Available for Bonds established in the Ordinance.

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"Second Lien Bonds" means the Bonds, the Series 2017 Bonds, the Series 2016A Bonds, the Series 2014 Bonds, the Series 2012 Second Lien Bonds, the Series 2010 Second Lien Bonds, the Series 2008 Second Lien Bonds, the Series 2004 Bonds, the 2001 Second Lien Bonds, the Series 2000 Bonds and all Second Lien Parity Bonds.

"Second Lien Bonds Account" means the separate account of that name previously established in the Water Fund as described in the Ordinance.

"Second Lien Parity Bonds" means obligations which may be issued after the issuance of the Bonds which are payable from

Second Lien Bond Revenues on an equal and ratable basis with the Bonds and all other Outstanding Second Lien Bonds.

"Second Lien Revenue Fund" means the fund of that name established by the Master Indenture.

"Section 2.08 Obligations" means any obligations incurred by the City to reimburse or otherwise make payments to the issuer or issuers of one or more letters of credit, lines of credit, standby purchase agreements, financial guaranty insurance policies or surety bonds (including Qualified Reserve Account Credit Instruments) securing one or more series of Second Lien Bonds as described in the Master Indenture, including any fees or other amounts payable to the issuer of any such letter of credit, line of credit, standby purchase agreement, financial guaranty insurance policy or surety bond, whether such obligations are set forth in one or more reimbursement agreements entered into between the City and the issuer of any such letter of credit, line of credit, standby purchase agreement, financial guaranty insurance policy or surety bond, or in one or more notes or other evidences of indebtedness executed and delivered by the City pursuant thereto, or any combination thereof.

"Section 2.09 Obligations" means any obligations incurred by the City to any one or more swap providers pursuant to the Master Indenture, including any fees or amounts payable by the City under each related Qualified Second Lien Swap Agreement or agreement described in the Master Indenture.

"Senior Lien Bond Provider" means a company, banking institution or other financial institution which is the issuer of a Senior Lien Debt Service Reserve Account Credit Instrument or a municipal bond insurance policy as described in the Ordinance.

"Senior Lien Bond Ordinances" means the ordinances of the City authorizing the issuance of Senior Lien Bonds.

"Senior Lien Bond Reimbursement Agreement" means an agreement between the City and a Senior Lien Bond Provider entered into with respect to a Senior Lien Debt Service Reserve Account Credit Instrument and which pertains to the repayment of the Senior Lien Bond Provider, with interest, if any, of amounts advanced pursuant to that Senior Lien Debt Service Reserve Account Credit Instrument.

"Senior Lien Bonds" means the Series 1997 Bonds, the 2000 Senior Lien Bonds and all Senior Lien Parity Bonds.

"Senior Lien Bonds Construction Accounts" means the various accounts established for construction purposes by the Senior Lien Bond Ordinances.

"Senior Lien Debt Service Requirement" means, for any Fiscal Year, the principal of and interest on Senior Lien Bonds required to be paid in that Fiscal Year. With respect to any Senior Lien Bonds for which any interest is payable by appreciation in principal amount, the Senior Lien Debt Service Requirement for a Fiscal Year includes all appreciated principal payable in that Fiscal Year but does not

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include the increase in principal which occurs in that Fiscal Year but is not payable in that Fiscal Year. Any Senior Lien Bonds required to be redeemed pursuant to a mandatory sinking fund redemption shall be treated for these purposes as being due on the date they are required to be redeemed and not on their stated maturity dates.

"Senior Lien Debt Service Reserve Account" means the separate account entitled "Bond Debt Service Reserve Account" previously established by the City in the Water Fund and described in the Ordinance and each Subaccount of that Account.

"Senior Lien Debt Service Reserve Account Credit Instrument" means a non-cancelable insurance policy, a non-cancelable surety bond or an irrevocable letter of credit which may be delivered to the City in lieu of or in partial substitution for cash or securities required to be on deposit in a Subaccount of the Senior Lien Debt Service Reserve Account. In the case of an insurance policy or surety bond, the Senior Lien Bond Provider of such insurance policy or surety bond shall be an insurer which, at the time of issuance of the insurance policy or surety bond, has been assigned a credit rating which is within one of the two highest ratings, without regard to any refinement or gradation of rating categories by numerical modifier or otherwise, accorded insurers by at least two Rating Agencies. Letters of credit shall be issued by a banking institution which has, or the parent of which has, or the holding corporation of which it is the principal bank has, at the time of issuance of the letter of credit, a credit rating on its long-term unsecured debt within one of the two highest rating categories, without regard to any refinement or gradation of rating categories by

numerical modifier or otherwise, from at least two Rating Agencies. The insurance policy, surety bond or letter of credit shall grant to the City the right to receive payment for the purposes of which the Subaccount of the Senior Lien Debt Service Reserve Account may be used or for deposit in that Subaccount and shall be irrevocable during its term.

"Senior Lien Debt Service Reserve Account Credit Instrument Coverage" means, with respect to any Senior Lien Debt Service Reserve Account Credit Instrument on any date of determination, the amount available to pay principal of and interest on the Senior Lien Bonds under that Senior Lien Debt Service Reserve Account Credit Instrument.

"Senior Lien Debt Service Reserve Requirement" means (i) with respect to each of the Series 1997 Senior Lien Bonds and the 2000 Senior Lien Bonds, the amount, as of any date of computation, specified in the respective ordinance of the City, as amended, authorizing those bonds; and (ii) and with respect to any series of Senior Lien Parity Bonds, as of any date of computation, such amounts as shall be established by the ordinance authorizing that series of Senior Lien Parity Bonds, not to exceed the least of (A) the highest future Senior Lien Debt Service Requirement of that series of Senior Lien Parity Bonds in any Fiscal Year including the Fiscal Year in which the date of computation falls; (B) 10 percent of the original principal amount of that series of Senior Lien Parity Bonds (less original issue discount); or (C) 125 percent of the average annual Senior Lien Debt Service Requirement for that series of Senior Lien Parity Bonds. Any Senior Lien Bonds required to be redeemed pursuant to a mandatory sinking fund redemption shall be treated for purposes of this definition as being due on the dates they are required to be redeemed and not on their stated maturity dates.

"Senior Lien Parity Bonds" means obligations which may be issued after the issuance of the Bonds which are payable from Net Revenues Available for Bonds on an equal and ratable basis with all Outstanding Senior Lien Bonds.

"Senior Lien Principal and Interest Account" means the separate account entitled "Bond Principal and Interest Account" previously established by the City in the Water Fund and described in the Ordinance.

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"Senior Lien Rebate Accounts" means the separate accounts with that title in the Water Fund referred to in the Ordinance.

"Series 1993 Bonds" means the Water Revenue Bonds, Refunding Series 1993, of the City.

"Series 1997 Bonds" means the Water Revenue Bonds, Series 1997, of the City which are Outstanding from time to time.

"Series 2000 Bond Ordinance" means the ordinance passed by the City Council on November 17, 1999, authorizing the issuance of the Series 2000 Bonds, and the Senior Lien Bond Determination Certificate of the Chief Financial Officer in connection with the Series 2000 Bonds.

"Series 2000 Bonds" means the \$100,000 aggregate principal amount of Second Lien Water Revenue Bonds, Series 2000, of the City.

"Series 2000 Senior Lien Bonds" means the Senior Lien Water Revenue Bonds, Series 2000, of the City which are Outstanding from time to time.

"Series 2000 Subordinate Lien Obligations" means the Loans authorized by and defined in the Series 2000 Bond Ordinance which are Outstanding from time to time.

"Series 2001 Second Lien Bonds" means the Second Lien Water Revenue Refunding Bonds, Series 2001, of the City which are Outstanding from time to time.

"Series 2001 Second Lien Bond Ordinance" means the ordinance passed by the City Council on March 7, 2001, authorizing the issuance of the 2001 Second Lien Bonds, and the Second Lien Bond Determination Certificate of the Chief Financial Officer in connection with the 2001 Second Lien Bonds.

"Series 2001 Subordinate Lien Bond Ordinance" means the ordinance passed by the City Council on October 31, 2001, authorizing the issuance of the 2001 Subordinate Lien Obligations.

"Series 2001 Subordinate Lien Obligations" means the Loans authorized by and defined in the Series 2001 Subordinate Lien Bond Ordinance.

"Series 2004 Bonds" means the \$344,575,000 aggregate principal amount of Second Lien Water Revenue Refunding Bonds, Series 2004, of the City.

"Series 2004 Second Lien Bond Ordinance" means the ordinance passed by the City Council on May 26, 2004, as amended by the Series 2012 Second Lien Bond Ordinance, authorizing the issuance of the Series 2004 Bonds and the Second Lien Bond Determination Certificate of the Chief Financial Officer in connection with the Series 2004 Bonds.

"Series 2006 Second Lien Bond Ordinance" means the ordinance passed by the City Council on June 28, 2006, authorizing, among other things, the issuance of 2006 Subordinate Lien Obligations.

"Series 2006 Subordinate Lien Obligations" means the Loans authorized by and defined in the Series 2006 Second Lien Bond Ordinance.

"Series 2008 Second Lien Bonds" means the Second Lien Water Revenue Project and Refunding Bonds, Series 2008, of the City, which are Outstanding from time to time.

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"Series 2010 Second Lien Bonds" means, collectively, the Series 201 OA Second Lien Bonds, the Series 2010B Second Lien Bonds and the Series 2010C Second Lien Bonds which are Outstanding from time to time.

"Series 2010A Second Lien Bonds" means the Second Lien Water Revenue Bonds, Project and Refunding Series 201 OA (Tax-Exempt), of the City, which are Outstanding from time to time.

"Series 201 OB Second Lien Bonds" means the Second Lien Water Revenue Bonds, Taxable Project Series 2010B (Build America Bonds - Direct Payment), of the City, which are Outstanding from time to time.

"Series 2010C Second Lien Bonds" means the Second Lien Water Revenue Bonds, Taxable Project Series 2010C (Qualified Energy Conservation Bonds - Direct Payment), of the City, which are Outstanding from time to time.

"Series 2012 Second Lien Bond Ordinance" means the ordinance passed by the City Council on March 14, 2012 as amended by the ordinance passed by the City Council on May 9, 2012, authorizing, among other things, the issuance of the Series 2012 Second Lien Bonds and the 2012 Subordinate Lien Obligations, and the Second Lien Bond Determination Certificate of the Chief Financial Officer in connection with the Series 2012 Second Lien Bonds.

"Series 2012 Second Lien Bonds" means the Second Lien Water Revenue Bonds, Project Series 2012, of the City, which are Outstanding from time to time.

"Series 2012 Subordinate Lien Obligations" means the Loans authorized by and defined in the Series 2012 Second Lien Bond Ordinance.

"Series 2014 Bonds" means, the Second Lien Water Revenue Bonds, Project Series 2014, of the City, which are Outstanding from time to time.

"Series 2016A Bonds" means the Second Lien Water Revenue Bonds, Series 2016A-I (Tax-Exempt) and Series 2016A-2 (Taxable) of the City, which are Outstanding from time to time.

"Series 2017 Bonds" means the Second Lien Water Revenue Refunding Bonds, Series 2017, which are Outstanding from time to time.

"Series 2017 Subordinate Lien Obligations" means the Loans authorized by and defined in the Ordinance.

"Series 2017-2 Deposit Requirement" has the meaning set forth in Appendix B hereto under the caption "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE -Application of Bond Proceeds - Deposits into 2017-2 Second Lien Bonds Subaccount and Accounts Therein."

"Series 2017-2 Principal and Interest Account" means the account designated the "Series 2017-2 Bonds, Principal and Interest Account" established in the 2017-2 Second Lien Bonds Subaccount as described in Appendix B hereto under the caption "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - 2017-2 Second Lien Bonds Subaccount."

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"Sinking Fund Payment" means:

a) as of any particular date of determination and with respect to the Outstanding Senior Lien Bonds of any series, the amount required by the Senior Lien Bond Ordinances to be paid in any event by the City on a single future date for the retirement of Senior Lien Bonds of such series which mature after said future date, but does not include any amount payable by the City by reason only of the maturity of a Senior Lien Bond;

b) as of any particular date of determination and with respect to the Outstanding Second Lien Bonds of any series or consisting of any Section 2.08 Obligation, the amount required by the Supplemental Indenture creating such series or the instrument creating such Section 2.08 Obligation to be paid in any event by the City on a single future date for the retirement of such Second Lien Bonds which mature after said future date, but does not include any amount payable by the City by reason only of the maturity of a Second Lien Bond; and

c) as of any particular date of determination and with respect to the Outstanding Subordinate Lien Obligations of any series, the amount required by a Subordinate Lien Obligation Ordinance to be paid in any event by the City on a single future date for the retirement of Subordinate Lien Obligations of such series which mature after said future date, but does not include any amount payable by the City by reason only of the maturity of a Subordinate Lien Obligation.

"State" means the State of Illinois.

"Subordinate Lien Debt Service Requirement" means, for any Fiscal Year, the principal of and interest on Subordinate Lien Obligations required to be paid in that Fiscal Year.

"Subordinate Lien Debt Service Reserve Subaccount" means the separate Subaccount of that name previously established by the City in the Subordinate Lien Obligations Account and described in the Ordinance.

"Subordinate Lien Obligation Ordinances" means each ordinance of the City authorizing the issuance of Subordinate Lien Obligations.

"Subordinate Lien Obligation Revenues" means all sums, amounts, funds or moneys which are deposited to the Subordinate Lien Obligations Account.

"Subordinate Lien Obligations" means the 2000 Subordinate Lien Obligations, the 2001 Subordinate Lien Obligations, the 2006 Subordinate Lien Obligations, the 2012 Subordinate Obligations, the 2017 Subordinate Lien Obligations and all Subordinate Lien Parity Obligations.

"Subordinate Lien Obligations Account" means the separate account of that name established in the Water Fund as described in the Ordinance.

"Subordinate Lien Parity Obligations" means obligations which are payable from Subordinate Lien Obligation Revenues on an equal and ratable basis with all Outstanding Subordinate Lien Obligations.

"Subordinate Lien Principal and Interest Subaccount" means the separate Subaccount of that name established by the City in the Subordinate Lien Obligations Account and described in the Ordinance.

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"Supplemental Indenture" means any indenture modifying, altering, supplementing or conforming the terms of the Master Indenture duly entered into in accordance with the terms of the Master Indenture, including, without limitation, the Eleventh Supplemental Indenture.

"Trust Estate" means the property conveyed to the Trustee pursuant to the granting clauses of the Eleventh Supplemental Indenture.

"2017-2 Second Lien Bonds Subaccount" means the 2017-2 Second Lien Bonds Subaccount established within the Second Lien Bonds Account pursuant to the Ordinance, as described in Appendix B hereto under the caption "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - 2017-2 Second Lien Bonds Subaccount."

"Variable Rate Bonds" means any Second Lien Bonds the interest rate on which is not established at the time of their issuance at a single numerical rate for the entire term of such Second Lien Bonds.

"Water Fund" means the separate fund designated the "Water Fund of the Municipality of Chicago" previously established by the City and described in the Ordinance.

"Water Rate Stabilization Account" means the separate account of that name previously established in the Water Fund and described in the Ordinance.

"Water Revenue Bonds" means collectively, the Senior Lien Bonds, the Second Lien Bonds, Subordinate Lien Obligations, Commercial Paper Notes and Water System Line of Credit Notes Outstanding from time to time.

"Water System" means all property, real, personal or otherwise, owned or to be owned by the City or under the control of the City and used for water supply, distribution or collection purposes, including any and all further extensions, improvements and additions to the Water System.

"Water System Line of Credit Agreement" means a line of credit agreement with a commercial bank or other financial institution in the form customarily used to provide borrowers with a revolving line of credit.

"Water System Line of Credit Notes" means obligations issued by the City from time to time pursuant to a Water System Line of Credit Agreement, payable from the Line of Credit Notes Account.

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## **APPENDIX B**

### **SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE**

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## **APPENDIX B**

### **SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE**

The following is a composite summary of certain provisions of the Ordinance and the Indenture to which reference is made for a complete statement of the provisions and contents of each of such documents. This summary does not purport to be complete or definitive and is qualified in its entirety by reference to the Ordinance and the Indenture, copies of which are on file with the Trustee.

#### **Source of Payment; Pledge of Second Lien Bond Revenues**

The provisions of the Ordinance and the Indenture constitute a contract among the City, the Trustee and the Registered Owners of the Bonds. The Bonds are issued under the Ordinance and the Indenture as Second Lien Bonds.

The Bonds shall be limited obligations of the City having a claim for payment of principal, redemption premium and interest solely from amounts in the 2017-2 Second Lien Bonds Subaccount of the Second Lien Bonds Account, the sources pledged under the Indenture and, together with any Second Lien Bonds Outstanding, from Second Lien Bond Revenues, except for any monies, instruments and securities or any Qualified Reserve Credit Instrument on deposit in a Debt Service Reserve Account for any other series of Second Lien Bonds issued or to be issued. The Bonds shall not constitute an indebtedness of the City within the meaning of any constitutional or statutory provisions or limitation as to indebtedness and shall have no claim to be paid from taxes of the City. A lien on and security interest in Second Lien Bond Revenues is granted to the registered owners of the Second Lien Bonds Outstanding from time to time, and a lien on amounts in the 2017-2 Second Lien Bonds Subaccount is granted to the Registered Owners of the Bonds Outstanding from time to time, subject to amounts in those Accounts being deposited, credited and expended as provided in the Ordinance. Sec "- Flow of Funds - Application of Net Revenues Available for Bonds - Second Lien Bonds Account," "-" and "-" Section 2.08 and Section 2.09 Obligations" below.

#### **Section 2.08 and Section 2.09 Obligations**

The City reserves the right under the Indenture to provide one or more irrevocable letters of credit, lines of credit, standby purchase agreements, financial guaranty insurance policies or surety bonds (including Qualified Reserve Account Credit Instruments) or a combination of the foregoing to secure the payment of the principal of, premium, if any, and interest on one or more series of Second Lien Bonds, including the Bonds, or in the event owners of such series of Second Lien Bonds have the right to require tender or purchase thereof, to secure the payment of the lender or purchase price of such Second Lien Bonds upon the demand of their owners. Any Section 2.08 Obligation constitutes a Second Lien Bond under the Indenture to the same extent as any series of Second Lien Bonds issued pursuant to a Supplemental Indenture, and any and all amounts payable by the City under Section 2.08 Obligations, together with interest on such amounts, shall for purposes of the Indenture be deemed to constitute the payment of principal of, premium, if any, and interest on Second Lien Bonds.

If the City enters into Qualified Second Lien Swap Agreements with swap providers requiring the City to pay a fixed interest rate on a notional amount, or requiring the City to pay a variable interest rate on a notional amount, where the City has made a determination that such Qualified Second Lien Swap Agreement was entered into for the purpose of providing substitute interest payments for Senior Lien Bonds or Second Lien Bonds of a particular maturity or maturities in a principal amount equal to the notional amount of the Qualified Second Lien Swap Agreement and so long as the swap provider is not in default under such Qualified Second Lien Swap Agreement: (i) for purposes of any calculation of Annual

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Senior Lien Debt Service or Annual Second Lien Debt Service, as applicable, the interest rate on the Senior Lien Bonds or Second Lien Bonds of such maturity or maturities, as applicable, shall be determined as if such Senior Lien Bonds or Second Lien Bonds, as applicable, bore interest at the fixed interest rate or the variable interest rate, as the case may be, payable by the City under such Qualified Second Lien Swap Agreement, (ii) any net payments required to be made by the City to the swap provider pursuant to such Qualified Second Lien Swap Agreement from Net Revenues shall be deemed payments on Senior Lien Bonds or Second Lien Bonds, as applicable, and be made on a parity with payments due on other Senior Lien Bonds or Second Lien Bonds, as applicable, and (iii) any net payments received by the City from the swap provider pursuant to such Qualified Second Lien Swap Agreement shall be applied in the Senior Lien Revenue Fund or Second Lien Revenue Fund, as applicable.

If the City shall enter into a swap agreement of the type generally described in the immediately preceding paragraph that does not satisfy the requirements for qualification as a Qualified Second Lien Swap Agreement as a result of its failure to make the determination described therein or otherwise, then: (i) the interest rate adjustment or assumptions referred to in (i) of the immediately preceding paragraph shall not be made, (ii) any net payments required to be made by the City to the swap provider pursuant to such swap agreement from Gross Revenues shall be made only from amounts available after the payment of all Second Lien Bonds, and (iii) any net payments received by the City from the swap provider pursuant to such swap agreement may be treated as Gross Revenues at the option of the City and applied as directed by the City.

Termination payments made with respect to a swap agreement described in the immediately preceding paragraphs shall be subordinate to payments due on Second Lien Bonds.

#### **Second Lien Bonds Rate Covenant**

The City will establish, maintain and collect at all times fees, charges and rates for the use and service of the Water System sufficient at all times to (a) pay Operation and Maintenance Costs, and (b) produce Net Revenues Available for Bonds sufficient to pay the principal (at maturity or pursuant to mandatory sinking fund redemption) of and applicable redemption premium and interest on all Water Revenue Bonds Outstanding from time to time and to establish and maintain the Senior Lien Principal and Interest Account and various subaccounts of the Senior Lien Debt Service Reserve Account as may be covenanted in Senior Lien Bond Ordinances, which Net Revenues Available for Bonds shall in each Fiscal Year at least equal the greater of:

- i) 120 percent of the sum required to pay promptly when due the Aggregate Senior Lien Debt Service Requirement for the Fiscal Year on all Senior Lien Bonds then Outstanding, or
- ii) the sum of
  - A) 100 percent of the Aggregate Senior Lien Debt Service for the Fiscal Year with respect to all Senior Lien Bonds Outstanding, plus
  - B) 110 percent of the Aggregate Second Lien Debt Service for the Fiscal Year with respect to all Second Lien Bonds Outstanding and all Section 2.08 Obligations and Section 2.09 Obligations, plus
  - C) 100 percent of the Subordinate Lien Debt Service Requirement for the Fiscal Year on all Subordinate Lien Obligations Outstanding.

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These fees, charges and rates shall not be reduced, while any Second Lien Bonds are Outstanding, below the level necessary to ensure compliance with the covenants set forth above.

The City will, prior to the end of each Fiscal Year, conduct a review to determine if it has been and will be in compliance with the rate covenant set forth above. Whenever the annual review indicates that projected Gross Revenues will not be sufficient to comply with the rate covenant, the City shall have prepared a rate study for the Water System identifying the rate changes necessary



to comply with the rate covenant and the Budget Office and the Chief Financial Officer shall recommend appropriate action to the City Council to comply with this rate covenant.

### **Flow of Funds**

There has been created and there exists a separate fund of the City designated the Water Fund into which the Gross Revenues of the Water System are and shall be deposited as collected. The Water Fund shall continue as a separate fund of the City. The Water Fund shall constitute a trust fund and has been and is irrevocably pledged to the owners of the Senior Lien Bonds, Second Lien Bonds (but solely with respect to amounts on deposit in the Second Lien Bonds Account), Subordinate Lien Obligations (but solely with respect to amounts on deposit in the Subordinate Lien Obligations Account), Commercial Paper Notes (but solely with respect to amounts on deposit in the Commercial Paper Account) and Water System Line of Credit Notes (but solely with respect to amounts on deposit in the Line of Credit Notes Account), from time to time Outstanding for the sole purpose of carrying out the covenants, terms and conditions of the ordinances authorizing the Senior Lien Bonds, Second Lien Bonds (but solely with respect to amounts on deposit in the Second Lien Bonds Account), Subordinate Lien Obligations (but solely with respect to amounts on deposit in the Subordinate Lien Obligations Account), Commercial Paper Notes (but solely with respect to amounts on deposit in the Commercial Paper Account) and Water System Line of Credit Notes (but solely with respect to amounts on deposit in the Line of Credit Notes Account).

Moneys in the Water Fund are expended only as provided in the Ordinance and in the ordinances authorizing Water Revenue Bonds for (a) paying Operation and Maintenance Costs, (b) paying the principal of, redemption premium, if any, and interest on Senior Lien Bonds (or purchasing Senior Lien Bonds), and (c) establishing and maintaining (for the purposes specified in those ordinances) the Senior Lien Bonds Construction Accounts and the Accounts in the Water Fund described in the Ordinance and all other reserve funds or accounts which are required to be established and maintained in the ordinances authorizing the issuance of Senior Lien Bonds, Second Lien Bonds, Subordinate Lien Obligations, Commercial Paper Notes and Water System Line of Credit Notes; provided that any funds available after these requirements have been satisfied or which are not necessary to satisfy these requirements may be used for any lawful purpose of the Water System.

A lien on and security interest in the Net Revenues Available for Bonds and the various Accounts of the Water Fund established as provided in the Ordinances (other than the Second Lien Bonds Account, the Subordinate Lien Obligations Account, the Commercial Paper Account and the Line of Credit Notes Account) are granted to the Registered Owners of the Senior Lien Bonds Outstanding from time to time, subject to amounts in the various Accounts being deposited, credited and expended as provided in the Ordinances, and with amounts in various Subaccounts of the Senior Lien Debt Service Reserve Account securing only the series or set of series of Senior Lien Bonds to which such Subaccounts relate. Nothing in the Ordinances shall prevent the City from commingling money in the Water Fund (other than the Senior Lien Principal and Interest Account, Senior Lien Debt Service Reserve Account, Senior Lien Rebate Accounts, Second Lien Bonds Account, Subordinate Lien Obligations Account, Commercial Paper Account and Line of Credit Notes Account) with other money, funds and accounts of the City. Any advance by the City to the Water Fund from other funds of the City shall have a claim for reimbursement

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only from amounts in the Water Fund not required for deposit in the various Accounts specified in the previous sentence as provided in the Ordinances.

Application of Net Revenues Available for Bonds. There have been created and there exist and shall be maintained in the Water Fund, the following separate accounts: the Senior Lien Principal and Interest Account, the Senior Lien Debt Service Reserve Account and its various Subaccounts, the Water Rate Stabilization Account and the Senior Lien Rebate Accounts. There have also been created and shall be maintained in the Water Fund, (i) the Second Lien Bonds Account and its various Subaccounts for each series of Second Lien Bonds, (ii) the Subordinate Lien Obligations Account and its various Subaccounts for each series of Subordinate Lien Obligations, (iii) the Commercial Paper Account and its various Subaccounts and (iv) the Line of Credit Notes Account and its various Subaccounts. The Net Revenues Available for Bonds shall be transferred, without any further official action or direction, to the Senior Lien Principal and Interest Account, the Senior Lien Debt Service Reserve Account, the Senior Lien Rebate Accounts, the Second Lien Bonds Account, the Subordinate Lien Obligations Account, the Commercial Paper Account, the Line of Credit Notes Account and the Water Rate Stabilization Account in the order in which those accounts are listed below, for use in accordance with the provisions described below.

Senior Lien Principal and Interest Account. Not later than 10 days prior to each principal or interest payment date for the Senior Lien Bonds, there shall be transferred to the Senior Lien Principal and Interest Account sufficient funds to pay the amount of the principal, redemption premium, if any, and interest becoming due, whether upon maturity, redemption or otherwise, on such

payment date on all Outstanding Senior Lien Bonds.

Funds in the Senior Lien Principal and Interest Account shall be used only for the purpose of paying principal of, redemption premium, if any, and interest on Outstanding Senior Lien Bonds as the same become due.

Senior Lien Debt Service Reserve Account.

1) There may be established by any ordinances authorizing the issuance of any series of Senior Lien Parity Bonds one or more Subaccounts in the Senior Lien Debt Service Reserve Account with respect to one or more series of Senior Lien Parity Bonds.

2) Whenever the balance in the various Subaccounts of the Senior Lien Debt Service Reserve Account is less than the Senior Lien Debt Service Reserve Requirement for the various series of Senior Lien Bonds, except as otherwise provided in the Senior Lien Bond Ordinances, there shall be transferred to the Senior Lien Debt Service Reserve Account within the next 12 months sufficient funds to maintain balances in the various Subaccounts of the Senior Lien Debt Service Reserve Account at least equal to the Senior Lien Debt Service Reserve Requirement for the various series of Senior Lien Bonds.

Funds in any Subaccount of the Senior Lien Debt Service Reserve Account and any Senior Lien Debt Service Reserve Account Credit Instruments in that Subaccount shall be used to pay principal of, redemption premium, if any, and interest on the Senior Lien Bonds of the series to which the Subaccount relates (or when series of Senior Lien Bonds are secured on a parity basis by Subaccounts relating to those various series, then funds in each such Subaccount shall be so used on a parity basis to pay principal of, redemption premium, if any, and interest on the Senior Lien Bonds to which those various Subaccounts relate) as the same become due at any time when there are insufficient funds available for such purpose in the Senior Lien Principal and Interest Account (after any available amounts in the Water Rate Stabilization Account have first been applied to that purpose).

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(3) All or any part of the Senior Lien Debt Service Reserve Requirement for any series of Senior Lien Bonds may be met by deposit with the City of one or more Senior Lien Debt Service Reserve Account Credit Instruments. A Senior Lien Debt Service Reserve Account Credit Instrument shall, for purposes of determining the value of the amounts on deposit in the Senior Lien Debt Service Reserve Account and the Subaccount or Subaccounts to which it relates, be valued at the Senior Lien Debt Service Reserve Account Credit Instrument Coverage for such Senior Lien Debt Service Reserve Account Credit Instrument except as provided in the next sentence. If a Senior Lien Debt Service Reserve Account Credit Instrument is to terminate (or is subject to termination) prior to the last principal payment date on any Outstanding Senior Lien Bond of the series of Senior Lien Bonds to which it relates, then the Senior Lien Debt Service Reserve Account Credit Instrument Coverage of that Senior Lien Debt Service Reserve Account Credit Instrument shall be reduced each year, beginning on the date which is four years prior to the first date on which the Senior Lien Debt Service Reserve Account Credit Instrument is to terminate (or is subject to termination), by 25 percent of the coverage in each of the years remaining prior to such date, provided that if by the terms of the Senior Lien Debt Service Reserve Account Credit Instrument and the terms of the related Senior Lien Bond ordinance, the City has the right and duty to draw upon such Senior Lien Debt Service Reserve Account Credit Instrument prior to its termination for deposit in the related Subaccount of the Senior Lien Debt Service Reserve Account (if and to the extent a substitute Senior Lien Debt Service Reserve Account Credit Instrument is not deposited in that related Subaccount) all or part of its Senior Lien Debt Service Reserve Account Credit Instrument Coverage, then the reduction shall be in an amount equal to the difference between (A) the Senior Lien Debt Service Reserve Requirement for that series of Senior Lien Bonds and (B) the sum of the amounts on deposit in the related Subaccount of the Senior Lien Debt Service Reserve Account and the amount which the City may draw under the Senior Lien Debt Service Reserve Account Credit Instrument prior to its termination for deposit in the related Subaccount of the Senior Lien Debt Service Reserve Account. Any amounts in any Subaccount of the Senior Lien Debt Service Reserve Account which are not required to be transferred to the Senior Lien Principal and Interest Account may, from time to time, be used to pay costs of acquiring a Senior Lien Debt Service Reserve Account Credit Instrument for that Subaccount or to make payments due under a Senior Lien Bond Reimbursement Agreement with respect to such Senior Lien Debt Service Reserve Account Credit Instrument, but only if after such payment, the value of the amounts on deposit in the Subaccount of the Senior Lien Debt Service Reserve Account shall not be less than the Senior Lien Debt Service Reserve Requirement for that series of Senior Lien Bonds. The City pledges and grants a lien on and security interest in the amounts on deposit in the Subaccounts of the Senior Lien Debt Service Reserve Account to any Senior Lien Bond Provider with respect to the particular Subaccount corresponding to such Senior Lien Bond Provider's Senior Lien Debt Service Reserve Account Credit Instrument, provided that the pledge, lien and

security interest shall be junior to any claim for the benefit of the registered owners of Senior Lien Bonds of that series.

After the deposit of a Senior Lien Debt Service Reserve Account Credit Instrument into any Subaccount of the Senior Lien Debt Service Reserve Account and after the City has received notice of the value of the amounts on deposit in the Subaccount of the Senior Lien Debt Service Reserve Account after such deposit, the Chief Financial Officer may then direct the transfer from the Subaccount of the Senior Lien Debt Service Reserve Account to any account of the Water Fund of any amounts in the Subaccount of the Senior Lien Debt Service Reserve Account in excess of the Senior Lien Debt Service Reserve Requirement for that series of Senior Lien Bonds for use in accordance with the Senior Lien Ordinances.

Senior Lien Rebate Accounts. There shall be transferred from the Water Fund from Net Revenues Available for Bonds and deposited to the credit of the various Senior Lien Rebate Accounts the amounts as shall be required to be held available for rebate to the United States of America with respect to each series of Water Revenue Bonds as required by the Senior Lien Bond Ordinances. Each such Senior Lien Rebate Account shall be deposited in a separate bank account in a bank or banks designated by the Chief Financial Officer pursuant to a depository agreement. The amount so to be held available shall be determined from time to time by the City pursuant to the Senior Lien Bond Ordinances.

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Amounts in such Senior Lien Rebate Accounts shall be used at the direction of the City to make rebate payments to the United States of America and to the extent not needed for such purpose shall be transferred to the Water Fund, provided that earnings on the investment of amounts on deposit in the Senior Lien Rebate Accounts shall not be Investment Earnings, shall not be considered Gross Revenues and shall be retained in the respective Senior Lien Rebate Accounts except to the extent no longer required for rebate purposes.

Second Lien Bonds Account. There is established in the Second Lien Bonds Account with respect to the Bonds a separate and segregated 2017-2 Second Lien Bonds Subaccount. There may be established by any ordinances or related indentures authorizing the issuance of any series of Second Lien Parity Bonds one or more other Subaccounts in the Second Lien Bonds Account with respect to such Second Lien Parity Bonds, including a debt service reserve account for such series of Second Lien Parity Bonds, and such ordinance or indenture may also authorize the establishment of a series reserve account requirement for such series of Second Line Parity Bonds and the purchase of a Qualified Reserve Account Credit Instrument for purposes of fulfilling such requirement. There shall be transferred to the Second Lien Bonds Account and to the Subaccounts in the Second Lien Bonds Account such amounts on such dates as are required to be so transferred by the Eleventh Supplemental Indenture and each other Supplemental Indenture without priority of one Subaccount over any other Subaccount. The moneys in the various Subaccounts of the Second Lien Bonds Account shall be transferred by the Chief Financial Officer on the date so deposited in such various Subaccounts to the appropriate paying agents or trustees for the related series of Second Lien Bonds for the purpose of paying such amounts as may be required to be paid by the ordinances and related Supplemental Indentures authorizing such Second Lien Bonds. See "-2017-2 Second Lien Bonds Subaccount." below.

Subordinate Lien Obligations Account. There have been established and there shall exist and be maintained in the Subordinate Lien Obligations Account the following separate and segregated Subaccounts: the Subordinate Lien Principal and Interest Subaccount and the Subordinate Lien Debt Service Reserve Subaccount. There may be established by any ordinances authorizing the issuance of any series of Subordinate Lien Parity Obligations one or more Sub-subaccounts in the Subordinate Lien Principal and Interest Subaccount and Subordinate Lien Debt Service Reserve Subaccount with respect to such Subordinate Lien Parity Obligations. On the Business Day immediately preceding each May 1 and November 1, there shall be transferred to the Subordinate Lien Obligations Account, the amount required by any ordinance authorizing the issuance of Subordinate Lien Obligations to be deposited in the Subordinate Lien Obligations Account on such date without priority, one over the other, to any Subaccounts within the Subordinate Lien Obligations Account, the amount to be so deposited specified in a certificate of the Chief Financial Officer. The moneys in the various Subaccounts of the Subordinate Lien Obligations Account and Sub-subaccounts described in this paragraph shall be used to pay such amounts as may be required to be paid by the Ordinance and any ordinance authorizing Subordinate Lien Parity Obligations.

Commercial Paper Account. There has been established and there shall exist and be maintained in the Water Fund a separate and segregated Commercial Paper Account. There may be established by any ordinances or related indentures authorizing the issuance of any Commercial Paper Notes one or more other Subaccounts in the Commercial Paper Account with respect to such Commercial Paper Notes. There shall be transferred to the Commercial Paper Account and to the Subaccounts in the Commercial Paper Account such amounts on such dates as are required to be so transferred by the indenture pursuant to which the Commercial

Paper Notes are issued. The moneys in the various Subaccounts of the Commercial Paper Account shall be transferred by the Chief Financial Officer on the date so deposited in such various Subaccounts to the appropriate paying agents or trustees for the related Commercial Paper Notes for the purpose of paying such amounts as may be required to be paid by the ordinances and related indentures authorizing such Commercial Paper Notes.

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Line of Credit Notes Account. There has been established in the Ordinance and there shall exist and be maintained in the Water Fund a separate and segregated Line of Credit Notes Account. There may be established by any ordinances or related Water System Line of Credit Agreements authorizing the issuance of any Water System Line of Credit Notes one or more other Subaccounts in the Line of Credit Notes Account with respect to such Water System Line of Credit Notes. There shall be transferred to the Line of Credit Notes Account and to the Subaccounts in the Line of Credit Notes Account such amounts on such dates as are required to be so transferred by the Water System Line of Credit Agreements pursuant to which the Water System Line of Credit Notes are issued. The moneys in the various Subaccounts of the Line of Credit Notes Account shall be transferred by the Chief Financial Officer on the date so deposited in such various Subaccounts to the appropriate owners of or paying agents or trustees for the related Water System Line of Credit Notes for the purpose of paying such amounts as may be required to be paid by the ordinances and related Water System Line of Credit Agreements authorizing such Water System Line of Credit Notes.

Water Rate Stabilization Account. The City has caused amounts to be credited to the Water Rate Stabilization Account. In any year the City may withdraw any amounts from the Water Rate Stabilization Account and use those amounts for (i) paying any expenses or obligations of the Water System, including, without limitation, any Operation and Maintenance Costs, (ii) making deposits in the Senior Lien Principal and Interest Account, (iii) making deposits in the various Subaccounts of the Senior Lien Debt Service Reserve Account, (iv) making deposits when due in the Second Lien Bonds Account (but only if and to the extent no amounts are required to be deposited in the Senior Lien Principal and Interest Account and in the various Subaccounts of the Senior Lien Debt Service Reserve Account as provided in the immediately succeeding sentence), (v) making deposits when due in the Subordinate Lien Obligations Account (but only if and to the extent no amounts are required to be deposited in the Senior Lien Principal and Interest Account, the various Subaccounts of the Senior Lien Debt Service Reserve Account as provided in the immediately succeeding sentence or in the Second Lien Bonds Account), (vi) making deposits when due in the Commercial Paper Account (but only if and to the extent no amounts are required to be deposited in the Senior Lien Principal and Interest Account, the various Subaccounts of the Senior Lien Debt Service Reserve Account, in the Second Lien Bonds Account or the Subordinate Lien Obligations Account), (vii) making deposits when due in the Line of Credit Notes Account (but only if and to the extent no amounts are required to be deposited in the Senior Lien Principal and Interest Account, the various Subaccounts of the Senior Lien Debt Service Reserve Account, in the Second Lien Bond Accounts, in the Subordinate Lien Obligations Account or in the Commercial Paper Account), (viii) any cost of repairs, replacements, renewals, improvements, equipment or extensions to the Water System or (ix) any other cost or expense relating to the Water System or the financing or refinancing of the Water System. The Water Rate Stabilization Account shall be used to make all required deposits in the Senior Lien Principal and Interest Account and the various Subaccounts of the Senior Lien Debt Service Reserve Account when no other funds are available for that purpose. Any Net Revenues remaining in any period not required for transfer to the Senior Lien Principal and Interest Account, the various Subaccounts of the Senior Lien Debt Service Reserve Account, any Senior Lien Rebate Account, the Second Lien Bonds Account, the Subordinate Lien Obligations Account, the Commercial Paper Account or the Line of Credit Notes Account may be transferred to the Water Rate Stabilization Account at any time upon the direction of the Chief Financial Officer.

#### **2017-2 Second Lien Bonds Subaccount**

Moneys on deposit in the 2017-2 Second Lien Bonds Subaccount, and in each Account established in it as described below, shall be held in trust by the Trustee for the sole and exclusive benefit of the Registered Owners of the Bonds. In the Eleventh Supplemental Indenture, the City creates and establishes with the Trustee separate Accounts within the 2017-2 Second Lien Bonds Subaccount as follows:

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- i) the Program Fee Account; and

- ii) the Series 2017-2 Principal and Interest Account.

#### **Application of Bond Proceeds**

The aggregate proceeds received by the City from the sale of the Bonds (exclusive of underwriters' discount), shall be applied as follows:

- i) the Trustee shall deposit into the Costs of Issuance Account an amount of the proceeds received by the City from the sale of the Bonds to be applied to pay Costs of Issuance; and
- ii) the Trustee will deposit with the Escrow Agent an amount of the proceeds received by the City from the sale of the Bonds to be applied pursuant to the Escrow Agreement to refund the Refunded Bonds.

Deposits into 2017-2 Second Lien Bonds Subaccount and Accounts Therein. On each Deposit Date, there shall be deposited into the 2017-2 Second Lien Bonds Subaccount from amounts on deposit in the Second Lien Bonds Account (other than monies, instruments or securities or any other Qualified Account Credit Instrument on deposit in a Debt Service Reserve Account for any other series of Second Lien Bonds issued or to be issued) an amount equal to the aggregate of the following amounts, which amounts shall have been calculated by the Trustee and certified by the Chief Financial Officer and transferred by the City to the Trustee in accordance with the Ordinance on or before the Business Day next preceding each such Deposit Date, respectively (such aggregate amount with respect to any Deposit Date being referred to as the "Series 2017-2 Deposit Requirement"):

- a) for deposit into the 2017-2 Principal and Interest Account, an amount equal to the 2017-2 Principal and Interest Account Requirement; and
- b) for deposit into the Program Fee Account, the amount estimated by the City to be required as of the close of business on the related Deposit Date to pay all Program Fees payable from amounts in the Program Fee Account during the semi-annual period commencing on such related Deposit Date and, in the case of the initial Deposit Date, any Program Fees payable from the Date of Issuance to, but not including, such initial Deposit Date.

In addition to the Series 2017-2 Deposit Requirement, there shall be deposited into the 2017-2 Second Lien Bonds Subaccount any other moneys received by the Trustee under and pursuant to the Master Indenture or the Eleventh Supplemental Indenture, when accompanied by directions from the person depositing such moneys that such moneys are to be paid into the 2017-2 Second Lien Bonds Subaccount or to one or more accounts in that Subaccount.

Upon calculation by the Trustee of each Series 2017-2 Deposit Requirement, the Trustee shall notify the City of the Series 2017-2 Deposit Requirement and the Deposit Date to which it relates, and shall provide the City with such supporting documentation and calculations as the City may reasonably request.

#### ***Use of Moneys in the Series 2017-2 Principal and Interest Account***

Moneys in the Series 2017-2 Principal and Interest Account shall be used solely for the payment of the principal of, premium, if any, and interest on the Bonds, for the redemption of the Bonds prior to their respective Maturity Dates and for the payment of Section 2.08 Obligations and Section 2.09

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Obligations. Funds for payment of principal of, premium, if any, and interest due on each Payment Date with respect to the Bonds (including the optional redemption of the Bonds pursuant to the Eleventh Supplemental Indenture and not otherwise provided for, and with respect to Section 2.08 Obligations and Section 2.09 Obligations), shall be derived from moneys held in the Series 2017-2 Principal and Interest Account, ratably, without preference or priority of any kind, except that termination and other non-scheduled payments with respect to Section 2.09 Obligations shall be paid on a subordinate basis.

Use of Moneys in Program Fee Account. Moneys deposited into the Program Fee Account shall be used solely for the payment of Program Fees payable by the City to third parties with respect to the Bonds as set forth in a certificate of the City filed with the Trustee.

### Deficiencies, Excess

In the event of a deficiency in any Fiscal Year in the Senior Lien Principal and Interest Account, any Subaccount of the Senior Lien Debt Service Reserve Account, any Senior Lien Rebate Account, the Second Lien Bonds Account, the Subordinate Lien Obligations Account, the Commercial Paper Account or the Line of Credit Notes Account, the amount of such deficiency shall be included in the amount to be transferred from the Water Fund and deposited into such Account or Subaccount during the next 12-month period or succeeding Fiscal Year, as required by the Ordinance.

Whenever the balance in any Subaccount of the Senior Lien Debt Service Reserve Account exceeds the amount required to be on deposit in that Account or Subaccount, such excess may be transferred to the Senior Lien Principal and Interest Account, and whenever the balance in any Subaccount of any Senior Lien Rebate Account exceeds the amount required to be on deposit in that Account or Subaccount, such excess may be transferred to the Water Fund, provided in each case that no such transfers shall be made when any debt service payments on outstanding obligations of the City that are payable by their terms from the revenues of the Water System are past due. Any funds which remain in the Water Fund at the end of any Fiscal Year shall be retained in the Water Fund and shall be available for appropriation for any proper purpose of the Water System.

### Additional Second Lien Bonds

As long as there are any Outstanding Second Lien Bonds, the City may issue Second Lien Parity Bonds for any lawful purpose of the Water System, including to refund Outstanding Senior Lien Bonds, Second Lien Bonds, Subordinate Lien Obligations or obligations payable from revenues of the Water System on a basis subordinate to the Second Lien Bonds and Subordinate Lien Obligations, upon compliance with the following conditions:

i) the funds required to be transferred to the Second Lien Revenue Fund and its sub-funds, accounts and subaccounts shall have been transferred in full up to the date of delivery of such Second Lien Parity Bonds; and

ii) (1) Net Revenues Available for Bonds for the last completed Fiscal Year prior to the issuance of the Second Lien Parity Bonds (as shown by the audit of an independent certified public accountant), or Net Revenues Available for Bonds for such last completed Fiscal Year, adjusted as described below, shall equal at least 100 percent of the sum of the Aggregate Senior Lien Debt Service, the Aggregate Second Lien Bonds Requirement and the Aggregate Subordinate Lien Debt Service in each Fiscal Year following the issuance of the proposed Second Lien Parity Bonds, computed on a pro forma basis assuming (w) the issuance of the proposed Second Lien Parity Bonds and the application of the proceeds of any Second Lien Parity Bonds as provided in the ordinance or trust indenture authorizing their issuance, sale and delivery and (x) any projected withdrawal from or deposits into the Water Rate Stabilization Account of such

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amounts as shall be estimated by the Chief Financial Officer in the current or any future Fiscal Year. Net Revenues Available for Bonds may be adjusted as follows for purposes of this paragraph (ii):

A) if prior to the issuance of such Second Lien Parity Bonds, the City shall have enacted an increase in the rates of the Water System from the rates in effect for such last completed Fiscal Year, Net Revenues Available for Bonds may be adjusted to reflect the Net Revenues Available for Bonds for such last completed Fiscal Year as they would have been had the increased rates been in effect during all of that last completed Fiscal Year; and

B) if prior to the issuance of such Second Lien Parity Bonds, the City shall have enacted an increase in the rates of the Water System scheduled to take effect in a future Fiscal Year, such rate increase may be reflected in Net Revenues Available for Bonds for purposes of calculating debt service coverage for such last completed Fiscal Year;

Any such adjustment shall be evidenced by a certificate of the Chief Financial Officer.

(2) The conditions of paragraph (ii)(1), above, shall be deemed to have been satisfied if (A) Net Revenues Available for Bonds for the current or next succeeding Fiscal Year (as estimated by the Chief Financial Officer), adjusted as described in paragraph (ii)(1), shall equal at least 100 percent of the sum of the Aggregate Senior Lien Debt Service, the

Aggregate Second Lien Bonds Requirement and the Aggregate Subordinate Lien Debt Service in each Fiscal Year following the issuance of the proposed Second Lien Parity Bonds, computed on a pro forma basis assuming (y) the issuance of the proposed Second Lien Parity Bonds and the application of the proceeds of any Second Lien Parity Bonds as provided in the ordinance or Supplemental Indenture authorizing their issuance, sale and delivery and (z) any projected withdrawal from or deposits into the Water Rate Stabilization Account of such amounts as shall be estimated by the Chief Financial Officer in the current or any future Fiscal Year. In estimating Net Revenues Available for Bonds for the next succeeding Fiscal Year, the City shall engage the services of and be guided by a consultant of national reputation for advising municipalities with respect to setting rates and charges for water systems.

The City may issue Second Lien Parity Bonds without complying with the requirements stated above:

(i) to pay, redeem or refund Outstanding Water Revenue Bonds if in the judgment of the City there will be insufficient money available to make payments of interest on or principal of those Outstanding Water Revenue Bonds (at maturity or on Sinking Fund Payments dates) as such amounts become due; or

(ii) to pay, redeem or refund any Outstanding Water Revenue Bonds if (A) the sum of the Aggregate Senior Lien Debt Service, the Aggregate Second Lien Debt Service and the Aggregate Subordinate Lien Debt Service in each Fiscal Year in which there was to be any Aggregate Senior Lien Debt Service, Aggregate Second Lien Debt Service or Aggregate Subordinate Lien Debt Service on Outstanding Water Revenue Bonds after the issuance of the Second Lien Parity Bonds and the payment, redemption or refunding of such Outstanding Water Revenue Bonds will not be in excess of (B) the sum of the Aggregate Senior Lien Debt Service, Aggregate Second Lien Debt Service and Aggregate Subordinate Lien Debt Service prior to the issuance of the Second Lien Parity Bonds in each such Fiscal Year.

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For purposes of the above requirements, Net Revenues shall be substituted for Net Revenues Available for Bonds in each place the term Net Revenues Available for Bonds appears if in any Fiscal Year actual or estimated Net Revenues exceed Net Revenues Available for Bonds for that Fiscal Year.

Other obligations, including bonds, may be issued payable from Net Revenues Available for Bonds on a basis subordinate to the Second Lien Bonds.

#### **Covenant Against Pledge of Second Lien Bond Revenues**

The City has covenanted that it will not, other than in connection with the issuance of Second Lien Parity Bonds, issue any bonds, notes or other evidences of indebtedness secured by a pledge of Second Lien Bond Revenues or create or cause to be created any lien or charge on Net Revenues Available for Bonds, or on any other amounts pledged for the benefit of owners of the Second Lien Bonds under the Indenture; except that the City has the right to issue (i) Senior Lien Bonds, (ii) Subordinate Lien Obligations, (iii) bonds, notes or other evidences of indebtedness payable from or secured by a pledge of Net Revenues Available for Bonds to be derived on and after the discharge and satisfaction of the pledge related to all Second Lien Bonds and (iv) bonds, notes or other evidences of indebtedness payable from or secured by a pledge of amounts which may be withdrawn from the Second Lien Bonds Account held under the Ordinance so long as such pledge is expressly subordinate to the pledge securing the Second Lien Bonds.

#### **Other Covenants**

In addition to the covenants referred to above, the City covenants under the Indenture as follows:

a) The City will duly and punctually pay or cause to be paid the principal of, premium, if any, and interest on, all Second Lien Bonds, including, without limitation, Section 2.0X Obligations, in strict conformity with the terms of such Second Lien Bonds and of the Master Indenture, the Supplemental Indentures creating the Second Lien Bonds of each series and the instruments creating Section 2.08 Obligations or Section 2.09 Obligations, and that it will faithfully observe and perform all the conditions, covenants and requirements of the Indenture, each such Supplemental Indenture and instrument and of the Second Lien Bonds issued or incurred under such Supplemental Indenture.

b) The City will maintain the Water System in good repair and working order, will continuously operate it on a Fiscal Year basis, and will punctually perform all duties with respect to the Water System required by the Constitution and laws of the State.

c) So long as any Second Lien Bonds are Outstanding, the City will continue to operate the Water System as a revenue-producing system so as to produce Gross Revenues sufficient to satisfy the covenants of the Indenture.

d) The City from time to time will make all necessary and proper repairs, replacements, additions and betterments to the Water System so that the Water System may at all times be operated efficiently, economically and properly. When any necessary equipment or facility shall have been worn out, destroyed or otherwise is insufficient for proper use, it shall be promptly replaced so that the value and efficiency of the Water System shall be at all times fully maintained.

e) The City will establish such rules and regulations for the control and operation of the Water System as are necessary for the safe, lawful, efficient and economical operation of the Water System.

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f) The City will faithfully perform at all times to the extent applicable to the City any and all covenants, undertakings, stipulations and provisions contained in the Indenture, in any and every Second Lien Bond executed, authenticated and delivered under the Indenture, and in all proceedings pertaining to the Indenture.

g) (i) The City will not direct or permit any action which (or fail to take any action the failure of which) would cause any Second Lien Bond to be an "arbitrage bond" within the meaning of the Code.

ii) The covenants and agreements of the City described in this paragraph (g) shall apply as long as any of the Second Lien Bonds continue to bear interest (whether or not they are Outstanding Water Revenue Bonds) and shall also apply after the Second Lien Bonds cease to bear interest but only within such subsequent period as shall be required for the City to comply with the covenants described in this paragraph (g).

iii) The City (A) will take all actions that are necessary to be taken (and avoid taking any action that it is necessary to avoid being taken) so that interest on tax-exempt Second Lien Bonds will not be or become subject to federal income taxation under present law, and (B) will take all actions reasonably within its power to take that are necessary to be taken (and avoid taking any actions that are reasonably within its power to avoid taking and that it is necessary to avoid) so that interest on tax-exempt Second Lien Bonds will not be or become includible in gross income for federal income tax purposes under the federal income tax laws as in effect from time to time.

iv) The City will, without limitation, (A) to the extent required by the Code, restrict the yield on investments of amounts received upon the sale of the Second Lien Bonds and other amounts, and (B) timely rebate to the United States of America certain amounts that may be received as interest or other investment earnings on accounts of the Water Fund, all as shall be necessary to comply with this paragraph (g). The City shall also make or cause to be made identifiable investments of amounts allocable to the Second Lien Bonds as shall be necessary or appropriate to be able to ascertain the amounts that may be required so to be rebated to the United States of America. The City shall from time to time determine the amounts in accounts of the Water Fund that shall be subject so to be rebated and those amounts from time to time shall be held by the City in the second lien rebate account established under the Indenture and shall be rebated to the United States of America in the amounts and at the times as required. Such amounts so subject from time to time so to be rebated shall not be available for the other purposes for which the Water Fund and its accounts and accounts and sub-accounts established by the Indenture may be applied, and, for purposes of computing the balance in the Water Fund and such various accounts shall be disregarded.

v) The City will not take any of the following actions without in each such event obtaining the Opinion of Bond Counsel (which may represent the City from time to time in other matters) that such action will not contravene any covenant of the Indenture and will not make compliance with those covenants impossible: (A) defease any Second Lien Bonds; (B) sell, lease or otherwise dispose of any material portion of the Water System; (C) enter into or amend any short-term or long-term contract for water service by the City other than pursuant to general rates charged to the general public; or (D) enter into or amend any contract or arrangement for persons other than its employees to manage the Water System.



vi) The provisions described in this paragraph (g) are not to be interpreted to impose upon the City any obligation to redeem or to purchase any Second Lien Bonds other than with proceeds or other amounts available under the Indenture.

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#### Defaults and Remedies

Each of the following events constitutes an event of default under the Indenture:

a) payment of the principal or Redemption Price, if any, of any Second Lien Bond shall not be made when and as the same shall become due, whether at maturity or upon call for redemption or otherwise; or

b) payment of any installment of interest on any Second Lien Bond shall not be made when the same shall become due; or

c) the City shall fail or refuse to comply with the provisions of the Indenture, or shall default in the performance or observance of any of the covenants, agreements or conditions on its part contained therein or in the Second Lien Bonds, which materially affects the rights of the owners of the Second Lien Bonds, and such failure, refusal or default shall continue for a period of 45 days after written notice thereof by the Trustee or the owners of not less than 25 percent in principal amount of the Outstanding Second Lien Bonds; provided, however, that in the case of any such default which can be cured by due diligence but which cannot be cured within the 45-day period, the time to cure shall be extended for such period as may be necessary to remedy the default with all due diligence; or

d) an event of default shall occur and be continuing under the provisions of any Supplemental Indenture.

Upon the happening and continuance of any event of default specified in paragraph (a) or (b) above, the Trustee shall proceed, or upon the happening and continuance of any event of default specified in paragraph (c) or (d) above (and as specified in any Supplemental Indenture with respect to additional events of default described under such Supplemental Indenture), the Trustee may unless otherwise directed pursuant to the Indenture, proceed, and upon the written direction of the owners of not less than a majority in principal amount of the Outstanding Second Lien Bonds given in accordance with the Indenture, shall proceed in its own name to protect and enforce its rights and the rights of the owners of the Second Lien Bonds by such of the following remedies or any additional remedies specified in one or more Supplemental Indentures with respect to a particular series as the Trustee, being advised by counsel, shall deem most effectual to protect and enforce such rights:

a) by mandamus or other suit, action or proceeding at law or in equity, to enforce all rights of the owners of the Second Lien Bonds, including the right to require the City to receive and collect Gross Revenues adequate to carry out the covenants and agreements as to such Gross Revenues and their pledge under the Indenture and to require the City to carry out any other covenant or agreement with the owners of the Second Lien Bonds and to perform its duties under the Indenture;

b) by bringing suit upon the Second Lien Bonds;

c) by action or suit in equity, require the City to account as if it were the trustee of an express trust for the owners of the Second Lien Bonds; or

d) by action or suit in equity, enjoin any acts or things which may be unlawful or in violation of the rights of the owners of the Second Lien Bonds.

In the enforcement of any rights and remedies under the Indenture, the Trustee shall be entitled to sue for, enforce payment on and receive any and all amounts then or during any default becoming, and at any time remaining, due from the City but only out of moneys pledged as security for the Second Lien Bonds for principal, Redemption Price, interest or otherwise, under any provision of the Indenture or any

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Supplemental Indenture or of the Second Lien Bonds, and unpaid, with interest on overdue payments at the rate or rates of interest specified in such Second Lien Bonds, together with any and all costs and expenses of collection and of all proceedings under the Indenture of the owners of the Second Lien Bonds, and to recover and enforce a judgment or decree against the City for any portion of such amounts remaining unpaid, with interest, costs and expenses, and to collect from any moneys available under the Indenture for such purpose, in any manner provided by law the moneys adjudged to be payable.

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Under no circumstance may the Trustee declare the principal of or interest on the Bonds to be due and payable prior to the Maturity Date following the occurrence of an Event of Default under the Master Indenture or the Eleventh Supplemental Indenture.

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In the event that upon the happening and continuance of any event of default, the moneys held by the Trustee shall be insufficient for the payment of principal or Redemption Price, if any, and interest then due on the Second Lien Bonds, such moneys (other than moneys held for the payment or redemption of particular Second Lien Bonds which have theretofore become due at maturity or by call for redemption) and any other moneys received or collected by the Trustee acting under the Master Indenture, after ; making provision for the payment of any expenses necessary in the opinion of the Trustee to protect the interests of the owners of the Second Lien Bonds and for the payment of the charges and expenses and liabilities incurred and advances made by the Trustee in the performance of its duties under the Master Indenture, shall, except as otherwise provided with respect to moneys held for the exclusive benefit of Second Lien Bonds of a particular series or particular Section 2.08 Obligations or Section 2.09 Obligations under the provisions of a Supplemental Indenture be applied as follows:

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FIRST: to the payment to the persons entitled to the following payment, of all installments of interest then due in the order of the maturity of such installments, and, if the amount available shall not be sufficient to pay in full any installment, then to the payment of such installment ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference; and

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Second: to the payment to the persons entitled to the following payment, of the unpaid principal or Redemption Price of any Second Lien Bonds which shall have become due, whether at maturity or by call for redemption, in the order of their due dates with interest on such Second Lien Bonds from the respective dates upon which such principal or Redemption Price became due at the rate borne by the Second Lien Bonds and, if the amounts available shall not be sufficient to pay in full all the Second Lien Bonds due on any date, then to the payment of the Second Lien Bonds ratably, according to the amounts of principal or Redemption Price, if any, due on such date, to the persons entitled thereto, without any discrimination or preference.

Whenever moneys are to be applied by the Trustee pursuant to the provisions described above, such moneys shall be applied by the Trustee at such times, and from time to time, as the Trustee in its sole discretion shall determine, having due regard to the amount of such moneys available for application and the likelihood of additional moneys becoming available for such application in the future. The deposit of such moneys with the Trustee, or otherwise setting aside such moneys in trust for the proper purpose, shall constitute proper application by the Trustee and the Trustee shall incur no liability whatsoever to the City, to the owner of any Second Lien Bond or to any other person for any delay in applying any such moneys, so long as the Trustee acts with reasonable diligence, having due regard for the circumstances, and ultimately applies the same in accordance with such provisions of the Master Indenture as may be applicable at the time of application by the Trustee. Whenever the Trustee shall exercise such discretion in applying such moneys, it shall fix the date (which shall be a Payment Date unless the Trustee shall deem another date more suitable) upon which such application is to be made and upon such date interest on the amounts of principal to be paid on such date shall cease to accrue. The Trustee shall give such notice as it may deem appropriate of the fixing of any such date. The Trustee shall not be required to

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make payment to the owner of any unpaid Second Lien Bond unless such Second Lien Bond shall be presented to the Trustee for appropriate endorsement or for cancellation if fully paid.

In case any proceedings taken by the Trustee on account of any event of default shall have been discontinued or abandoned for any reason, then in every such case the City, the Trustee and the owners of the Second Lien Bonds shall be restored to their former positions and rights under the Master Indenture, respectively, and all rights, remedies, powers and duties of the Trustee shall continue as though no such proceeding had been taken.

Except as otherwise described herein, the owners of the majority in principal amount of the Second Lien Bonds then Outstanding shall have the right, by an instrument or concurrent instruments in writing executed and delivered to the Trustee, to direct the method of conducting all remedial proceedings to be taken by the Trustee under the Master Indenture, except that such direction shall not be otherwise than in accordance with law or the provisions of the Master Indenture, and the Trustee shall have the right to decline to follow any such direction which in the opinion of the Trustee would be unjustly prejudicial to owners of the Second Lien Bonds not parties to such direction.

No owner of any Second Lien Bond shall have any right to institute any suit, action, mandamus or other proceeding in equity or at law under the Master Indenture, or for the protection or enforcement of any right or remedy under the Master Indenture or any right under law unless such owner shall have given to the Trustee written notice of the event of default or breach of duty on account of which such suit, action or proceeding is to be taken, and unless the owners of not less than 25 percent in principal amount of the Second Lien Bonds then Outstanding shall have made written request of the Trustee after the right to exercise such powers or right of action, as the case may be, shall have occurred, and shall have afforded the Trustee a reasonable opportunity either to proceed to exercise the powers granted in the Master Indenture or granted under law to institute such action, suit or proceeding in its name and unless, also, there shall have been offered to the Trustee reasonable security and indemnity against the costs, expenses and liabilities to be incurred therein or thereby, and the Trustee shall have refused or neglected to comply with such request within a reasonable time; and such notification, request and offer of indemnity are declared in every such case (except with respect to the enforcement of credit enhancement devices securing Second Lien Bonds), at the option of the Trustee, to be conditions precedent to the execution of the powers under the Master Indenture or for any other remedy under the Master Indenture or under law.

#### **Supplemental Indentures without Consent of Owners**

A Supplemental Indenture may be authorized at any time by an ordinance of the City Council and shall be fully effective upon the execution thereof by the City and the Trustee and the filing with the Trustee of a copy of such ordinance certified by the City Clerk, for the following purposes:

a) to close the Master Indenture against, or provide limitations and restrictions in addition to the limitations and restrictions contained in the Master Indenture on, the issuance of Second Lien Bonds or other evidences of indebtedness;

b) to add to the covenants and agreements of the City in the Master Indenture other covenants and agreements to be observed by the City which are not contrary to or inconsistent with the Master Indenture as theretofore in effect;

c) to add to the limitations and restrictions in the Master Indenture other limitations and restrictions to be observed by the City which are not contrary to or inconsistent with the Master Indenture as theretofore in effect;

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(d) to surrender any right, power or privilege reserved to or conferred upon the City by the terms of the Master Indenture, but only if the surrender of such right, power or privilege is not contrary to or inconsistent with the covenants and agreements of the City contained in the Master Indenture;

(c) to create a series of Second Lien Bonds and, in connection with such creation, to specify and determine the matters and

things referred to in the Master Indenture and also any other matters and things relative to such Second Lien Bonds which are not contrary to or inconsistent with the Master Indenture as theretofore in effect, or to amend, modify or rescind any such authorization, specification or determination at any time prior to the first issuance of such Second Lien Bonds;

f) to confirm, as further assurance, the pledge under the Master Indenture, and the subjection of, additional properties, Second Lien Bond Revenues or other collateral to any lien, claim or pledge created or to be created by, the Master Indenture; and

g) to modify any of the provisions of the Master Indenture in any respect whatever, provided that such modification shall be, and be expressed to be, effective only after all Second Lien Bonds Outstanding at the date of the execution and delivery of such Supplemental Indenture shall cease to be Outstanding.

A Supplemental Indenture may be authorized at any time by an ordinance adopted by the City Council which, upon (i) filing with the Trustee of a copy of such ordinance certified by the City Clerk, (ii) the filing with the Trustee and the City of an instrument in writing made by the Trustee consenting thereto, and (iii) execution and delivery of such Supplemental Indenture, shall be fully effective to: (1) to cure any ambiguity, supply any omission, or cure or correct any defect or inconsistent provision in the Master Indenture; (2) to insert such provisions clarifying matters or questions arising under the Master Indenture as are necessary or desirable and are not contrary to or inconsistent with the Master Indenture; or (3) to provide additional duties of the Trustee under the Master Indenture as in effect.

Additionally, the Eleventh Supplemental Indenture may, without the consent of, or notice to, any of the Bondholders, be supplemented and amended, in such manner as shall not be inconsistent with the terms and provisions of the Eleventh Supplemental Indenture, the Master Indenture or the Ordinance, for any one or more of the following purposes:

a) to provide for certificated Bonds; and

b) to secure or maintain ratings from any Rating Agency in the highest long-term debt rating category of such Rating Agency which are available for the Bonds, which changes will not restrict, limit or reduce the obligation of the City to pay the principal of, premium, if any, and interest on such Bonds as provided in the Indenture or otherwise adversely affect the Registered Owners of such Bonds under the Indenture.

#### **Supplemental Indenture with Consent of Owners**

Any modification or amendment of the Indenture or of any Supplemental Indenture or of the rights and obligations of the City and of the owners of the Second Lien Bonds, other than as described in the immediately preceding caption, may be made by a supplemental indenture authorized at any time by an ordinance of the City Council, with the written consent given as provided in the Indenture:

(a) of the registered owners of a majority in principal amount of the Second Lien Bonds Outstanding at the time such consent is given;

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b) in case less than all of the several series of then Outstanding Second Lien Bonds are affected by the modification or amendment, of the owners of a majority in principal amount of the then Outstanding Second Lien Bonds of each series so affected;

c) in case any Section 2.08 Obligations are affected by the modification or amendment, of the party to whom Section 2.08 Obligations so affected are payable; and

d) in case any swap provider is affected by the modification or amendment, of the swap provider so affected.

No such modification or amendment shall permit a change in the terms of redemption or maturity of the principal of any Outstanding Second Lien Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or a reduction in the rate of interest thereon, or in terms of purchase or the purchase price thereof, without the consent of the owner of such Second Lien Bond, or shall reduce the percentages or otherwise affect the classes of Second Lien Bonds the

consent of the owners of which is required to effect any such modification or amendment, or shall change or modify any of the rights or obligations of the Trustee or any Paying Agent with respect to the Second Lien Bonds without its written assent thereto.

#### Defeasance

If the City shall pay or cause to be paid to the owners of all Second Lien Bonds, the principal and interest and Redemption Price, if any, to become due thereon, at the times and in the manner stipulated therein, in the Master Indenture, the Supplemental Indentures creating such Second Lien Bonds and in the instruments creating Section 2.08 Obligations and Section 2.09 Obligations, then the pledge of Second Lien Bond Revenues provided by the Master Indenture and all other rights granted thereby shall be discharged and satisfied.

Any Second Lien Bonds or interest installments appertaining to such Second Lien Bonds, whether at or prior to the maturity or the prior redemption date thereof shall be deemed to have been paid within the meaning of the preceding paragraph if:

a) in case any of said Second Lien Bonds are to be redeemed on any date prior to their maturity, the City shall have taken all action necessary to call such Second Lien Bonds for redemption and notice of such redemption shall have been duly given or provision satisfactory to the Trustee shall have been made for the giving of such notice;

b) there shall have been deposited with the Trustee for such purpose either moneys which are sufficient or Governmental Obligations (consisting of obligations described in clause (a) of the definition of Permitted Investments) maturing and bearing interest at times and in amounts sufficient (without reinvestment of such Governmental Obligations), together with the moneys on deposit with the Trustee for such purpose, to pay when due the principal or Redemption Price, if any, and interest due and to become due on said Second Lien Bonds on and prior to the redemption date or maturity date of such Second Lien Bonds, as the case may be; and

c) in the event said Second Lien Bonds are not by their terms subject to redemption within the next succeeding 45 days, the City shall have given the Trustee, in form satisfactory to it, irrevocable instructions to mail, as soon as practicable, a notice to the owners of such Second Lien Bonds that the deposit required by clause (b) above has been made with the Trustee and that said Second Lien Bonds are deemed to have been paid as described under this caption "- Defeasance" and stating such maturity or redemption date upon which moneys are to be available for the payment of the principal or Redemption Price, if any, of, and accrued interest on, said Second Lien Bonds.

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No defeasance of a Second Lien Bond that is to be paid more than 90 days after the date of the deposit referred to in clause (b) above shall be effective until the Trustee shall have received a verification report signed by an independent certified public accountant that the Governmental Obligations (described in clause (a) of the definition of Permitted Investments) and moneys to be deposited for such purpose are sufficient to pay the principal and Redemption Price of, and interest on, all Second Lien Bonds with respect to which provision for payment is to be made pursuant to the process described under this caption "- Defeasance" by virtue of the deposit of such Governmental Obligations and moneys.

The City has reserved the right to substitute in place of Governmental Obligations and moneys, other Governmental Obligations and moneys sufficient to pay when due the principal and interest or Redemption Price, if any, to become due on all Second Lien Bonds secured by such obligations; provided that prior to such substitution the City files with the Trustee: (i) a verification report signed by an independent certified public accountant stating that the substitute Governmental Obligations and moneys, as substituted, are sufficient to pay the principal and Redemption Price of, and interest on, all Second Lien Bonds for which provision of payment was made by the deposit of the initial Governmental Obligations and moneys, and (ii) an opinion of nationally recognized bond counsel to the effect that such substitution has been duly authorized in accordance with the Indenture and will not adversely affect the tax-exempt status of any Second Lien Bonds previously authenticated and delivered under the Indenture.

#### **Payment Provisions in the Event of Discontinuation of the Book-Entry System**

In the event the Book-Entry System described in this Official Statement under the caption "DESCRIPTION OF THE BONDS - Book-Entry System" is discontinued and certificates representing replacement Bonds are delivered to the Registered Owners, payment of principal of and interest on the Bonds will be made to the Registered Owners by check mailed to each Registered Owner at the address of such Registered Owner as it appears on the Bond Register or, at the option of any Registered Owner of not less than

\$1,000,000 principal amount of Bonds, by wire transfer to any address in the United States of America on such Interest Payment Date to such Registered Owner as of such Record Date, if such Registered Owner provides the Trustee with written notice of such wire transfer address not later than the Record Date (which notice may provide that it will remain in effect with respect to subsequent Interest Payment Dates unless and until changed or revoked by subsequent notice). Principal and premium, if any, on the replacement Bonds are payable only upon presentation and surrender of such replacement Bond or Bonds at the principal corporate trust office of the Trustee.

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## APPENDIX C

### CITY OF CHICAGO, ILLINOIS WATER FUND BASIC FINANCIAL STATEMENTS AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015, REQUIRED SUPPLEMENTARY INFORMATION, ADDITIONAL INFORMATION, AND INDEPENDENT AUDITORS' REPORT

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# City of Chicago, Illinois Water Fund

Basic Financial Statements as of and for the Years Ended December 31, 2016 and 2015, Required Supplementary Information, Additional Supplementary Information, Statistical Data, and Independent Auditors' Report

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## 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, 2016 and 2015, 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.

### Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the basic 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, 2016 and 2015, 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, 2016 and 2015, 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, Schedule of Changes in the Net Pension Liability and Related Ratios, Schedule of Contributions, and 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 and other auditors 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 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 and other auditors. In our opinion, the procedures performed as described above, and the reports of the other auditors, the additional supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

June 30, 2017

The statistical section has 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 it.

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CITY OF CHICAGO, ILLINOIS WATER FUND

MANAGEMENT'S DISCUSSION AND ANALYSIS

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, 2016 and 2015. 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

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 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.

2015

- Gross operating revenues for 2015 increased by \$77.8 million compared to 2014 operating revenues. This increase is primarily due to a water rate increase of 15% offset by a decrease in consumption and the

conversion in 2015 of 23,820 accounts from non-metered to metered.

- Operating expenses before depreciation and amortization for 2015 increased by \$439.1 million compared to 2014 mainly due to increases in pension costs resulting from the implementation of GASB 68, indirect costs, workmen's compensation costs, and salaries offset by decreases in overtime pay, utility costs and tort/non-tort judgment settlement payments.
- The Water Fund's net position at December 31, 2015, was \$951.5 million. This is a decrease of \$731.7 million over net position at December 31, 2014.
- Utility plant additions in 2015 were \$414.2 million due to the continuing capital improvement program.

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## 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.

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**FINANCIAL ANALYSIS**

At December 31, 2016, the Water Fund's financial position continued to be strong with total assets and deferred outflows of \$5,556.3 million, total liabilities and deferred inflows of \$4,660.6 million, and net position of \$895.7 million. A comparative condensed summary of the Water Fund's net position at December 31, 2016, 2015, and 2014, is as follows:

|                                          |  | Net Position        |                     |                     |
|------------------------------------------|--|---------------------|---------------------|---------------------|
| (In thousands)                           |  | 2016                | 2015                | 2014                |
| Current assets                           |  | \$ 907,109          | \$ 806,467          | \$ 542,748          |
| Restricted and other assets - Noncurrent |  | 44,323              | 145,667             | 390,988             |
| Utility plant-net                        |  | <u>4,131,632</u>    | <u>3,822,825</u>    | <u>3,482,199</u>    |
| Total assets                             |  | <u>5,083,064</u>    | <u>4,774,959</u>    | <u>4,415,935</u>    |
| Deferred outflows                        |  | <u>473,223</u>      | <u>751,081</u>      | <u>129,229</u>      |
| Total assets and deferred outflows       |  | <u>\$ 5,556,287</u> | <u>\$ 5,526,040</u> | <u>\$ 4,545,164</u> |
| Current liabilities                      |  | \$ 390,995          | \$ 383,371          | \$ 305,342          |
| Long-term liabilities                    |  | <u>4,194,609</u>    | <u>4,180,106</u>    | <u>2,556,616</u>    |
| Total liabilities                        |  | <u>4,585,604</u>    | <u>4,563,477</u>    | <u>2,861,958</u>    |
| Deferred inflows                         |  | 74,957              | 11,050              |                     |
| Total liabilities and deferred inflows   |  | \$ 4,660,561        | \$ 4,574,527        | \$ 2,861,958        |
| Net position:                            |  |                     |                     |                     |
| Net investment in capital assets         |  | \$ 1,621,976        | \$ 1,514,009        | \$ 1,393,968        |
| Restricted for capital projects          |  | 411                 | 677                 | 599                 |
| Unrestricted                             |  | <u>(726,661)</u>    | <u>(563,173)</u>    | <u>288,639</u>      |
| Total net position                       |  | <u>\$ 895,726</u>   | <u>\$ 951,513</u>   | <u>\$ 1,683,206</u> |

**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.

Current assets of \$806.5 million at December 31, 2015, increased by \$263.7 million (48.6%) over 2014 as a result of increases in cash and cash equivalents of \$286.3, investments of \$21.7 million offset by a decrease in due from other City funds of \$57.6 million. Restricted and other assets decreased by \$245.3 million (62.7%) due to the issuance of long-term debt in 2014. In addition, utility plant-net, increased by \$340.6 million (9.8%) due to increased projects performed through the year ended December 31, 2015. The increase in deferred outflows of \$621.9 million (481.2%) during 2015 is mainly due to the implementation of GASB 68.

The increase in current liabilities of \$78.0 million (25.6%) during 2015 is directly related to the timing of payments of the accounts payable and increases in accrued liabilities and in current portion of long-term debt. Noncurrent liabilities increased by \$1,623.5 million (63.5%) mainly due to net pension liability of \$1,646.4 resulting from the implementation of GASB 68 offset by a decrease in long term debt payable of \$16.7 million.

Net position may serve as a useful indicator, over a period of time, of the Water Fund's basic financial position. At December 31, 2015, net position was \$951.5 million, a decrease of \$731.7 million (43.5%) over 2014.

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, 2016, 2015, and 2014, is as follows:

(In thousands)

Revenues: Operating revenues: Water sales-net Other operating revenues

2016  
2015

### Revenues, Expenses, and Changes in Net Position

|         |        |
|---------|--------|
| 750,163 | 19,245 |
| 670,559 | 22,075 |

2014

\$735,881 25,530

Total operating revenues Nonoperating revenues Total revenues

761,411 1,234 762,645

769,408 3,327 772,735

692,634 (972) 691,662

Expenses: Operating expenses Depreciation and amortization Interest expense Swap Termination Fee Transfers out

538,380 67,984 107,897 101,751 2,420

737,810 56,444 106,092

625

298,722 57,949 98,762

Total expenses

Change in net position

Net position-beginning of year (as restated 2015 and 2014)

\$895,726    \$ 951,513

## 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.

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## 2015

Water sales and other operating revenues comprise the Water Fund's \$769.4 million operating revenues. The increase in 2015 operating revenues of \$76.8 million (11.1%) from 2014 was primarily due to a 15% water rate increase offset by the conversion of 23,820 non-metered accounts to metered.

In 2015, net nonoperating revenue of \$3.3 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, 2016, 2015, and 2014, is as follows:

### 2015

#### Operating Expenses

### 2016

Source of supply Power and pumping Purification

Transmission and distribution Customer accounting and collection Administrative and general Central services and General Fund

reimbursements Pension Expense

; 107 39,624 57,514 39,155 15,318 20,279

126,421 239,962

i 198 41,343 57,112 37,266 14,734 22,072

129,060 436,025

283 43,087 58,504 43,681 11,888 22,045

119,234

Operating expenses before depreciation and amortization

Depreciation and amortization

538,380 67,984

737,810 56,444

298,722 57,949

### Total operating expenses 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.

### 2015

Operating expenses before depreciation and amortization for the year ended 2015 increased by \$439.1 million (147.0%) from the year ended 2014 primarily due to an increase in pension expense of \$436.0 million resulting from the implementation of GASB 68. This was offset by a decrease in transmission and distribution of about \$6.4 million (14.7%) resulting from decreases in overtime pay and tort/non tort judgment settlement payments.

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A comparative summary of the Water Fund's cash flows for the years ended December 31, 2016, 2015, and 2014, is as follows:

### 2015

### 2016

### Cash Flows

(In thousands of dollars)

|            |           |           |
|------------|-----------|-----------|
| \$ 437,776 | (440,790) | (103,382) |
| \$ 524,932 | (465,219) | 226,625   |

Cash from activities: Operating  
Capital and related financing Investing

### 2014

\$ 325,346 (27,902) (297,828)

Net change in cash and cash equivalents

Cash and cash equivalents: Beginning of year

End of year

### 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.

## 2015

As of December 31, 2015, the Water Fund's cash and cash equivalents of \$322.5 million increased from December 31, 2014, by \$286.3 million mainly due to the cash provided of \$524.9 million from operating activities, and cash inflow of \$226.6 offset by cash outflow of \$465.2 mainly used in acquisition and construction of capital assets of \$358.1 million. Total cash and cash equivalents at December 31, 2015, are composed of unrestricted and restricted cash and cash equivalents of \$296.1 million and \$26.4 million, respectively.

## UTILITY PLANT AND DEBT ADMINISTRATION

### 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).

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### 2015

At the end of 2015 and 2014, the Water Fund had \$3,822.8 million and \$3,482.2 million, respectively, invested in utility plant, net of accumulated depreciation. During 2015, the Water Fund expended \$414.2 million on capital activities. This included \$1.8 million for land and land rights, \$3.0 million for structures and improvements, \$243.1 million for distribution plant, \$6.0 million for equipment, and \$160.3 million for construction in progress.

During 2015, net completed projects totaling \$366.3 million were transferred from construction in progress to applicable capital accounts. The major completed projects relate to installation and replacements of water mains (\$284.5 million), and meter save program (\$74.5 million).

The Water Fund's utility plant at December 31, 2016, 2015, and 2014, is summarized as follows:

| (In thousands)                               | 2016             | Net Utility Plant at Year-End |                  |
|----------------------------------------------|------------------|-------------------------------|------------------|
|                                              |                  | 2015                          | 2014             |
| Utility plant not depreciated:               |                  |                               |                  |
| Land and land rights                         | \$ 6,858         | \$ 6,858                      | \$ 5,083         |
| Construction in progress                     | <u>366,506</u>   | <u>242,155</u>                | <u>457,645</u>   |
| <u>Total utility plant not depreciated</u>   | <u>373,364</u>   | <u>249,013</u>                | <u>462,728</u>   |
| Utility plant being depreciated:             |                  |                               |                  |
| Structures and improvements                  | 588,740          | 586,046                       | 579,534          |
| Distribution plant                           | 3,586,644        | 3,348,182                     | 2,755,650        |
| Equipment                                    | <u>665,174</u>   | <u>659,971</u>                | <u>651,121</u>   |
| <u>Total utility plant being depreciated</u> | <u>4,840,558</u> | <u>4,594,203</u>              | <u>3,986,305</u> |

Less accumulated depreciation:



|                                                  |                                    |                                |
|--------------------------------------------------|------------------------------------|--------------------------------|
| Structures and improvements                      | (221,605)                          | (213,318)(205,279)             |
| Distribution plant                               | (483,112)                          | (447,587)(420,433)             |
| Equipment                                        | (377,573)                          | (359,485)(341,122)             |
| <u>Total accumulated depreciation</u>            | <u>(1,082,290)</u>                 | <u>(1,020,390)(966,834)</u>    |
| <u>Total utility plant being depreciated-net</u> | <u>3,758,2683,573,8123,019,471</u> |                                |
| <u>Total utility plant-net</u>                   | <u>\$ 4,131,632</u>                | <u>\$ 3,822,825\$3,482,199</u> |

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

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The Water Fund's long-term liabilities at December 31, 2016, 2015, and 2014, are summarized as follows:

| (In thousands)                                  | 2016               | Long-Term Liabilities at Year-End |                    |
|-------------------------------------------------|--------------------|-----------------------------------|--------------------|
|                                                 |                    | 2015                              | 2014               |
| Revenue bonds and notes payable                 | \$2,468,397        | \$2,391,395                       | \$2,381,771        |
| Add:                                            |                    |                                   |                    |
| Accretion of capital appreciation bonds         | 26,345             | 33,254                            | 39,093             |
| <u>Bond discount/premium</u>                    | <u>161,189</u>     | <u>91,344</u>                     | <u>97,175</u>      |
| Total revenue bonds/notes payable-net           | 2,655,931          | 2,515,993                         | 2,518,039          |
| Less current portion of accretion               | (10,252)           | (9,953)                           | (9,571)            |
| Less current bonds/notes payable                | (79,305)           | (65,758)                          | (51,535)           |
| Total long-term revenue bonds/notes payable-net | 2,566,374          | 2,440,282                         | 2,456,933          |
| Derivative instrument liability                 |                    | -91,806                           | 98,106             |
| Long-term purchase obligations                  |                    |                                   |                    |
| <u>Water pipe extension certificates</u>        | <u>1,577</u>       | <u>1,577</u>                      | <u>1,577</u>       |
| <u>Total long-term liabilities</u>              | <u>\$2,567,951</u> | <u>\$2,533,665</u>                | <u>\$2,556,616</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, 2016, have underlying credit ratings with each of the three major rating agencies as follows:

|                                 |      | Standard & Fitch | Moody's | Poor's | Ratings Kroll |
|---------------------------------|------|------------------|---------|--------|---------------|
| Senior Lien Water Revenue Bonds | Baal | A+               | AA+     | NR     |               |
| Second Lien Water Revenue Bonds | Baa2 | A                | AA      | AA     |               |

In April, 2016 S&P upgraded the ratings of the Water Fund senior lien revenue bonds from A to A+, and the Water Fund second lien revenue bonds from A- to A, each with a stable outlook.

Swaps-In May, 2016, the Water Fund terminated the swaps relating to its (1) Second Lien Water Revenue Bonds, Series 2000 for a termination payment of \$32.3 million and (2) Second Lien Water Revenue Refunding Bonds Series 2004 for total termination payments of \$69.5 million.

Commercial Paper and Lines of Credit-In May, 2016, the Water Fund drew \$91.5 million under the water line of credit to fund the swap termination payments prior to the issuance of

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Second Lien Water Revenue Bonds, Series 2016A-1 (Tax Exempt) and Series 2016A-2 (Taxable). Proceeds from the bonds were used to repay the water line of credit in full. In July, 2016, the Water Fund terminated the line of credit.

At December 31, 2016, 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.

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Figure 1 shows the chemical structures of the monomers and the resulting copolymer. The monomers are 2,2,6,6-tetramethyl-1,3-bis(4-vinylphenyl)hexane (TMV) and 2,2,6,6-tetramethyl-1,3-bis(4-vinylphenyl)hexane (TMV). The copolymer is a random copolymer of TMV and TMV, with the repeating unit structure shown as a chain of alternating TMV and TMV units.

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## CITY OF CHICAGO, ILLINOIS WATER FUND

### STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015 (In thousands)

#### 2015

OPERATING REVENUES: Water sales: Water sales  
Less: provision for doubtful accounts

Water sales-net Other operating revenues

Total operating revenues

OPERATING EXPENSES: Source of supply Power and pumping Purification  
Transmission and distribution Customer accounting and collection Administrative and general  
Central services and General Fund reimbursements Pension expense (Note 6)

Total operating expenses before depreciation and amortization

OPERATING INCOME BEFORE DEPRECIATION AND AMORTIZATION

DEPRECIATION AND AMORTIZATION

OPERATING INCOME (LOSS)

NONOPERATING REVENUES (EXPENSES): Interest income Interest expense Swap termination fee Other

Total nonoperating expenses-net TRANSFERS OUT CHANGE IN NET POSITION TOTAL NET POSITION-Beginning of year

TOTAL NET POSITION-End of year

\$ 773,756 (23,593)

750,163

19,245

769,408

198 41,343 57,112 37,266 14,734 22,072 129,060 436,025

737 810 31 598 56 444

|                   |                   |              |
|-------------------|-------------------|--------------|
|                   |                   | (24,846)     |
| 3,136 (106,092)   |                   |              |
| <u>191</u>        |                   |              |
| (102,765)         |                   |              |
|                   |                   | <u>(625)</u> |
| (128,236)         |                   |              |
|                   |                   | 1,079,749    |
| <u>\$ 895,726</u> | <u>\$ 951,513</u> |              |

See notes to basic financial statements.

**CITY OF CHICAGO, ILLINOIS WATER FUND STATEMENTS OF CASH FLOWS**  
**FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015**  
(In thousands)

|                                                                                                                        |                                           |
|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| <b>2016</b>                                                                                                            |                                           |
| CASH FLOWS FROM OPERATING ACTIVITIES: Received from customers Transactions with other City funds                       |                                           |
| Payments to vendors Payments to employees                                                                              |                                           |
| Net cash provided by operating activities                                                                              |                                           |
| CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES: Acquisition and construction of capital assets Interest paid |                                           |
| Proceeds from issuance of bonds and IEPA loans Principal paid on bonds Payments of bonds issuance costs Swap           |                                           |
| termination fee Construction reimbursements                                                                            |                                           |
| Net cash used in capital and related financing activities                                                              |                                           |
| CASH FLOWS FROM INVESTING ACTIVITIES: Sales and purchases of investments-net Investment interest                       |                                           |
| Net cash (used in) provided by investing activities                                                                    |                                           |
| NET CHANGE IN CASH AND CASH EQUIVALENTS                                                                                |                                           |
| CASH AND CASH EQUIVALENTS-Beginning of year                                                                            |                                           |
| CASH AND CASH EQUIVALENTS-End of year                                                                                  |                                           |
| RECONCILIATION OF CASH AND CASH EQUIVALENTS REPORTED IN THE STATEMENTS OF NET POSITION:                                |                                           |
| Unrestricted Restricted                                                                                                |                                           |
| <u>\$ 752,908 (29,944) (76,860) (121,172)</u>                                                                          |                                           |
| <u>524,932</u>                                                                                                         |                                           |
| <u>\$ 764,497 (115,919) (84,493) (126,309)</u>                                                                         |                                           |
|                                                                                                                        | (358,083) (132,908) 78,364 (52,435) (348) |



NET CASH PROVIDED BY OPERATING ACTIVITIES

\$437,776 \$524,932

SUPPLEMENTAL DISCLOSURE OF NONCASH ITEMS-Property additions in 2016 and 2015 of \$69,532 and \$85,942, respectively, have outstanding accounts payable.

The accretion adjustments of Series 1997 and Series 2000 capital appreciation bonds for the year ended December 31, 2016 was \$3,004 respectively.

See notes to basic financial statements. (Concluded)

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## CITY OF CHICAGO, ILLINOIS WATER FUND

### NOTES TO BASIC FINANCIAL STATEMENTS AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

#### 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.

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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 Allowance-Management has provided an allowance for amounts recorded at year-end, which 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.

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**Deferred Outflows-**Deferred outflows represent unamortized loss on bond refundings, the fair value of derivative instruments that are deemed to be effective hedges, 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.

**Derivatives-**The Water Fund enters into interest rate swap agreements to hedge interest rates and cash flows on outstanding variable interest rate debt. For existing swaps, the net interest expenditures resulting from these arrangements are recorded as interest expense. The fair value of derivative instruments that are deemed to be effective is accounted for as deferred outflows. Derivative instruments that are deemed not effective are adjusted to fair value with the change in fair value recorded to investment earnings. All interest rate swaps are approved by City Council.

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**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 2016 and 2015 totaled \$6.9 million and \$13.4 million, respectively.

**Revenue Recognition-**Revenue from water sales is recognized when the water is consumed by customers. Of the accounts receivable balances, \$78.3 million and \$79.1 million represent revenue recognized on water sales, which had not yet been billed to customers at

December 31, 2016 and 2015, 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, 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. 72<sup>A</sup> Fair Value Measurement and Application ("GASB 72"), addressed accounting and financial reporting issues related to fair value measurements. The Water Fund adopted GASB 72 for the year ended December 31, 2016. This Statement provides guidance for determining a fair value measurement for financial reporting purposes and the related disclosures. This Statement required a government to use valuation techniques that are appropriate under the circumstances and for which sufficient data are available to measure fair value. This Statement established a hierarchy of inputs to valuation techniques used to measure fair value. This Statement also required disclosures to be made about fair value measurements, the level of fair value hierarchy, and valuation techniques (see Note 2).

GASB Statement No. 76, The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments ("GASB 76"), supersedes Statement No. 55, The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments. The Water Fund adopted GASB 76 for the year ended December 31, 2016 and there was no impact on the Water Fund's financial statements.

GASB Statement No. 77, Tax Abatement Disclosures ("GASB 77"), required governments that enter into tax abatement agreements to disclose: (1) Brief descriptive information concerning the agreement; (2) The gross dollar amount of taxes abated during the period; and (3) Commitments made by government, other than to abate taxes, that are part of the tax abatement agreement. The Water Fund adopted GASB 77 for the year ended December 31, 2016 and there was no 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

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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. 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 will be effective for the Water Fund beginning with its year ending December 31, 2017.

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 will be effective for the Water Fund beginning with its year ending December 31, 2017.

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.

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

U.S. agencies Commercial Paper Certificates of deposit and  
other short-term Corporate bonds Municipal bonds

Subtotal

Share in City's pooled funds

Total

More

6-10 than 10 Fair Value

f - \$ - \$ 28,543  
17,971

60,502

20,886 47,147

63,478

217,641

368,262

\$585,903

Cash Equivalents and Investments-The Water Fund's cash equivalents and investments as of December 31, 2015, are as follows (in thousands):

### Investment Maturities (in Years)

U.S. agencies Certificates of deposit and  
other short-term Corporate bonds Municipal bonds

Subtotal

Share in City's pooled funds

Total

|          |               |               |               | Less More<br>than 1 | 1-5            | 6-10 | than 10 | Fair Value       |
|----------|---------------|---------------|---------------|---------------------|----------------|------|---------|------------------|
| \$91,233 | \$55,479      | \$115,557     | \$ 4,558      | \$ -                | \$175,594      |      |         |                  |
|          | \$205,587     | \$25,000      |               |                     |                |      |         |                  |
|          | <u>26,952</u> | <u>26,952</u> |               |                     |                |      |         |                  |
|          | <u>2,999</u>  | <u>35,748</u> | <u>20,442</u> | <u>59,189</u>       |                |      |         |                  |
|          | <u>5,803</u>  | <u>54,282</u> |               | <u>60,085</u>       |                |      |         |                  |
| 321,820  |               |               |               |                     |                |      |         |                  |
|          |               |               |               |                     | <u>211,163</u> |      |         |                  |
|          |               |               |               |                     |                |      |         | <u>\$532,983</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

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### Level 3-Unobservable Inputs

The recurring fair value measurements of investments for as of December 31, 2016 and 2015 are as follows (dollars in thousands).

| Investments<br>by Fair Value<br>Level | Level 1    | 2016<br>Level 2  | Level 3    | Level 1    | 2015<br>Level 2  | Level 3    |
|---------------------------------------|------------|------------------|------------|------------|------------------|------------|
| U.S. agencies                         | \$-        | \$28,543         | \$-        | \$-        | \$167,705        | \$-        |
| Corporate bonds                       |            | 47,147           | 57,688     |            |                  |            |
| Municipal bonds                       |            | 60,694           |            |            | 60,085           |            |
|                                       | <u>-\$</u> | <u>\$136,384</u> | <u>\$-</u> | <u>\$-</u> | <u>\$285,478</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 \$81.3 million and \$36.3 million as of December 31, 2016 and 2015, respectively.

The Water Fund's share in the City's pooled fund of \$368.2 million and \$211.1 million as of December 31, 2016 and 2015, 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;

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- 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;

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- 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 Aal 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, 2016 and 2015, is as follows (in thousands):

| Quality Rating   | 2016          | 2015                       |
|------------------|---------------|----------------------------|
| Aaa/AAA          | \$ 13,470     | \$ 26,200                  |
| Aa/AA            | 102,585       | 228,552                    |
| A/A              | 34,763        | 26,950                     |
| Pl/A1            | 7,978         |                            |
| M1G1/SP-1+       | 2,784         |                            |
| <u>Not rated</u> | <u>56,061</u> | <u>40,118</u>              |
| <u>Total</u>     |               | <u>\$217,641 \$321,820</u> |

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,

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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 \$514.1 million. 84.7 percent of the bank balance was either insured or collateralized with securities held by City agents in the City's name. \$78.7 million was uncollateralized at December 31, 2016, and thus was subject to custodial credit risk.

Investments reported in the basic financial statements as of December 31, 2016 and 2015, are summarized as follows (in thousands):

## 2016

Per Note 2: Investments-Water Fund Investments-City Treasurer Pooled Fund

\$217,641 368,262

\$321,820 211,163

Per financial statements:

|                                   |           |           |
|-----------------------------------|-----------|-----------|
| Restricted investments-current    | \$102,254 | \$153,863 |
| Restricted investments-noncurrent | 39,898    | 141,005   |
| Unrestricted investments          | 361,553   | 101,612   |

Investments included as cash and cash equivalents  
on the statements of net position

82,198      136,503

\$585,903 \$532,983



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### 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 2001, 2000, 1997, and Refunding Bonds Series 1993 ("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, 2006A, 2008, 2010A, 2010B, 2010C, 2012, 2014, and Refunding Bonds, Series 2004 and 2001 ("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.

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For accounts established by ordinances with balances, the amounts at December 31, 2016 and 2015, are as follows (in thousands):

|                           | 2016     | 2015      |
|---------------------------|----------|-----------|
| Second Lien Revenue Bonds | \$ 4,596 | \$ 15,749 |
| Water rate stabilization  | 91,197   | 91,197    |
| Construction              | 120,517  | 214,323   |

---

|       |           |           |
|-------|-----------|-----------|
| Total | \$216,310 | \$321,269 |
|-------|-----------|-----------|

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At December 31, 2016 and 2015, management is not aware of any instances of noncompliance with the funding requirements and restrictions on assets as stated in the ordinances.

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#### 4. LONG-TERM DEBT

Long-term debt as of December 31, 2016 and 2015, consisted of the following (in thousands):

\$49,880 Series 1993 Water Revenue Refunding Bonds, issued October 1, 1993, due through 2016; interest at 4.125% to 6.5% \$277,911 Series 1997 Water Revenue Bonds, issued September 1, 1997, due through 2019; interest at 3.9% to 5.25% \$100,000 Series 2000 Second Lien Water Revenue Bonds, issued December 22, 1999, due 2030, variable floating interest rate; interest at 0.058% as of December 31, 2015 \$156,819 Series 2000 Senior Lien Water Revenue Bonds, issued May 2, 2000, due 2030; interest at 4.375% to 5.875% \$81,500 Series 2001 Second Lien Water Revenue Refunding Bonds, issued December 13, 2001, due 2030; interest at 3.0% to 5.75% \$2,292 Illinois Environmental Protection Agency Loan Agreement, signed June 30, 2003, due 2025; interest at 2.57% \$3,005 Illinois Environmental Protection Agency Loan Agreement, signed October 16, 2003, due 2022; interest at 2.905% \$500,000 Series 2004 Second Lien Water Revenue Refunding Bonds, issued August 5, 2004, due through 2031, variable floating interest rate:

interest at 0.059% as of December 31, 2015 \$215,400 Series 2006A Second Lien Water Revenue Bonds, issued July 26, 2006, due through 2036; interest at 4.5% to 5.0% \$549,915 Series 2008 Second Lien Water Revenue Bonds, issued April 2, 2008, due through 2038; interest at 4.0% to 5.25% \$313,580 Series 2010A-C Second Lien Water Revenue Bonds, issued November 10, 2010, due through 2040; interest at 2.0% to 6.742% \$6,000 Illinois Environmental Protection Agency Loan Agreement, signed January 21, 2011, due 2031; interest at 2.57% \$9,077 Illinois Environmental Protection Agency Loan Agreement, issued February 2, 2010, due 2031; nonInterest bearing \$399,445 Series 2012 Second Lien Water Revenue Bonds, issued May 17, 2012, due through 2042; interest at 4.0% to 5.0% \$1,527 Illinois Environmental Protection Agency Loan Agreement, issued July 8, 2010, due 2032; interest at 1.25% \$1,502 Illinois Environmental Protection Agency Loan Agreement, issued September 15, 2013, due 2032; interest at 1.25% \$6,092 Illinois Environmental Protection Agency Loan Agreement, issued October 25, 2013, due 2032; interest at 1.25% \$6,542 Illinois Environmental Protection Agency Loan Agreement, signed May 27, 2014, due 2034; interest at 2.2950% \$39,421 Illinois Environmental Protection Agency Loan Agreement, signed August 5, 2013, due 2034; interest at 1.93% \$15,000 Illinois Environmental Protection Agency Loan Agreement, signed September 19, 2013, due 2034; interest at 1.93% \$47,000 Illinois Environmental Protection Agency Loan Agreement, signed March 3, 2014, due 2034; interest at 1.99% \$15,058 Illinois Environmental Protection Agency Loan Agreement, signed October, 15, 2014, due 2035; interest at 1.99% \$367,925 Series 2014 Second Lien Water Revenue Bonds, issued September 17, 2014, due 2044; interest at 3.0% to 5.0% \$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% \$22,120 Series 2016A-2 Taxable Second Lien Water Revenue Bonds, issued May 23, 2016, due 2017; interest at 1.68.0% to 2.0% \$55,615 Illinois Environmental Protection Agency Loan Agreement, signed May 18, 2016, due 2036; interest at 2.21%

Total

Add accretion of capital appreciation bonds  
Less current portion of accretion  
Less current portion of long-term debt  
Add unamortized bond discount/premium-net

Long term portion-net  
2015

\$ 5,565 7,876

100,000 12,766 80,800 1,536 1,528

344,575 175,635 453,540 300,355 4,917 7,294 399,445 1,352 1,330 5,391 6,149 37,849 14,428 46,101 15,058 363,905

2016

5,089

100,000 9,871 80,745 1,400 1,328

2,391,395

33,254 (9,953) (65,758) 91,344

344,575 174,605 436,215 300,355 4,637 6,839 391,745 1,280 1,259 5,105 5,878 36,187 13,796 44,149 14,420 357,610 59,595 16,395 55,319 2,468,397

26,345 (10,252) (79,305) 161,189

\$2,566,374 \$2,440,282

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Long-term debt changed during the years ended December 31, 2016 and 2015, as follows (in thousands):

Revenue bonds/notes payable Accretion of capital appreciation bonds  
Unamortized bond discount/ premium-net

Total

Revenue bonds/notes payable Accretion of capital appreciation bonds  
Unamortized bond discount/ premium-net

|                     |                                  |                  |
|---------------------|----------------------------------|------------------|
| Total               | Balance January 1, 2016          |                  |
| \$2,391,395         |                                  |                  |
| 33,254              |                                  |                  |
| <u>91,344</u>       | <u>\$2,515,993</u>               | <u>\$222,298</u> |
|                     | Balance January 1, 2015          |                  |
| 3,732               |                                  |                  |
| \$2,381,771         |                                  |                  |
| 39,093              |                                  |                  |
| <u>97,175</u>       |                                  |                  |
| Balance             | Due within December 31, One Year |                  |
|                     |                                  | \$79,305 10,252  |
| Due within One Year |                                  |                  |
| \$65,758            |                                  |                  |
| 9,953               |                                  |                  |
| <u>\$2,655,931</u>  | <u>\$89,557</u>                  |                  |
|                     | Balance December 31, 2015        |                  |
| \$2,391,395         |                                  |                  |
| 33,254              |                                  |                  |
| 91,344              |                                  |                  |

Interest expense includes amortization of the deferred loss on bond refunding for 2016 and 2015 of \$2.5 million and \$2.5 million, respectively; net of amortization of bond premium of \$12.1 million and \$5.8 million, respectively; and accretion of Series 1997 and Series 2000 capital appreciation bonds of \$3.0 million and \$3.7 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, and that City management maintain all covenant reserve account balances at specified amounts. The above requirements were met in 2016 and 2015.

Rate Increase-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. The water rate effective January 1, 2016, was \$28.52 per 1,000 cubic feet.

Issuance of Debt-On May 18, 2016, a 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. In 2016, the Water Fund drew \$55.3 million from this loan agreement. The loan agreement has an interest rate of 2.21 percent with maturity dates from July 31, 2016 to January 31, 2036.

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Second Lien Water Revenue Bonds, Series 2016 A-1 (59.6 million) were sold at premium in May 2016. The bonds have interest rates ranging from 4.00 percent to 5.00 percent and maturity dates from November 1, 2023 to November 1, 2031. The net proceeds of \$69.5 million were used to refund the Line of Credit Notes used for the swap termination.

Second Lien Water Revenue Bonds, Series 2016 A-2 (22.1 million) were sold at premium in May 2016. The bonds have interest rates ranging from 1.68 percent to 2.00 percent and maturity dates from November 1, 2016 to November 1, 2017. The net proceeds of \$22.0 million were used to refund the Line of Credit Notes used for the swap termination.

In May 2016, the City converted \$100.0 million outstanding of the Series 2000 Second Lien Water Revenue Bonds to fixed rate at premium. The bonds have an interest rate at 5.0 percent and maturity dates ranging from November 1, 2028 to November 1, 2030. The net proceeds of \$17.3 million will be used to finance certain capital projects.

In May 2016, the City converted \$344.6 million outstanding of the Series 2004 Second Lien Water Revenue Bonds to fixed rate at premium. The bonds have interest rates ranging from 2.0 percent to 5.0 percent and maturity date ranging from November 1, 2017 to November 1, 2027. The net proceeds of \$51.8 million will be used to finance certain capital projects.

A schedule of bond and note debt service requirements to maturity at December 31, 2016, is as follows (in thousands):

| Years Ending<br>December 31 | Total Debt         |                     |                    |
|-----------------------------|--------------------|---------------------|--------------------|
|                             | Principal          | Interest Service    |                    |
| 2017                        | \$ 79,305          | \$ 130,090          | \$ 209,395         |
| 2018                        | 84,018             | 127,950             | 211,968            |
| 2019                        | 87,835             | 119,168             | 207,003            |
| 2020                        | 91,783             | 115,519             | 207,302            |
| 2021                        | 93,703             | 106,057             | 199,760            |
| 2021                        | 2022-2026          | 534,881             | 460,700            |
| 2021                        | 2027-2031          | 574,854             | 323,293            |
| 2021                        | 2032-2036          | 454,822             | 197,595            |
| 2021                        | 2037-2041          | 377,230             | 80,635             |
| 2021                        | 2042-2044          | 489,966             | 7,845              |
|                             |                    |                     | 597,811            |
| <u>Total</u>                | <u>\$2,468,397</u> | <u>\$ 1,668,852</u> | <u>\$4,137,249</u> |

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

During 2016, the Water Fund terminated the swaps associated with the 2000 2nd Lien Water Revenue Refunding Bonds in the amount of \$32.3 million and the Series 2004 Water Variable Rate Revenue Refunding Bonds in the amount of \$69.5 million. Swap termination payments were recorded as Swap Termination Fees.

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## UTILITY PLANT

Utility plant changed during the years ended December 31, 2016 and 2015, as follows (in thousands):

|                                                                                           | Balance-January 1, 2016 |                                       |
|-------------------------------------------------------------------------------------------|-------------------------|---------------------------------------|
| Disposals, Balance-Adjustments December 31 Additions and Transfers 2016                   |                         |                                       |
| Utility plant not depreciated: Land and land rights Construction in progress              |                         |                                       |
| Total utility plant not depreciated                                                       |                         |                                       |
| Utility plant being depreciated: Structures and improvements Distribution plant Equipment |                         |                                       |
|                                                                                           |                         | Total utility plant being depreciated |
| Less accumulated depreciation: Structures and improvements Distribution plant Equipment   |                         |                                       |
| Total accumulated depreciation                                                            |                         |                                       |
| Utility plant being depreciated-net                                                       |                         |                                       |
| Utility plant-net                                                                         |                         |                                       |
| <u>180,539</u>                                                                            |                         |                                       |
| 180,539                                                                                   |                         |                                       |
|                                                                                           |                         | <u>1,772,209,528,350</u>              |
| 214,809                                                                                   |                         |                                       |
|                                                                                           |                         | <u>922,28,931,169</u>                 |
| 31,547                                                                                    |                         |                                       |
|                                                                                           |                         |                                       |
| <u>(56,188) (56,188)</u>                                                                  |                         |                                       |
|                                                                                           |                         | <u>586,046,334,185,659,971</u>        |
| <b>(8,287) (37,489) U8.557)</b>                                                           |                         |                                       |
| <u>(64,333)</u>                                                                           |                         |                                       |
| 150,476                                                                                   |                         |                                       |
| 4,594,202                                                                                 |                         |                                       |
| <u>1,964,469</u>                                                                          |                         |                                       |
| <u>2,433</u>                                                                              |                         |                                       |
| 33,980                                                                                    |                         |                                       |
|                                                                                           |                         |                                       |
| <u>(213,318) (447,587) (359,485)</u>                                                      |                         |                                       |
| (1,020,390)                                                                               |                         |                                       |
| <u>3,573,812</u>                                                                          |                         |                                       |
| <u>\$ 3,822,825</u>                                                                       | <u>\$331,015</u>        | <u>\$ (22,208)</u>                    |
|                                                                                           |                         |                                       |
| <u>6,858,366,506</u>                                                                      |                         |                                       |
| 373,364                                                                                   |                         |                                       |
|                                                                                           |                         | <u>588,740,358,644,665,174</u>        |
| <u>4,840,558</u>                                                                          |                         |                                       |
|                                                                                           |                         |                                       |
| <u>(221,605) (483,112) (377,573)</u>                                                      |                         |                                       |
| (1,082,290)                                                                               |                         |                                       |
| 3,758,268                                                                                 |                         |                                       |
| <u>\$ 4,131,632</u>                                                                       |                         |                                       |

| Disposals<br>and Transfers                                                                |  | Balance-January 1, 2015  |                                       |
|-------------------------------------------------------------------------------------------|--|--------------------------|---------------------------------------|
|                                                                                           |  | Balance-December 31 2015 |                                       |
| Utility plant not depreciated: Land and land rights Construction in progress              |  |                          |                                       |
| Total utility plant not depreciated                                                       |  |                          |                                       |
| Utility plant being depreciated: Structures and improvements Distribution plant Equipment |  |                          |                                       |
|                                                                                           |  |                          | Total utility plant being depreciated |
| Less accumulated depreciation: Structures and improvements Distribution plant Equipment   |  |                          |                                       |
| Total accumulated depreciation                                                            |  |                          |                                       |
| Utility plant being depreciated-net                                                       |  |                          |                                       |
| Utility plant-net                                                                         |  |                          |                                       |
| (366,301) (366,301)                                                                       |  |                          | <u>2,636 235,755 5,823</u>            |
| 244,214                                                                                   |  |                          | <u>3,876 356,780 3,027</u>            |
| 363,683                                                                                   |  |                          |                                       |
| <u>462,728</u>                                                                            |  |                          |                                       |
|                                                                                           |  |                          | <u>579,534</u>                        |
|                                                                                           |  |                          | <u>2,755,650</u>                      |
|                                                                                           |  |                          | <u>651,121</u>                        |
| (8,039) (29,376) (18,676)                                                                 |  |                          |                                       |
| <u>(56,091)</u>                                                                           |  |                          |                                       |
| 188,123                                                                                   |  |                          |                                       |
| 3,986,305                                                                                 |  |                          | <u>2,222 313</u>                      |
| <u>2,535</u>                                                                              |  |                          |                                       |
| <u>366,218</u>                                                                            |  |                          |                                       |
| <u>(205,279) (420,433) (341,122)</u>                                                      |  |                          |                                       |
| <u>(966,834)</u>                                                                          |  |                          |                                       |
| <u>3,019,471</u>                                                                          |  |                          |                                       |
| \$ 3,482,199 \$340,709 \$ _                                                               |  |                          |                                       |

## 6. PENSION PLANS

Plan Description-Eligible Water employees participate in one of two single-employer defined benefit pension plans (Plans). These Plans are: the Municipal Employees' Annuity and Benefit Fund of Chicago (Municipal); and the Laborers' and Retirement Board Employees' Annuity and Benefit Fund of Chicago (Laborers'). 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) <<http://www.meabf.org>>, and [www.labfchicago.org](http://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 requirement of age and service are different for employees who became members before January 1, 2011, and those who became members on or after January 1, 2011. 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 became members before January 1, 2011 and any eight consecutive years within the last 10 years of credited service for participants who became members on or after January 1, 2011.

*Benefit terms provide for annual adjustments to each employee's retirement allowance subsequent to the employees' retirement date. For participants who became members before January 1, 2011, the annual adjustments for Municipal and Laborers are 3.0 percent, compounded, for annuitants born before 1955 and 1.5 percent, simple, born in 1955 or later. For participants that first became members on or after January 1, 2011, the annual adjustments are equal to the lesser of 3.0 percent and 50 percent of CPI-U of the original benefit.*

**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 was calculated based on the total amount of contributions by employees to the Plan made in the calendar year two years prior, multiplied by 1.25 for the Municipal, and 1.00 for the Laborers'. 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 2016.

The contribution to the two pension plans from the Water Fund was \$12.3 million and \$12.7 million for the years ended December 31, 2016 and 2015, respectively.

**Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions-**At December 31, 2016 and 2015, the Water Fund recorded a liability of \$1,626.7 million and \$1,646.7 million, respectively, for its proportionate share of the net pension liability. The net pension liability

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was measured as of December 31, 2016 and 2015, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of those dates. 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 2016. At December 31, 2016 and 2015, the Water Fund's proportion was 6.7 percent and 6.8 percent of the Municipal plan, respectively, and 14.7 percent and 15.6 percent, respectively, of the Laborer's plan.

For the years ended December 31, 2016 and 2015, the Water Fund recognized pension expense of \$240.0 million and \$436.0 million, respectively.

At December 31, 2016 and 2015, the Water Fund reported total deferred outflows of resources of \$447.2 million and \$630.7 million, respectively, and deferred inflows of resources of \$54.6 million and \$11.1 million, respectively, related to pensions from the following sources:

Municipal (dollars in thousands):

2016

Deferred Outflows of Resources

2015

Deferred Outflows Deferred Inflows of Resources of Resources

Differences between expected and actual experience \$

Changes of assumptions 347,987

Net difference between projected and actual earnings on pension plan investments 12,392



\$11,158,308,833

\$360,379

Amounts reported as deferred outflows of resources and deferred inflows of resources related to Municipal pensions will be recognized in pension expense as follows:

**Year Ended December 31**

2017 2018 2019 2020  
\$109,056 109,056 109,056 (8,780)

\$318,388

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**Laborers' (dollars in thousands):**

|                                                                                  |        | 2016<br>Deferred Outflows<br>of Resources | 2016<br>Deferred Inflows<br>of Resources | 2015<br>Deferred Outflows | 2015<br>Deferred Inflows |
|----------------------------------------------------------------------------------|--------|-------------------------------------------|------------------------------------------|---------------------------|--------------------------|
| Differences between expected and actual experience                               | \$ -   | \$ 6,029                                  | \$ - \$5,101                             |                           |                          |
| Changes of assumptions                                                           | 72,507 | 6,589                                     | 130,150                                  |                           |                          |
| Net difference between projected and actual earnings on pension plan investments | 14,288 | 15,189                                    |                                          |                           |                          |
| Total                                                                            |        |                                           | \$86,795                                 | \$12,618                  | \$145,339                |

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

**Year Ended December 31**

2017 \$48,751  
 2018 21,954  
 2019 2,585  
 2020 887  
\$74,177

Deferred inflows related to changes in proportionate share of contributions - For the year ended December 31, 2016, the Water Fund reported a pension benefit of \$6.3 million and deferred inflows of \$20.3 million related to changes in its proportionate share of contributions. This deferred amount will be recognized as a pension benefit over a period of three years.

Actuarial Assumptions-The total pension liability in the December 31, 2016 and 2015 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

**Municipal Laborers'**

|                           |                |            |
|---------------------------|----------------|------------|
| Inflation                 | 3.00 %         | 3.00 %     |
| Salary increases          | 4.5%-8.25% (a) | 3.75 % (b) |
| Investment rate of return | 7.50 % (c)     | 7.50 % (d) |

- (a) Varying by years of service
- (b) Plus a service-based increase in the first 15 years
- (c) Net of investment expense
- (d) Net of investment expense, including inflation

Mortality rates were based on the RP-2000 Health Annuitant Mortality Table for Males or Females, as appropriate. The actuarial assumptions used in the December 31, 2016 valuation were adjusted based on the results of actuarial experience study for the period:

Municipal-January 1, 2005-December 31, 2009

Laborers'-January 1, 2004-December 31, 2011

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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, 2016 and 2015, are summarized in the following tables:

**Target Allocation**

**Long-Term Expected Real Rate of Return**

**Municipal Laborers'    Municipal Laborers'**

Asset class: Domestic equity Non U.S. equity Global equity International equity Fixed income Hedge funds Private equity  
Private markets GAA  
Real estate Risk Parity Private real estate

26.0 %

22.0 27.0 10.0 5.0

10.0

12.0 %

18.0

20.0

16.0 8.0

7.0 7.0 8.0

4.0

4.8 %

5.0 0.5 2.8 8.6

5.2

6.4 %

8.0

6.8

2.6 3.9

7.2 4.3 4.6

100.0 % 100.0 %

**Target Allocation**

**Long-Term Expected Real Rate of Return**  
**Municipal Laborers' Municipal Laborers'**

Asset class: Domestic equity Non U.S. equity Global equity International equity Fixed income Hedge funds Private equity  
Private markets GAA  
Real estate Risk Parity

26.0 %

22.0 27.0 10.0 5.0

10.0

22.0 %

13.0

14.0

16.0 8.0

11.0 8.0 6.0 2.0

4.9 %

5.0 0.5 3.0 8.6

6.0

5.9 %

7.9

6.5

2.6 3.8

6.9 4.7 4.4 5.0

100.0 % 100.0 %

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**Discount Rate**

Municipal-The discount rate used to measure the total pension liability as of December 31, 2016 and 2015 was 3.91 and 3.73 percent, respectively. This Single Discount Rate was based on an expected rate of return on pension plan investments of 7.5 percent for December 31, 2016 and 2015 and a municipal bond rate of 3.78 and 3.6 percent as of December 31, 2016 and 2015, respectively (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 member contributions will be made at the current contribution rate and that employer contributions will be made at the 1.25 multiple of member contributions from two years prior. 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 not projected to be available to make all projected future benefit payments of current plan members. The projected benefit payments through 2023 were discounted at the expected long-term rate of return. Starting in 2024, the projected benefit payments were discounted at the municipal bond rate. Therefore, a single equivalent blended discount rate of 3.91 percent and 3.73 percent as of December 31, 2016 and 2015, respectively, was calculated using the long-term expected rate of return and the municipal bond index.

Laborers'-A Single Discount Rate of 4.17 and 4.04 percent, as of December. 31, 2016 and 2015, respectively, was used to measure the total pension liability. This Single Discount Rate was based on an expected rate of return on pension plan investments of 5 percent as of December 31, 2016 and 2015, and a municipal bond rate of 3.78 and 6 percent as of December 31, 2016 and 2015, respectively. 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 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 through the year 2027. As a result, the long-term expected rate of return on pension plan investments was applied to projected benefit payments through the year 2027, and the municipal bond rate was applied to all benefit payments after that date.

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

Municipal-The following presents the Water Fund's allocated share of the net pension liability as of December 31, 2016 and 2015, calculated using the discount rate of 3.91% and 3.73%, 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):

**2016 Current  
Discount Rate**

Net pension liability December 31, 2016: Municipal discount rate Municipal liability

2.91% \$1,488,017

3.91% \$ 1,255,259

4.91% \$ 1,064,112

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#### **Current Discount Rate**

Net pension liability December 31, 2015: Municipal discount rate Municipal liability

2.73% \$1,503,684

3.73% \$ 1,260,613

4.73% \$ 1,061,422

Laborers'- The following presents the Water Fund's allocated share of the net pension liability as of December 31, 2016 and 2015, calculated using the discount rate of 4.17% and 4.04%, 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):

#### **Current Discount Rate**

Net pension liability December 31, 2016; Laborers' discount rate Laborers' liability

3.17 % \$449,108

4.17 % \$371,399

5.17 % \$307,509

#### **Current**

**1% Decrease Discount Rate    1% Increase**

Net pension liability December 31, 2015: Laborers' discount rate Laborers' liability

|           |           |           | 3.04 % | 4.04 % | 5.04 % |
|-----------|-----------|-----------|--------|--------|--------|
| \$470,583 | \$385,827 | \$316,351 |        |        |        |

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**

### **Funded Status and Funding Progress-**

State law authorized the two respective Pension Funds (Municipal 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 are authorized. The liabilities for the monthly dollar Pension Fund subsidies

contributed on behalf of annuitants enrolled in the medical plan by their respective Pension Funds are included in the NPO actuarial valuation reports of the respective two Pension Funds under GASB 43.

Pursuant to the provisions contained in P.A. 98-0043, the City terminated health insurance supplement payments to eligible annuitants as of December 31, 2016, resulting in no OPEB liability at December 31, 2016.

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Other Post Employment Benefits-City Obligation-Up to June 30, 2013, the annuitants who retired prior to July 1, 2005 received a 55 percent subsidy from the City and the annuitants who retired on or after July 1, 2005 received a 50, 45, 40 and zero percent subsidy from the City based on the annuitant's length of actual employment with the City for the gross cost of retiree health care under a court approved settlement agreement, known as the "Settlement Plan." The pension funds contributed their subsidies of \$65 per month for each Medicare eligible annuitant and \$95 per month for each Non-Medicare eligible annuitant to their gross cost. The annuitants contributed a total of \$110.9 million in 2016 to the gross cost of their retiree health care pursuant to premium amounts set by the City.

As described above, the City of Chicago subsidized a portion of the cost (based upon service) for hospital and medical coverage for eligible retired employees and their dependents based upon a settlement agreement entered in 2003 and which expired on June 30, 2013.

On May 15, 2013, the City announced plans to, among other things: (i) continue the then current plan for the remaining six months of 2013; then, as of January 1, 2014, (ii) provide a healthcare plan to, and for the lifetimes of, former employees who retired before August 23, 1989 with a contribution from the City of up to 55 percent of the cost of that plan to the annuitant; and (iii) provide employees who retired on or after August 23, 1989 with healthcare benefits in a new Retiree Health Plan (Health Plan), but with significant changes to the terms including increases in premiums and deductibles, reduced benefits and the phase-out of the Health Plan for such employees by December 31, 2016.

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. In 2016, the net expense to the City for providing these benefits to approximately 22,195 annuitants plus their dependents was approximately \$45.7 million.

Plan Description Summary- The City of Chicago was party to a written legal settlement agreement outlining the provisions of the Settlement Plans, which ended June 30, 2013, but the City voluntarily continued those Settlement Plans until the end of 2013. As of January 1, 2014, the Health Plan provided for annual modifications to the City's level of subsidy during the three-year phase out. The Health Plan, along with any further City subsidy expired as of by December 31, 2016, for all but the group of former employees (the Korshak class of members) who retired before August 23, 1989, who shall have lifetime benefits. 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.

The provisions of the Health Plan provide, in general, that the City pay a percentage of the cost (based upon an employee's service) for hospital, medical, and drug coverage to eligible retired employees and their dependents for the specified period, ending December 31, 2016. During the three-year phase out of the Health Plan, the percentage subsidies were revised to reduce by approximately 25 percent of 2013 subsidy levels in 2014, 50 percent of 2013 subsidy levels in 2015, and 75 percent of 2013 subsidy levels in 2016.

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 of the employer (ARC). The ARC (Annual Required Contribution) represents a level of funding

- 40 -

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 Plans, the amount actually contributed

to the Plans, and changes in the City's net OPEB obligation to the retiree Health Plan. 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 2016 is the Annual OPEB Cost (expense).

**2015 Health Plan**

**Annual OPEB Cost and Contributions Made**

(dollars in thousands)

**2016 Health Plan**

Contribution rates: City

Plan members

Annual required contribution Interest on net OPEB obligation Adjustment to annual required contribution

Pay As You Go N/A \$ 98,517 5,185 (19,673)

Pay As You Go N/A \$106,723 5,326 (20,209)

Annual OPEB cost Contributions made

84,029 89,671

91,840 96,551

Decrease in net OPEB obligation Net OPEB obligation-beginning of year

(5,642) 172,851

(4,711) 177,562

Net OPEB obligation-end of year

The City's annual OPEB cost, the percentage of annual OPEB cost contributed to the plan, and the net OPEB obligation for fiscal year 2016, 2015 and 2014 are as follows (dollars in thousands):

**Fiscal Year Ended**

**Schedule of Contributions,  
OPEB Costs and Net Obligations  
Annual Percentage of Annual Net OPEB OPEB Cost OPEB Cost Contributed Obligation**

December 31, 2016 December 31, 2015 December 31, 2014

\$ 84,029 91,840 112,432

106.7 %

105.1

113.9

\$167,209 172,851 177,562

Funded Status and Funding Progress-As of January 1, 2016, the most recent actuarial valuation date, the actuarial accrued liability for benefits was \$715.5 million all of which was unfunded. The covered payroll (annual payroll of active employees covered by the plan) was approximately \$2,536.6 million and the ratio of the unfunded actuarial liability to the covered payroll was 27.9%.

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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, supplementary information following the notes to the financial statements (dollars in thousands, unaudited).

Actuarial Valuation Date

December 31, 2015 December 31, 2014

Actuarial Actuarial Value of Accrued Assets Liability (AAL)

\$ ■ \$715,522 780,637

Unfunded Actuarial Accrued Liability (UAAL)

\$715,522 780,637

Covered Payroll

% \$2,563,649 2,487,787

UAAL as a Percentage of Covered Payroll

27.9 % 31.4 %

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 (not provided by the Pension Funds), 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 2027. 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 the provisions under the new Health Plan, which will be completely phased-out by December 31, 2016, except for the Korshak category, which is entitled to lifetime benefits.

Summary of Assumptions and Methods

2016

Health Plan

2015

Actuarial valuation date

Actuarial cost method

Amortization method

Remaining amortization period

Asset valuation method

Actuarial assumptions: Investment rate of return Projected salary increases Healthcare inflation rate

December 31, 2015 Entry Age Normal Level Dollar, open 10 years Market Value

3.0 % 2.5 %

December 31, 2014 Entry Age Normal Level Dollar, open 10 years Market Value

3.0 % 2.5 %



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

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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 \$100.7 million and \$89.4 million in 2016 and 2015, 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, 2016 and 2015, are as follows (in thousands):

#### 2016 2015

|                                                     |                 |                 |
|-----------------------------------------------------|-----------------|-----------------|
| Balance-January 1                                   | \$ 53,545       | \$ 36,707       |
| Claims incurred on current and prior-year events    | 32,874          | 54,088          |
| <u>Claims paid on current and prior-year events</u> | <u>(36,188)</u> | <u>(37,250)</u> |
| Balance-December 31                                 | \$ 50,231       | \$ 53,545       |

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, 2016 and 2015, the Water Fund entered into contracts with outstanding commitments of approximately \$805.9 million and \$121.3 million, respectively, for construction projects.

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## DEFERRED OUTFLOWS/INFLOWS OR RESOURCES

(Dollars in thousands)

2016 2015

Deferred outflows of resources: Deferred outflows from pension activities Accumulated decrease in fair value of hedging derivatives

Unamortized deferred bond refunding costs

\$630,689

91,806 28,586

Total deferred outflows of resources

Deferred inflows of resources: Deferred inflows from pension activities

## 11. SUBSEQUENT EVENTS

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

Bonds-In June, 2017, the City sold Second Lien Water Revenue Refunding Bonds, Series 2017 (\$199.4 million). The 2017 bonds were issued at interest rates between 5.0% and 5.25% and maturity dates between November 1, 2017 and November 1, 2036. Proceeds will be used to refund a portion of certain outstanding water bonds and pay costs of issuance.

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## REQUIRED SUPPLEMENTARY INFORMATION

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## CITY OF CHICAGO, ILLINOIS WATER FUND

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

|                                                             | 2016       | 2015       |
|-------------------------------------------------------------|------------|------------|
| MUNICIPAL EMPLOYEES': Total pension liability:              |            |            |
| Service cost                                                | \$ 619,743 | \$ 226,816 |
| Interest                                                    | 878,369    | 909,067    |
| Benefit changes                                             |            | 2,140,009  |
| Differences between expected and actual experience          | (127,119)  | (109,835)  |
| Assumption changes                                          | (578,920)  | 8,711,755  |
| Benefit payments including refunds                          | (859,672)  | (826,036)  |
| Pension plan administrative expense                         |            |            |
| Net change in total pension liability                       | (67,599)   | 11,051,776 |
| Total pension liability-beginning                           | 23,358,870 | 12,307,094 |
| Total pension liability-ending <sup>(a)</sup>               | 23,291,271 | 23,358,870 |
| Plan fiduciary net position:                                |            |            |
| Contributions-employer                                      | 149,718    | 149,225    |
| Contributions-employee                                      | 130,391    | 131,428    |
| Net investment income                                       | 281,419    | 114,025    |
| Benefit payments including refunds of employee contribution | (859,672)  | (826,036)  |
| Administrative expenses                                     | (7,056)    | (6,701)    |

|                                                                                 |                      |                      |            |            |
|---------------------------------------------------------------------------------|----------------------|----------------------|------------|------------|
| Net change in plan fiduciary net position                                       | (305,200)            | (438,059)            |            |            |
| <u>Plan fiduciary net position-beginning</u>                                    | <u>4,741,427</u>     | <u>5,179,486</u>     |            |            |
| <u>Plan fiduciary net position-ending <sup>(b)</sup></u>                        | <u>4,436,227</u>     | <u>4,741,427</u>     |            |            |
| <u>NET PENSION LIABILITY-ending <sup>(a)(b)</sup></u>                           | <u>\$ 18,855,044</u> | <u>\$ 18,617,443</u> |            |            |
| PLAN FIDUCIARY NET POSITION AS A PERCENTAGE OF THE TOTAL<br>PENSION LIABILITY   |                      |                      | 19.05 %    | 20.30 %    |
| <u>COVERED-EMPLOYEE PAYROLL*</u>                                                | <u>\$ 1,646,939</u>  | <u>\$ 1,643,481</u>  |            |            |
| EMPLOYER'S NET PENSION LIABILITY AS A PERCENTAGE OF<br>COVERED-EMPLOYEE PAYROLL |                      |                      | 1,144.85 % | 1,132.81 % |
| <u>ALLOCATED NET PENSION LIABILITY</u>                                          | <u>\$ 1,255,259</u>  | <u>\$ 1,260,613</u>  |            |            |
| ALLOCATION PERCENTAGE                                                           | 6.66 %               | 6.77 %               |            |            |

\* Covered-employee payroll is the amount in force as of the 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)

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## CITY OF CHICAGO, ILLINOIS WATER FUND

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

|                                                             | 2016             | 2015             |
|-------------------------------------------------------------|------------------|------------------|
| LABORERS': Total pension liability:                         |                  |                  |
| Service cost"                                               | \$ 82,960        | \$ 38,389        |
| Interest 150,166                                            | 153,812          |                  |
| Benefit changes                                             | 384,033          |                  |
| Differences between expected and actual experience          | (30,428)         | (46,085)         |
| Assumption changes                                          | (62,905)         | 1,175,935        |
| Benefit payments including refunds                          | (154,683)        | (152,530)        |
| <u>Pension plan administrative expense</u>                  | <u>(4,080)</u>   | <u>(3,844)</u>   |
| Net change in total pension liability                       | (18,970)         | 1,549,710        |
| Total pension liability-beginning                           | 3,712,615        | 2,162,905        |
| <u>Total pension liability-ending <sup>(a)</sup></u>        | <u>3,693,645</u> | <u>3,712,615</u> |
| Plan fiduciary net position:                                |                  |                  |
| Contributions-employer                                      | 12,603           | 12,412           |
| Contributions-employee                                      | 17,246           | 16,844           |
| Net investment income                                       | 57,997           | (22,318)         |
| Benefit payments including refunds of employee contribution | (154,683)        | (152,530)        |
| <u>Administrative expenses</u>                              | <u>(4,080)</u>   | <u>(3,844)</u>   |
| Net change in plan fiduciary net position                   | (70,917)         | (149,436)        |
| <u>Plan fiduciary net position-beginning</u>                | <u>1,238,657</u> | <u>1,388,093</u> |
| <u>Plan fiduciary net position-ending <sup>(b)</sup></u>    | <u>1,167,740</u> | <u>1,238,657</u> |

|                                                          |                     |                     |
|----------------------------------------------------------|---------------------|---------------------|
| <u>NET PENSION LIABILITY-Ending</u> <sup>(a)(b)</sup>    | <u>\$ 2,525,905</u> | <u>\$ 2,473,958</u> |
| PLAN FIDUCIARY NET POSITION AS A PERCENTAGE OF THE TOTAL |                     |                     |
| PENSION LIABILITY                                        | 31.61 %             | 33.36 %             |
| <u>COVERED-EMPLOYEE PAYROLL "</u>                        | <u>\$ 208,155</u>   | <u>\$ 204,773</u>   |
| EMPLOYER'S NET PENSION LIABILITY AS A PERCENTAGE OF      |                     |                     |
| COVERED-EMPLOYEE PAYROLL                                 | 1,213.47 %          | 1,208.15 %          |
| <u>ALLOCATED NET PENSION LIABILITY</u>                   | <u>\$ 371,399</u>   | <u>\$ 385,827</u>   |
| <u>ALLOCATED PERCENTAGE</u>                              | <u>14.70 %</u>      | <u>15.60 %</u>      |

' Includes pension plan administrative expense.

" Covered-employee payroll is the amount in force as of the 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)

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## CITY OF CHICAGO, ILLINOIS

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

Municipal Employees'

Years Ended December 31

2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

#### Actuarially Determined Contributions\*

\$343,123 360,387 413,509 483,948 611,756 690,823 820,023 839,039 677,200 961,770

#### Contributions in Relation to the Actuarially Determined Contribution

\$139,606 146,803 148,047 154,752 147,009 148,859 148,197 149,747 149,225 149,718

#### Contribution Deficiency

\$203,517 213,584 265,462 329,196 464,747 541,964 671,826 689,292 527,975 812,052

#### Covered Employee Payroll"

\$1,564,459 1,543,977 1,551,973 1,541,388 1,605,993 1,590,794 1,580,289 1,602,978 1,643,481 1,646,939

#### Contributions as a Percentage of Covered Employee Payroll

8.92 % 9.51 9.54 10.04 9.15 9.36 9.38 9.34 9.08 9.09

' 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-employee payroll is the amount in force as of the valuation date and likely differs from actual payroll paid during fiscal year.

**Laborers':**

Years Ended December 31

2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

**Actuarially Determined Contributions\***

\$ 21,726  
17,652  
33,518  
46,665  
57,259  
77,566 106,199 106,019  
79,851 117,033

**Contributions in Relation to the Actuarially Determined Contribution**

\$  
13,256 15,233 14,627 15,352 12,779 11,853 11,583 12,161 12,412 12,603

**Contribution Deficiency**

\$ 8,470 2,419 18,891 31,313 44,480 65,713 94,616 93,858 67,439 104,430

**Covered Employee Payroll\*\***

t 192,847 216,744 208,626 199,863 195,238 198,790 200,352 202,673 204,773 208,155

**Contributions as a Percentage of Covered Employee Payroll**

**6.87 %**  
7.03  
7.01  
7.68  
6.55  
5.96  
5.78  
6.00  
6.06  
6.05

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-employee payroll is the amount in force as of the valuation date and likely differs from actual payroll paid during fiscal year.

## CITY OF CHICAGO, ILLINOIS

### SCHEDULE OF CONTRIBUTIONS

#### Actuarial Methods and Assumptions

Actuarial valuation date Actuarial cost method Amortization method Remaining amortization period Asset valuation method

Actuarial assumptions Inflation Salary increases Investment rate of return Retirement age Mortality

Other information

#### **Municipal Employees'**

12/31/2016 (a) Entry age normal Level dollar, open 30 years 5-yr Smoothed Market

3.0%

4.5%-8.25% (d) 7.5% (f) (h) (j) (l)

#### **Laborers'**

12/31/2016 (b)

(c)

Entry age normal Level dollar, open 30 years 5-yr Smoothed Market

(e)

(g)

3.0% 3.75% 7.5%

(l) (k) (m)

<sup>(a)</sup> Actuarially determined contribution amount is determined as of December 31, with appropriate interest to the middle of the year <sup>(b)</sup> 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. <sup>(10)</sup> The statutory contributions are based on a multiple of member contributions from the second prior year. The statutory contribution multiple is 1.00. <sup>(d)</sup> Varying years of service.

<sup>(e)</sup> Plus a service-based increase in the first 15 years.

<sup>(f)</sup> Net of investment expense.

<sup>(g)</sup> Net of investment expense, including inflation.

<sup>(m)</sup> For employees first hired prior to January 1, 2011, rates of retirement are based on the recent experience of the Fund (adopted December 31, 2010). For employees first hired on or after January 1, 2011, rates of retirement for each age from 62 to 80 were used (adopted December 31, 2011).

<sup>(1)</sup> Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the December 31, 2012, valuation pursuant to an experience study of the period January 1, 2004, through December 31, 2011.

<sup>(0)</sup> Post-retirement mortality rates were based on the RP-2000 Health Mortality Tables with mortality improvements projected to 2010 using Scale AA. Pre-retirement mortality rates were based on the post-retirement mortality assumption, multiplied by 85% for males and 70% for females.

<sup>(c)</sup> RP2000 Combined Healthy Mortality table, sex distinct, set forward one year for males and set back two years for females. No adjustment is made for post-disabled mortality.

<sup>(l)</sup> Other assumptions: Same as those used in the December 31, 2016, actuarial funding valuations.

<sup>(m)</sup> There were no benefit changes during the year. (Concluded)

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## CITY OF CHICAGO, ILLINOIS

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

City of Chicago: Settlement Plan

2014

2015

2016

Actuarial Actuarial Value of Valuation Assets Date (a)

12/31/2013 \$

12/31/2014

12/31/2015

Actuarial Accrued Liability (AAL) Entry Age (b)

498,205 311,748 254,910

Unfunded Actuarial Accrued Liability (UAAL) (b-a)

498,205 311,748 254,910

Funded Ratio (a/b)

- %
- %
- %

Covered Payroll

(c)

2,425,000 2,487,787 2,563,649



**Unfunded (Surplus) AAL as a Percentage of Covered**

Payroll ((b-a)/c)

20.54 % 12.53 9.94

**CBA Special Benefits**

2014 12/31/2013

2015 12/31/2014

2016 12/31/2015

466,421 468,889 460,612

466,421 468,889 460,612

1,400,269 1,438,428 1,499,552

33.31 %

32.60

30.72

- 50 -

**ADDITIONAL SUPPLEMENTARY INFORMATION**





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## CITY OF CHICAGO, ILLINOIS WATER FUND

### STATISTICAL DATA

#### CHANGES IN NET POSITION (UNAUDITED)

THREE YEARS ENDED DECEMBER 31, 2014-2016

(In millions)

2016

OPERATING REVENUES: Water sales

Provision for doubtful accounts Other operating revenues

Total operating revenues

\$ 693.1 (22.5) 22.1

692.7

\$ 773.8 (23.6) 19.2

769.4

\$ 760.6 (24.8) 25.6

761.4

OPERATING EXPENSES: Source of supply Power and pumping Purification

Transmission and distribution Customer accounting and collection Administrative and general

Central services and General Fund reimbursements Pension expense

Total operating expenses

0.3 43.1 58.5 43.7 11.9 22.0 119.2

298.7

0.2 41.3 57.1 37.3 14.7 22.1 129.1 436.0

737.8

0.1 39.6 57.5 39.2 15.3 20.3 126.4 240.0

538.4

OPERATING INCOME BEFORE DEPRECIATION AND AMORTIZATION

DEPRECIATION AND AMORTIZATION OPERATING INCOME

394.0 58.0 336.0

31.6 56.4

(24.8)

223.0 68.0 155.0

NONOPERATING REVENUES (EXPENSES): Interest income Interest expenses Swap Termination Fee Other operating revenues

Total nonoperating expenses-net

TRANSFERS OUT

(0.5) (98.8)

(0-5)

(99.8)

3.1 (106.1)

0.2 (102.8) (0-6)

0.6 (107.9) (101.7)

0.6

(208.4) (2.4)

CHANGE IN NET POSITION

TOTAL NET POSITION-Beginning of year, as restated TOTAL NET POSITION-End of year

236.2 1,447.0

\$ 1,683.2

(128.2) 1,079.7

\$ 951.5

(55.8) 951.5

\$ 895.7

STATISTICAL DATA

NET POSITION BY COMPONENTS (UNAUDITED)

SEVEN YEARS ENDED DECEMBER 31, 2010-2016

(In millions)

|                                 | 2010<br>(As Restated)* | 2011<br>(As Restated)* | 2012<br>(As Restated)* | 2013              | 2014              | 2015            | 2016            |
|---------------------------------|------------------------|------------------------|------------------------|-------------------|-------------------|-----------------|-----------------|
| 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       |
| Restricted for                  |                        |                        |                        |                   |                   |                 |                 |
| capital projects                | 0.4                    | 0.2                    | 1.3                    | 0.7               | 0.6               | 0.7             | 0.4             |
| Unrestricted                    | 85.4                   | 47.0                   | 187.8                  | 213.1             | 288.6             | (S63.2)         | (726.7)         |
| <b>TOTAL NET POSITION</b>       | <b>\$ 1,050.7</b>      | <b>\$ 1,093.3</b>      | <b>\$ 1,251.4</b>      | <b>\$ 1,447.0</b> | <b>\$ 1,683.2</b> | <b>\$ 951.5</b> | <b>\$ 895.7</b> |

\* Restatement due to the implementation of GASB 65 in 2013  
Water Fund intends to provide ten year information as it becomes available.





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CITY OF CHICAGO, ILLINOIS WATER FUND STATISTICAL DATA  
WATER SYSTEM ACCOUNTS (UNAUDITED) TEN YEARS ENDED  
DECEMBER 31, 2007-2016

Years Ended  
December 31

Nonmetered    Metered Total

|         |         |         |         |         |         |         |         |         |         |  |  |  |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|--|--|
| 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    |  |  |  |
| 320,579 | 319,205 | 318,088 | 314,002 | 304,519 | 290,863 | 273,426 | 250,304 | 227,801 | 206,913 |  |  |  |
| 175,256 | 178,457 | 179,649 | 183,618 | 192,304 | 205,097 | 220,759 | 241,304 | 266,284 | 287,351 |  |  |  |
| 495,835 | 497,662 | 497,737 | 497,620 | 496,823 | 495,960 | 494,185 | 491,608 | 494,085 | 494,264 |  |  |  |

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**CITY OF CHICAGO, ILLINOIS WATER FUND STATISTICAL DATA  
TEN LARGEST SUBURBAN CUSTOMERS (UNAUDITED)  
FOR THE YEAR ENDED DECEMBER 31, 2016  
(In thousands)**

| <b>Customer</b>        | <b>of Sales</b> | <b>Amount</b> |
|------------------------|-----------------|---------------|
| Dupage Water Commision | \$102,711       |               |
| Oak Lawn, Illinois     | 39,539          |               |

|                                                        |                  |
|--------------------------------------------------------|------------------|
| Northwest Suburban Municipal Joint Action Water Agency | 38,086           |
| Bedford Park, Illinois                                 | 29,817           |
| Harvey, Illinois                                       | 12,033           |
| Cicero, Illinois                                       | 11,460           |
| Melrose Park, Illinois                                 | 11,053           |
| Niles, Illinois                                        | 8,227            |
| Alsip, Illinois                                        | 8,095            |
| <u>Village of McCook</u>                               | <u>7,361</u>     |
| <u>Total</u>                                           | <u>\$268,382</u> |

Source: City of Chicago Department of Water Management.

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## CITY OF CHICAGO, ILLINOIS WATER FUND

### STATISTICAL DATA

#### LONG-TERM DEBT (UNAUDITED)

SEVEN YEARS ENDED DECEMBER 31, 2010-2016

(In millions)

|                                             | 2010       | 2011       | 2012    | 2013 | 2014       | 2015       | 2016       |
|---------------------------------------------|------------|------------|---------|------|------------|------------|------------|
| Senior lien bonds                           | \$ 83.4    | \$ 68.9    |         |      | \$ 60.7    | \$ 49.0    | \$ 37.5    |
| Second lien bonds                           | 1,614.3    | 1,586.9    |         |      | 1,951.1    | 1,921.6    | 2,258.6    |
| Commercial paper                            | 51.5       | 46.5       |         |      |            |            | 2,222.3    |
|                                             |            |            |         |      |            |            | 2,261.8    |
| Subordinate lien-IEPA loan                  | 4.6        | 18.9       |         |      | 18.4       | 26.3       | 85.7       |
|                                             |            |            |         |      |            |            | 142.9      |
|                                             |            |            |         |      |            |            | 191.6      |
| 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    |
| Accretion of capital appreciation bonds     | 45.9       | 46.9       |         |      | 47.7       | 43.9       | 39.1       |
| Unamortized bond discount/premium-net       | 31.7       | 30.5       |         |      | 71.0       | 66.9       | 97.0       |
| Unamortized deferred loss on bond refunding | (41.2)     | (38.7)     |         |      | (36.2)     |            |            |
| Due within one year                         | (46.5)     | (48.9)     |         |      | (51.0)     | (53.0)     | (61.0)     |
|                                             |            |            |         |      |            |            | (75.7)     |
|                                             |            |            |         |      |            |            | (89.5)     |
| Total                                       | \$ 1,743.7 | \$ 1,711.0 |         |      | \$ 2,061.7 | \$ 2,054.7 | \$ 2,456.9 |
|                                             |            |            |         |      |            |            | \$ 2,440.3 |
|                                             |            |            |         |      |            |            | \$ 2,566.4 |

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

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**CITY OF CHICAGO, ILLINOIS WATER FUND**

**STATISTICAL DATA  
CAPITAL IMPROVEMENT PROGRAM (UNAUDITED) 2017-2021  
(In thousands)**

**Years Amount**

|              |                    |
|--------------|--------------------|
| 2017         | \$ 335,495         |
| 2018         | 393,103            |
| 2019         | 440,948            |
| 2020         | 458,449            |
| 2021         | <u>355,224</u>     |
| <u>Total</u> | <u>\$1,983,219</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.

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**CITY OF CHICAGO, ILLINOIS WATER FUND**

**STATISTICAL DATA  
WATER SYSTEM PUMPAGE AND CAPACITY (UNAUDITED)**

**TEN YEARS ENDED DECEMBER 31, 2007-2016**

Years

2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

**Total Pumpage (MGD)**

315,916 301,912 295,121 282,368 281,506 289,545 276,039 274,552 262,606 255,872

**Average Daily  
Pumpage (MGD)**

866 827 809 773 771 793 756 752 719 701

**Maximum  
Daily Pumpage**

**(MGD)**

1,200  
1,136  
1,112  
1,012  
1,317  
1,248  
1,095  
1,023 890 934

**System's**

**Rated Pumpage Capacity (MGD)**

2,160 2,160 2,160 2,160 2,160 2,160 2,160 2,160 2,160 2,160

**Maximum**

**Daily Pumpage as % of Capacity**

56 53 51 47 61 58 51 47 41 43

Note: Million Gallons Daily (MGD).

Source: City of Chicago Department of Water Management.

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

### **MISCELLANEOUS STATISTICAL DATA (UNAUDITED) FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015**

|                                                       |            | 2016       | 2015 |
|-------------------------------------------------------|------------|------------|------|
| AREA SERVED (IN SQUARE MILES):                        |            |            |      |
| Chicago                                               | 228        | 228        |      |
| <u>125 suburbs</u>                                    | <u>578</u> | <u>578</u> |      |
| TOTAL AREA SERVED                                     | 806        | 806        |      |
| WATER WORKS FACILITIES:                               |            |            |      |
| Filtration plants                                     | 22         |            |      |
| 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                             | 99         |            |      |
| Installed pumping capacity (MGD)                      | 3,661      | 3,661      |      |
| Crib intakes in service                               | 22         |            |      |
| Shore intakes (filtration plants)                     | 22         |            |      |
| Water supply tunnels (6 to 20 feet in diameter)-miles | 64         | 64         |      |

DISTRIBUTION SYSTEM:

|                     |        |        |
|---------------------|--------|--------|
| Water mains (miles) | 4,295  | 4,311  |
| Fire hydrants       | 48,190 | 48,543 |
| Valves              | 48,670 | 48,954 |

Note: Million Gallons Daily (MGD).

Source: City of Chicago Department of Water Management.

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**CITY OF CHICAGO, ILLINOIS WATER FUND STATISTICAL DATA  
OPERATING INFORMATION BY FUNCTION (UNAUDITED)  
SEVEN YEARS ENDED DECEMBER 31, 2010-2016  
(Number of employees)**

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

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

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**CITY OF CHICAGO, ILLINOIS WATER FUND STATISTICAL DATA  
POPULATION OF SERVICE AREA (UNAUDITED) LAST FIVE CENSUS  
PERIODS**

| <b>Years</b> | <b>Chicago</b> | <b>Customers</b> | <b>Suburban<br/>Total</b> | <b>Number of<br/>Served</b> | <b>Suburbs</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            |                  |                           |                             |                |

U.S. Department of Commerce-Census Bureau.

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.



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**CITY OF CHICAGO, ILLINOIS WATER FUND**

**STATISTICAL DATA  
PRINCIPAL EMPLOYERS (NONGOVERNMENT) (UNAUDITED)  
FOR THE YEAR ENDED DECEMBER 31, 2016, AND NINE YEARS AGO**

**Number of Employees**

**Percentage of  
Total City Employment**

**Number of Employees**

**Percentage of  
Total City Employment**

Advocate Health Care 18,930  
University of Chicago 16,374  
Northwestern Memorial Healthcare 15,747  
JP Morgan Chase & Co. (2) 15,229  
United Continental Holdings Inc. 15,157 Walgreen Boots Alliance Inc. 12,685 Northwestern University 10,241 Presence Health 10,183 Abbott Laboratories 9,800 Jewel Food  
Stores, Inc. 9,660 Northern Trust Corporation Accenture LLP SBC/AT&T (3) American Airlines Ford Motor Company CVS Corporation Deloitte & Touche  
1 2 3 4 5 6 7 8 9 10  
1.48% 1.28 1.23 1.19 1.18 0.99 0.80 0.79 0.76 0.75

9,114 6,102

5,424 4,787 4,283 4,002 3,645 3,367 3,120 2,988

3 4 5 6

7 8 9 10

0.73% 0.49

0.43 0.38 0.34 0.32 0.29 0.27 0.25 0.24

#### NOTES'

- 1) Source Reprinted with permission from the January 16, 2017's issue of Crain's Chicago Business. ©2017 Crain Communication, Inc. All right reserved.
- 2) J.P. Morgan Chase formerly known as Banc One.
- 3) AT&T Inc. formerly known as SBC Ameritech. Number of employees is a state wide number.
- 4) Source- City of Chicago, Department of Revenue, Employee's Expense Tax Returns.

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**APPENDIX D**

**PROPOSED FORM OF OPINIONS OF CO-BOND COUNSEL**

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**APPENDIX D**

**PROPOSED FORM OF OPINIONS OF CO-BOND COUNSEL**

[Dated the Closing Date]

City of Chicago

The Bank of New York Mellon Trust Company  
N.A., as Trustee

Re: City of Chicago  
Second Lien Water Revenue Refunding Bonds, Series 2017-2

Ladies and Gentlemen:

We have acted as co-bond counsel in connection with the issuance by the City of Chicago (the "City") of its \$ \_\_\_\_\_ aggregate principal amount Second Lien Water Revenue Refunding Bonds, Series 2017-2 (the "Bonds"). The Bonds are limited obligations of the City issued pursuant to the authority of Article VII, Section 6(a) of the Illinois Constitution of 1970 and an ordinance adopted by the City Council of the City on November 8, 2017 authorizing the Bonds (the "Ordinance"). The Bonds are being executed and delivered under a Master Indenture of Trust Securing City of Chicago Second Lien Water Revenue Bonds, dated as of December 15, 1999, as heretofore supplemented and amended by Amendment No. 1 to Master Indenture dated as of August 1, 2004 (collectively, the "Master Indenture"), and as further supplemented by the Eleventh Supplemental Indenture Securing Second Lien Water Revenue Refunding Bonds, Series 2017-2, dated as of December 1, 2017 (the "Eleventh Supplemental Indenture," and together with the Master Indenture, the "Indenture") from the City to The Bank of New York Mellon Trust Company, N.A., (as successor to American National Bank and Trust Company of Chicago and J.P. Morgan Trust Company, National Association), as trustee (the "Trustee"). The Bonds are being issued as Second Lien Bonds under the Indenture. Capitalized terms used herein without definition shall have the meanings assigned to such terms in the Indenture or the Ordinance.

The proceeds from the sale of the Bonds will be used to (i) advance refund a portion of the City's outstanding Second Lien Water Revenue Project and Refunding Bonds, Series 2008 (the "Refunded Bonds"), and (ii) pay costs of issuance of the Bonds.

The Bonds are issuable only as fully registered bonds without coupons in Authorized Denominations. The Bonds are dated the date hereof and are due on November 1 of each of the years and in the amounts and bear interest payable on May 1 and November 1 of each year, commencing May 1, 2018, at the rates per annum, as follows:

| <u>Maturity</u><br><u>(November 1)</u> | <u>Principal</u><br><u>Amount</u> | <u>Rate Per</u><br><u>Annum</u> | <u>Maturity</u><br><u>(November 1 )</u> | <u>Principal</u><br><u>Amount</u> | <u>Rate Per</u><br><u>Annum</u> |
|----------------------------------------|-----------------------------------|---------------------------------|-----------------------------------------|-----------------------------------|---------------------------------|
|----------------------------------------|-----------------------------------|---------------------------------|-----------------------------------------|-----------------------------------|---------------------------------|

The Bonds are subject to optional redemption at the times, in the manner and upon the terms specified in the Eleventh Supplemental Indenture.

In connection with the issuance of the Bonds we have examined the following:

- a) The Constitution of the State of Illinois and such laws as we deemed pertinent to this opinion;
- b) Certified Copies of the Ordinance and the Master Indenture; and
- c) An executed counterpart of the Eleventh Supplemental Indenture; and
- d) Such other documents and related matters of law as we have deemed necessary in order to render this opinion.

Based upon our examination of the foregoing, we are of the opinion that:

1. The City is a municipal corporation duly existing under the laws of the State of Illinois and is a home rule unit of local government within the meaning of Section 6(a) of Article VII of the 1970 Illinois Constitution. The City has all requisite power and authority under the Constitution and the laws of the State of Illinois to adopt the Ordinance, and under the Master Indenture and the Ordinance to enter into the Eleventh Supplemental Indenture with the Trustee and to issue the Bonds thereunder.

2. The Ordinance is in full force and effect and is valid and binding upon the City in accordance with its terms. The Master Indenture and the Eleventh Supplemental Indenture have been duly authorized, executed, and delivered by the City, constitute valid and binding obligations of the City and are legally enforceable in accordance with their respective terms.

3. The Bonds have been duly authorized and issued, are the legal, valid, and binding limited obligations of the City, have received all required approvals for their issuance, are entitled to the benefits and security of the Indenture, and are enforceable in accordance with their terms.

## D-2

4. The Bonds are payable solely from the Second Lien Revenues deposited in the Second Lien Bonds Account maintained by the Trustee under the Ordinance, except for any monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other series of Second Lien Bonds issued or to be issued, and from certain other amounts, as provided in the Master Indenture and the Eleventh Supplemental Indenture, and all other moneys

and securities from time to time held by the Trustee under the terms of the Eleventh Supplemental Indenture. The Bonds and the interest thereon are limited obligations of the City and do not constitute an indebtedness of the City within the meaning of any state constitutional or statutory provision or limitation as to indebtedness. The Bonds do not have a claim for payment from any taxes of the City. Neither the faith and credit nor the taxing power of the State of Illinois, the City or any political subdivision of the State of Illinois is pledged to the payment of the principal of, premium, if any, or interest on the Bonds.

5. The Bond Ordinance, the Master Indenture and the Eleventh Supplemental Indenture create the valid and binding assignments and pledges which they purport to create of the amounts assigned and pledged to the Trustee under the Indenture, subject to the application thereof to the purposes and on the conditions permitted by the Indenture.

6. Subject to condition that the City comply with certain covenants made to satisfy pertinent requirements of the Internal Revenue Code 1986, as amended, under present law, in the opinion of Co-Bond Counsel, interest on the Bonds is excluded from the gross income of the owners thereof for federal income tax purposes, and is not included as an item of tax preference in computing the federal alternative minimum tax for individuals and corporations, but is taken into account in computing an adjustment used in determining the federal alternative minimum tax for certain corporations. Failure to comply with certain of such covenants could cause interest on the Bonds to be included in gross income retroactively to the date of issuance of the Bonds. Ownership of the Bonds may result in other federal tax consequences to certain taxpayers. We express no opinion regarding any such collateral consequences arising with respect to the Bonds. In rendering the foregoing opinion we have relied on certifications of the City with respect to certain material facts solely within its knowledge relating to the application of the proceeds of the Bonds, the application of the proceeds of the Refunded Bonds, and certain other matters pertaining to the tax-exempt status of the Bonds. We are also relying, without independent investigation on the verification report of Robert Thomas CPA, LLC, with respect to the mathematical computations of (i) the yield on the Bonds and the yield on certain investments and (ii) the sufficiency of amounts to be applied to the payment and redemption of the Refunded Bonds.

7. Interest on the Bonds is not exempt from present Illinois income taxes. Ownership of the Bonds may result in other state and local tax consequences to certain taxpayers, and we express no opinion regarding any such collateral consequences arising with respect to the Bonds.

In rendering this opinion, we advise you that the enforceability (but not the validity or binding effect) of the Bonds, the Ordinance, the Master Indenture and the Eleventh Supplemental Indenture (i) may be limited by any applicable bankruptcy, insolvency, reorganization, moratorium, and other similar laws reflecting the rights or remedies of creditors now or hereafter in effect and (ii) is subject to principles of equity in the event that equitable remedies are sought, either in an action at law or in equity.

We express no opinion with respect to the Bonds or other matters related to the Bonds other than those specifically rendered here. Our opinion represents our professional judgment regarding the legal issues expressly addressed herein, and is not a guarantee of a result. This opinion is given as of the date hereof and we assume no obligation to revise or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or any changes in law that may hereafter occur.

Respectfully submitted,

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## EXHIBIT C OFFICIAL STATEMENT

**RATINGS:** See "RATINGS" herein.

*Subject to compliance by the City with certain covenants, in the opinion of Co-Bond Counsel, under present law, interest on the Bonds is excluded from the gross income of the owners thereof for federal income tax purposes and is not included as an item of tax preference in computing the federal alternative minimum tax imposed on individuals and corporations. Interest on the Bonds will, however, be taken into account in computing the corporate alternative minimum tax for certain corporations. Interest on the Bonds is not exempt from present State of Illinois income taxes. As further described under "TAX MATTERS" herein, legislation is pending in Congress that would significantly change individual and corporate income tax rates and repeal the alternative minimum tax for tax years after 2017. See "TAX MATTERS" herein for a more complete discussion.*

### **\$235,260,000 CITY OF CHICAGO Second Lien Water Revenue Refunding Bonds, Series 2017-2**

**Dated: December 7, 2017**

**Due: As Shown on the Inside Cover**

This Official Statement contains information relating to the City of Chicago (the "City") Second Lien Water Revenue Refunding Bonds, Series 2017-2 (the "Bonds") which will be issued pursuant to a Master Indenture of Trust Securing City of Chicago Second Lien Water Revenue Bonds, dated as of December 15, 1999, as heretofore supplemented, from the City to The Bank of New York Mellon Trust Company, N.A., as trustee (as successor to American National Bank and Trust Company of Chicago and J. P. Morgan Trust Company, National Association) (the "Trustee"), as amended by Amendment No. 1 to Master Indenture dated as of August 1, 2004, and as further supplemented by the Eleventh Supplemental Indenture Securing Second Lien Water Revenue Refunding Bonds, Series 2017-2 dated as of December 1, 2017. The Bonds will be issuable as fully registered bonds in the name of Cede & Co., as registered owner and nominee of The Depository Trust Company, New York, New York ("DTC"). DTC will act as securities depository for the Bonds. Purchasers of the Bonds will not receive certificates representing their interests in the Bonds purchased. The Bonds will be issued in denominations of \$5,000 or any integral multiple thereof. Interest on the Bonds is payable on each May 1 and November 1, with the first interest payment date being May 1, 2018. Principal of the Bonds is payable at maturity. Principal of and interest on the Bonds will be paid by the Trustee to DTC, which in turn will remit such principal and interest payments to its participants for subsequent disbursement to the beneficial owners of the Bonds. As long as Cede & Co. is the registered owner as nominee of DTC, payments on the Bonds will be made to such registered owner, and disbursement of such payments to beneficial owners will be the responsibility of DTC and its participants. See "DESCRIPTION OF THE BONDS-Book-Entry Only System" herein.

The Bonds are subject to redemption prior to maturity as described in this Official Statement. See "DESCRIPTION OF THE BONDS-Redemption" herein.

The Bonds are limited obligations of the City having a claim for payment of principal and interest solely from the Second Lien Bond Revenues pledged to their payment as described herein. The Bonds have a claim for payment from the Second Lien Bond Revenues on an equal and ratable basis with the City's Outstanding Second Lien Bonds and any Second Lien Parity Bonds that may be issued from time to time in the future.

The City will use the proceeds from the sale of the Bonds to (i) advance refund a portion of the City's Second Lien Water Revenue Project and Refunding Bonds, Series 2008 (the "Refunded Bonds"), and (ii) pay costs of issuance of the Bonds. See "PLAN OF FINANCING" and "SOURCES AND USES OF PROCEEDS" herein.

**THE BONDS DO NOT CONSTITUTE AN INDEBTEDNESS OF THE CITY WITHIN THE MEANING OF ANY CONSTITUTIONAL OR STATUTORY PROVISION OR LIMITATION AS TO INDEBTEDNESS. THE BONDS DO NOT HAVE A CLAIM FOR PAYMENT FROM ANY TAXES OF THE CITY. THE BONDS ARE NOT SECURED BY A LIEN ON OR A SECURITY INTEREST IN THE PHYSICAL ASSETS OF THE WATER SYSTEM. THE CITY SHALL NOT BE OBLIGATED TO PAY THE BONDS EXCEPT FROM THE REVENUES PLEDGED TO THEIR PAYMENT. NEITHER THE FULL FAITH AND CREDIT NOR THE TAXING POWER OF THE CITY, THE STATE OF ILLINOIS OR ANY POLITICAL SUBDIVISION OF THE STATE OF ILLINOIS IS PLEDGED TO THE PAYMENT OF THE BONDS.**

The scheduled payment of principal of and interest on the Bonds maturing on November 1 of the years 2028 through 2038, inclusive (the "Insured Bonds"), when due will be guaranteed under an insurance policy to be issued concurrently with the delivery of the Insured Bonds by ASSURED GUARANTY MUNICIPAL CORP.

Maturities, Principal Amounts, Interest Rates, Prices, Yields and CUSIP Numbers are set forth on the inside of this cover page.

The Bonds are offered when, as and if issued, and accepted by the Underwriters, subject to delivery of separate approving legal opinions by Reyes Kurson, Ltd., Chicago, Illinois, and Burke Burns & Pinelli, Ltd., Chicago, Illinois, Co-Bond Counsel, and to certain other conditions. Certain legal matters will be passed upon for the City by (i) its Corporation Counsel, and (ii) in connection with the preparation of this Official Statement, Duane Morris LLP, Chicago, Illinois, and Golden Holley James LLP, Chicago, Illinois, Co-Disclosure Counsel to the City. Certain legal matters will be passed upon for the Underwriters by Ice Miller LLP, Chicago, Illinois. It is expected that the Bonds will be available for delivery through the facilities of DTC on or about December 7, 2017.

Mesirow Financial, Inc. North South Capital

## MATURITIES, PRINCIPAL AMOUNTS, INTEREST RATES, PRICES, YIELDS AND CUSIP NUMBERS

### \$235,260,000 CITY OF CHICAGO Second Lien Water Revenue Refunding Bonds, Series 2017-2

#### Maturity November 1

2018 2019 2020 2021 2022 2023 2024 2028<sup>(1)</sup> 2030<sup>(2)</sup> 2031<sup>(2)</sup> 2032<sup>(2)</sup> 2033<sup>(2)</sup> 2034<sup>(2)</sup>

2035<sup>(2)</sup>

a

2036<sup>(1)</sup> 2037<sup>(2)</sup> 2038<sup>(2)</sup>

#### Principal Amount

\$ 3,000,000 16,950,000 12,640,000 5,415,000 5,690,000 5,975,000 6,270,000 13,585,000 15,030,000 15,780,000 16,570,000 17,400,000  
18,275,000 19,185,000 20,145,000 21,145,000 22,205,000

#### Interest Rate

5.000% 5.000% 5.000% 5.000% 5.000% 5.000% 5.000% 5.000% 5.000% 5.000% 5.000% 5.000% 5.000% 5.000% 5.000% 5.000%

#### Price

103.025<sup>(3)</sup> 105.923<sup>(3)</sup> 108.824<sup>(v)</sup> 111.407<sup>(13)</sup> 113.679<sup>(v)</sup> 115.672<sup>(3)</sup> 117.390<sup>(3)</sup> 121.239<sup>(m)</sup> 119.984<sup>(13)</sup> 119.505<sup>(3)</sup> 119.029<sup>(3)</sup> 118.555<sup>(4)</sup> 118.083<sup>(3)</sup> 117.613<sup>(3)</sup>  
117.426<sup>(3)</sup> 117.332<sup>(o)</sup> 117.239<sup>(3)</sup>

#### Yield

1.450% 1.750% 1.820% 1.920% 2.030% 2.140% 2.250% 2.550% 2.680% 2.730% 2.780% 2.830% 2.880% 2.930% 2.950% 2.960% 2.970%

(1)

CUSIP

167736N29 167736N37 167736N45 167736N52 167736N60 167736N78 167736N86 167736N94 167736  
P27 167736 P35 167736 P43 167736 P50 167736 P68 167736 P76 167736 P84 167736 P92 167736  
Q26

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Insured maturity.

Priced to the November 1, 2027 first optional redemption date.

**CITY OF CHICAGO**

**MAYOR**

Rahm Emanuel

**CITY TREASURER**

Kurt A. Summers, Jr.

**CITY CLERK**

Andrea M. Valencia

CITY COUNCIL COMMITTEE ON FINANCE Edward M. Burke, Chairman

**CHIEF FINANCIAL OFFICER**

Carole L. Brown

**CITY COMPTROLLER**

Erin Keane

**BUDGET DIRECTOR**

Samantha Fields

**CORPORATION COUNSEL**

Edward N. Siskel, Esq.

**DEPARTMENT OF WATER MANAGEMENT**

Alfonzo Conner, Commissioner

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Burke Burns & Pinelli, Ltd. Chicago, Illinois

**CO-DISCLOSURE COUNSEL**

Duane Morris LLP Chicago, Illinois

Golden Holley James LLP Chicago, Illinois

**FINANCIAL ADVISOR**

Acacia Financial Group, Inc. Chicago, Illinois

Certain information contained in, or incorporated by reference in, this Official Statement has been obtained by the City of Chicago (the "City") from The Depository Trust Company and other sources that are deemed reliable. No representation or warranty is made, however, as to the accuracy or completeness of such information by the Underwriters or the City. The Underwriters have provided the following sentence for inclusion in this Official Statement: The Underwriters reviewed the information in this Official Statement in accordance with, and as part of, their respective responsibilities to investors under the

federal securities laws as applied to the facts and circumstances of this transaction, but the Underwriters do not guarantee the accuracy or completeness of such information. This Official Statement is being used in connection with the sale of securities as referred to herein and may not be used, in whole or in part, for any other purpose. The delivery of this Official Statement at any time does not imply that information herein is correct as of any time subsequent to its date.

Assured Guaranty Municipal Corp. ("AGM") makes no representation regarding the Insured Bonds or the advisability of investing in the Insured Bonds. In addition, AGM has not independently verified, makes no representation regarding, and does not accept any responsibility for the accuracy or completeness of this Official Statement or any information or disclosure contained herein, or omitted herefrom, other than with respect to the accuracy of the information regarding AGM supplied by AGM and presented under the heading "BOND INSURANCE" and APPENDIX E - SPECIMEN MUNICIPAL BOND INSURANCE POLICY".

No dealer, broker, salesperson or any other person has been authorized by the City or the Underwriters to give any information or to make any representation other than as contained in this Official Statement in connection with the offering described herein and, if given or made, such other information or representation must not be relied upon as having

been authorized by any of the foregoing. This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy any securities other than those described on the cover page, nor shall there be any offer to sell, solicitation of an offer to buy, or sale of such securities in any jurisdiction in which it is unlawful to make such offer, solicitation or sale. Neither this

Official Statement nor any statement that may have been made verbally or in writing is to be construed as a contract with the registered or beneficial owners of the Bonds.

This Official Statement, including the Appendices, contains certain opinions, estimates and forward-looking statements and

; information that are based on the City's beliefs as well as assumptions made by and information currently available to

the City.

Such opinions, estimates, projections and forward-looking statements set forth in this Official Statement were not prepared with a view toward complying with the guidelines established by the American Institute of Certified Public Accountants with respect to prospective financial information, but, in the view of the City, were prepared on a reasonable basis, reflect the best currently available estimates and judgments, and present, to the best of the City's knowledge and belief, the expected course of action and the expected future financial performance of the City. However, this information is not fact and should not be relied upon as being necessarily indicative of future results, and readers of this Official Statement are cautioned not to place undue reliance on such opinions, statements or prospective financial information.

The prospective financial information set forth in this Official Statement, except for certain information sourced to parties other than the City, is solely the product of the City. Neither the City's independent auditors, nor any other independent auditors, have compiled, examined, or performed any procedures with respect to, or been consulted in connection with the preparation of, the prospective financial information and forward-looking statements contained herein. The City's independent auditors assume no responsibility for the content of the prospective financial information set forth in this Official Statement, including any estimates, disclaim any association with such prospective financial information, and have not, nor have any other independent auditors, expressed any opinion or any other form of assurance on such information or its achievability.

References to website addresses presented in this Official Statement are for informational purposes only and may be in the form of a hyperlink solely for the reader's convenience. Unless specified otherwise, such websites and the information or links contained therein are not incorporated into, and are not part of, this Official Statement.

**THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION NOR HAS THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS OFFICIAL STATEMENT. ANY REPRESENTATION TO THE CONTRARY MAY BE A CRIMINAL OFFENSE.**

THE BONDS HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, NOR HAS THE INDENTURE BEEN QUALIFIED UNDER THE TRUST INDENTURE ACT OF 1939, AS AMENDED, IN RELIANCE UPON EXEMPTIONS CONTAINED IN SUCH ACTS. THE REGISTRATION OR QUALIFICATION OF THE BONDS IN ACCORDANCE WITH APPLICABLE PROVISIONS OF LAW OF THE STATES IN WHICH THE BONDS HAVE BEEN REGISTERED OR QUALIFIED AND THE EXEMPTION FROM REGISTRATION OR QUALIFICATION IN OTHER STATES CANNOT BE REGARDED AS A RECOMMENDATION THEREOF.

IN CONNECTION WITH THE OFFERING OF THE BONDS, THE UNDERWRITERS MAY OVERALLOT OR EFFECT TRANSACTIONS THAT STABILIZE OR MAINTAIN THE MARKET PRICES OF THE BONDS AT LEVELS ABOVE THOSE WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME. THE PRICES AND OTHER TERMS RESPECTING THE OFFERING AND SALE OF

AND THE BONDS MAY BE OFFERED AND SOLD AT PRICES OTHER THAN THE INITIAL OFFERING PRICES, INCLUDING SALES TO DEALERS WHO MAY SELL THE BONDS INTO INVESTMENT ACCOUNTS.

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## OFFICIAL STATEMENT

### **\$235,260,000 CITY OF CHICAGO SECOND LIEN WATER REVENUE REFUNDING BONDS, SERIES 2017-2**

#### INTRODUCTION

This Official Statement, including the cover page, inside cover page, and the Appendices, sets forth certain information in connection with the sale of \$235,260,000 Second Lien Water Revenue Refunding Bonds, Series 2017-2 (the "Bonds") of the City of Chicago (the "City") which are to be issued pursuant to the terms of the Ordinance and the Indenture (each as defined below). All capitalized terms used in this Official Statement and not otherwise defined herein have the meanings provided in APPENDIX A - "GLOSSARY OF CERTAIN TERMS."

#### **Purpose**

The proceeds from the sale of the Bonds will be used to (i) advance refund a portion of the City's Second Lien Water Revenue Project and Refunding Bonds, Series 2008 (the "Refunded Bonds"), and (ii) pay costs of issuance of the Bonds. See "PLAN OF FINANCING" and "SOURCES AND USES OF PROCEEDS."

#### **Authorization**

The Bonds are being issued pursuant to the constitutional home rule powers of the City. The Bonds were authorized under an ordinance adopted by the City Council of the City (the "City Council") on November 8, 2017 (the "Ordinance"). The Bonds are also being issued pursuant to a Master Indenture of Trust Securing City of Chicago Second Lien Water Revenue Bonds, dated as of December 15, 1999, as heretofore supplemented and as amended by Amendment No. 1 to Master Indenture dated as of August 1, 2004 (collectively, the "Master Indenture"), from the City to The Bank of New York Mellon Trust Company, N.A., as trustee (as successor to American National Bank and Trust Company of Chicago and J.P. Morgan Trust Company, National Association) (the "Trustee") and as further supplemented by the Eleventh Supplemental Indenture Securing Second Lien Water Revenue Refunding Bonds, Series 2017-2, dated as of December 1, 2017 (the "Eleventh Supplemental Indenture," and collectively with the Master Indenture, the "Indenture").

#### **Security for the Bonds**

The Bonds are Second Lien Bonds under the Indenture. The Bonds are limited obligations of the City having a claim for payment of principal, redemption premium, if any, and interest solely from amounts in the Second Lien Bonds Account (other than monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other series of Second Lien Bonds issued or to be issued), the sources pledged under the Indenture and amounts on deposit in Accounts established by the Ordinance and related to the Bonds and, together with any Outstanding Second Lien Bonds, Second Lien Parity Bonds, Section 2.08 Obligations and Section 2.09 Obligations, from Second Lien Bond Revenues. A lien on and security interest in Second Lien Bond Revenues (except for monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other series of Second Lien Bonds issued or to be issued) is granted to the Registered Owners of the Second Lien Bonds Outstanding from

time to time, and a lien on amounts in any Accounts related to the Bonds is granted to the Registered Owners of the Bonds Outstanding from time to time, subject to amounts in those Accounts being deposited, credited and expended as provided in the Ordinance and the Indenture. The claim of the Bonds to payment from amounts in the Water Fund is subordinate to the claim of Senior Lien Bonds. See "SECURITY FOR THE BONDS - General" and "-Flow of Funds," "OUTSTANDING DEBT AND ANNUAL DEBT SERVICE" and APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - Source of Payment; Pledge of Second Lien Bond Revenues" and "- Flow of Funds."



*The Bonds are not secured by a lien on or security interest in the physical assets of the Water System. The Bonds do not constitute an indebtedness of the City within the meaning of any constitutional or statutory provision or limitation as to indebtedness, and neither the full faith and credit nor taxing power of the City, the State of Illinois or any political subdivision of the State of Illinois is pledged to the payment of the Bonds.*

#### **Redemption**

The Bonds are subject to redemption prior to maturity as described under the caption "DESCRIPTION OF THE BONDS - Redemption."

#### **Rate Covenant**

The City has covenanted (the "Rate Covenant") in the ordinances authorizing its water revenue bonds to establish, maintain and collect at all times, the fees, charges and rates for the use and service of the Water System sufficient at all times to pay Operation and Maintenance Costs and produce Net Revenues Available for Bonds in each Fiscal Year at least equal to the greater of:

- i) 120 percent of the sum required to pay promptly when due the Senior Lien Debt Service Requirement for the Fiscal Year on all Senior Lien Bonds then Outstanding, or
- ii) the sum of
  - A) 100 percent of the Senior Lien Debt Service Requirement for the Fiscal Year on all Senior Lien Bonds Outstanding, plus
  - B) 110 percent of the Aggregate Second Lien Debt Service for the Fiscal Year with respect to all Second Lien Bonds Outstanding and all Section 2.08 Obligations and Section 2.09 Obligations, plus
  - C) 100 percent of the Subordinate Lien Debt Service Requirement for the Fiscal Year on all Subordinate Lien Obligations Outstanding, plus
  - D) the annual debt service requirement for the Fiscal Year on all Commercial Paper Notes Outstanding, plus
  - E) the annual debt service requirement for the Fiscal Year on all Water System Line of Credit Notes Outstanding.

These fees, charges and rates shall not be reduced, while any Senior Lien Bonds are Outstanding, below the level necessary to ensure compliance with the covenants set forth above. An additional covenant substantively similar to the Rate Covenant as to items (i) and (ii)(A), (ii)(B) and (ii)(C) above

(the "Second Lien Bonds Rate Covenant"), exists under the Master Indenture. For a description of the Second Lien Bonds Rate Covenant, see APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - Second Lien Bonds Rate Covenant" The City will conduct an annual review of Water System rates to determine if the City has been and will be in compliance with the Rate Covenant described above. Whenever the annual review indicates that projected Gross Revenues will not be sufficient to comply with the Rate Covenant, the City will prepare or have prepared a rate study for the Water System identifying the rate changes necessary to comply with the Rate Covenant and the Office of Budget and Management (the "Budget Office") and the Chief Financial Officer will recommend appropriate action to the City Council to comply with the Rate Covenant, which may include rate increases and/or expenditure reductions. See "FINANCIAL OPERATIONS - Annual Budget Review and Implementation of Annual Budget" and APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - Second Lien Bonds Rate Covenant."

## **Bond Insurance**

Concurrently with the issuance of the Bonds, Assured Guaranty Municipal Corp. ("AGM") will issue its Municipal Bond Insurance Policy (the "Policy") for the Bonds maturing on November 1 of the years 2028 through 2038, inclusive (the "Insured Bonds"). The Policy guarantees scheduled payment of principal of and interest on the Insured Bonds when due as set forth in the form of the Policy included as APPENDIX E to this Official Statement. The Bonds maturing on November 1 of the years 2017 through 2029, inclusive and 2036 will not be insured by the Policy. For additional information on AGM and the Policy, see "BOND INSURANCE" and "APPENDIX E - SPECIMEN MUNICIPAL BOND INSURANCE POLICY".

## **City of Chicago Water System**

The City owns and operates a municipal water system (the "Water System") that provides supply, treatment and distribution of water to customers in the City and to 125 suburban communities. The Water System includes all property, real, personal or otherwise, owned or to be owned by the City or under the control of the City and used for water supply, distribution or collection purposes, and any and all further extensions, improvements and additions to the Water System. The Water System currently serves a population of 5.3 million. The Water System's water is allocated from Lake Michigan pursuant to regulations of the Illinois Department of Natural Resources. See "WATER SYSTEM SERVICE AREA- Lake Michigan Allocations."

As of December 31, 2016, the Water System supplied water to a service area of approximately 806 square miles. The City accounted for approximately 228 square miles of this service area and the suburban customers accounted for approximately 578 square miles. The City's service to suburban customers is based on various contracts as well as state law which requires the City to supply water at the City limits to any municipal corporation within a specified area at no greater price or charge than that applicable to similar large users in the City. The City considers it likely that any material number of current suburban customers will continue to purchase water from the Water System under these contracts for the following reasons: (i) large capital investments would be required for those customers otherwise to obtain water from Lake Michigan; (ii) the Water System provides a reliable supply of water; (iii) demand for available groundwater exceeds its potential yield; and (iv) the quality of Lake Michigan water is superior to local groundwater. In 2016, the suburban customers accounted for approximately 38 percent of water pumpage and approximately 49 percent of net water sales of the Water System.

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## **Water System Rates**

Water System rates are set by the City Council. No regulation by any administrative agency applies to the Water System rates.

The Water System rates for metered accounts are based on a dollar rate per thousand cubic feet. The assessment of non-metered users is based on a formula related to the size of the relevant property and other use-related factors. In 2011, the City Council passed an ordinance raising rates for four consecutive years and then tying rates to the rate of inflation. In 2012, the Water System rates represented a 25% increase over the rates for the previous year; in 2013, Water System rates represented a 15% increase over the previous year; in 2014, Water System rates represented a 15% increase over the previous year; and in 2015, Water System rates represented a 15% increase over the previous year. Beginning June 1, 2016, and every year thereafter, annual Water System rates are required to be adjusted, if applicable, by applying to the previous year's rates the rate of inflation, calculated based on the Consumer Price Index -Urban Wage Earners and Clerical Workers (Chicago All Items) published by the United States Bureau of Labor Statistics for the 365-day period ending on the most recent January 1. Any such annual increase, however, shall be capped at 5% of the previous year's rate. The City Council may take action at any time to alter the then-current schedule of water rates. There was no increase in Water System rates for 2016. Effective June 1, 2017, the Water System rates increased by 1.83% or \$.07 per 1,000 gallons, making the rate \$3.88 per 1,000 gallons of water. See "FINANCIAL OPERATIONS."

## **Chicago Water and Sewer Tax**

## Refunding of Refunded Bonds

The proceeds from the sale of the Bonds will be used to (i) advance refund the Refunded Bonds, and (ii) pay costs of issuance of the Bonds.

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The following table sets forth the maturity, interest rate, principal amount, redemption date, price and CUSIP for each maturity of the Refunded Bonds:

## REFUNDED BONDS

### Prior Bond Issue

Series 2008 Bonds Series 2008 Bonds Series 2008 Bonds Series 2008 Bonds Series 2008 Bonds Series 2008 Bonds Series 2008  
Bonds Series 2008 Bonds Series 2008 Bonds  
Series 2008 Term Bonds Series 2008 Term Bonds Series 2008 Term Bonds Series 2008 Term Bonds Series 2008 Term Bonds Series  
2008 Term Bonds Series 2008 Term Bonds Series 2008 Term Bonds Series 2008 Term Bonds

Maturity (November 1)

2019 2020 2021 2022 2023 2024 2025 2028 2024 2030 2031 2032 2033 2034 2035 2036 2037 2038

Interest Rate

5.00% 5.00% 5.00% 5.00% 5.00%, 4.75% 5.00% 5.00% 5.00% 5.25% 5.25% 5.25% 5.25% 5.25% 5.25% 5.25%, 5.25%

Principal Amount Refunded

|              |            |           |            |            |           |
|--------------|------------|-----------|------------|------------|-----------|
| \$16,075,000 | 16,880,000 | 9,870,000 | 10,365,000 | 10,885,000 | 1,910,000 |
|--------------|------------|-----------|------------|------------|-----------|

995,000

|            |            |            |            |            |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|
| 13,885,000 | 9,515,000  | 15,345,000 | 16,150,000 | 17,000,000 | 17,890,000 | 18,835,000 | 19,820,000 |
| 20,860,000 | 21,950,000 | 23,105,000 |            |            |            |            |            |

## Redemption Date

November 1, 2018 November 1, 2018 November 1, 2018 November 1, 2018 November 1, 2018 November 1, 2018 November 1,

100%, 100%, 100% 100% 100%, 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100%, 100%,

The Defeasance Obligations purchased with certain proceeds of the Bonds, together with available cash deposits, will be held in escrow under an escrow agreement with The Bank of New York Mellon Trust Company, N.A., as escrow agent (the "Escrow Agreement"). Neither the cash on deposit, the maturing principal of the Defeasance Obligations nor the interest to be earned thereon will serve as security or be available for the payment of the principal of or the interest on the Bonds.

The mathematical computation of (i) the adequacy of maturing principal of and interest earnings on the Defeasance Obligations together with initial cash deposit held under the Escrow Agreement to provide for payments on the Refunded Bonds as described above and (ii) the actuarial yields on the Bonds and the Defeasance Obligations will be verified at the time of the delivery of the Bonds by Robert Thomas, CPA, LLC, Shawnee Mission, Kansas, independent certified public accountants. See "CERTAIN VERIFICATIONS."

## SOURCES AND USES OF PROCEEDS

The following table sets forth the estimated application of the proceeds of the Bonds as described under "PLAN OF FINANCING."

| SOURCE OF FUNDS                                      | AMOUNTS             |
|------------------------------------------------------|---------------------|
| Principal Amount of Bonds                            | \$235,260,000.00    |
| Original Issue Premium/Discount                      | 38,668,270.25       |
| <u>Transfer from the 2008 Debt Service Funds</u>     | <u>3,103.99</u>     |
| Total                                                | \$273,931,374.24    |
| <b>USE OF FUNDS</b>                                  |                     |
| Deposit for Refunding                                | \$270,972,449.74    |
| Costs of Issuance (including Underwriters' discount) | 1,872,869.02        |
| <u>AGM Insurance Premium</u>                         | <u>1,086,055.48</u> |
| Total Uses of Funds                                  | \$273,931,374.24    |

## DESCRIPTION OF THE BONDS

### General

The Bonds will be dated the date of their delivery and will bear interest from that date until paid, payable semiannually on each May 1 and November 1, commencing May 1, 2018. The Bonds will bear interest at the rates per year, and mature in the principal amounts on November 1 in each year, as set forth on the inside cover of this Official Statement. Interest on the Bonds is computed on the basis of a 360-day year consisting of twelve 30-day months. The Bonds will be issued in denominations of \$5,000 or integral multiples thereof. The Bonds are subject to redemption prior to maturity, as described below under the heading "-Redemption."

Principal of and interest on the Bonds will be paid by the Trustee. If any payment on any Bonds is due on a day other than a Business Day, it will be made on the next Business Day, and no interest will accrue as a result.

The Bonds initially will be issued through a book-entry only system operated by The Depository Trust Company, New York, New York ("DTC"). Details of payments of the Bonds when in book-entry form and the book-entry only system are described below under the heading "-Book-Entry Only System." Except as described under the heading "-Book-Entry Only System" below, beneficial owners of the Bonds will not receive or have the right to receive physical delivery of Bonds, and will not be or be considered to be the Owners thereof. Accordingly, each beneficial owner must rely upon (i) the procedures of DTC and, if such beneficial owner is not a DTC "Participant," the Participant who will act on behalf of such beneficial owner to receive notices and payments of principal of and interest on the Bonds, and to exercise voting rights and (ii) the records of DTC and, if such beneficial owner is not a Participant, such beneficial owner's Participant, to evidence its beneficial ownership of the Bonds. So long as DTC or its nominee is the registered Owner of the Bonds, references herein to Bondholders or Owners of such Bonds mean DTC or its nominee and do not mean the beneficial owners of such Bonds.

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### Redemption

Optional Redemption. The Bonds maturing on or after November 1, 2028\* are subject to redemption prior to maturity at the option of the City, in whole or in part, on any date on or after November 1, 2027\*, and if in part, in such order of maturity as the City shall determine and within any maturity and interest rate by lot, at a Redemption Price equal to the outstanding principal amount of such Bonds, together with accrued interest to the date fixed for redemption.

### General Redemption Procedures

*For a description of the giving of notices while the Bonds are in the Book-Entry system, see "- Book-Entry Only System " below.*

Unless waived by any owner of Bonds to be redeemed, notice of the call for any optional redemption shall be given by the Trustee on behalf of the City by mailing the redemption notice by first class mail at least 30 days and not more than 45 days prior to the date fixed for redemption to the registered owner of the Bond to be redeemed at the address shown on the Bond Register or at such other address as is furnished in writing by such registered owner to the Trustee. The failure to mail any such notice or any defect therein as to any Bond shall not affect the validity of the proceedings for the redemption of any other Bond. Any notice of redemption mailed as described above shall be conclusively presumed to have been given whether or not actually received by the addressee. Notice of the redemption of Bonds or any portion thereof to be redeemed will specify, at a minimum, (i) the series name and designation and certificate numbers of Bonds being redeemed, (ii) the CUSIP numbers of the Bonds being redeemed, (iii) the principal amount of Bonds being redeemed and the redeemed amount for each certificate (for partial calls), (iv) the redemption date, (v) the Redemption Price, (vi) the date of issuance of the Bonds being redeemed, (vii) the interest rate and Maturity

Date of the Bonds being redeemed,  
(viii) the date of mailing of notices to registered owners and information services (if required), and  
(ix) the name of the employee of the Trustee who may be contacted with regard to such notice. With respect to an optional redemption of Bonds, such notice may state that said redemption is conditioned upon the receipt by the Trustee on or prior to the date fixed for redemption of moneys sufficient to pay the Redemption Price of the Bonds being redeemed. If such moneys are not so received, such redemption notice shall be of no force and effect, the City shall not redeem such Bonds and the Trustee will give notice, in the same manner in which the notice of redemption was given, that such moneys were not so received and that such Bonds will not be redeemed. Unless the notice of redemption shall be made conditional as provided above, on or prior to any redemption date for Bonds, the City will deposit with the Trustee an amount of money sufficient to pay the Redemption Price of all such Bonds or portions thereof which are to be redeemed on that date.

Notice of redemption having been given as described above, the Bonds, or portions thereof, to be redeemed will, on the redemption date (unless such redemption shall have been canceled as described above), become due and payable at the Redemption Price therein specified, and from and after such date (unless the City shall default in the payment of the Redemption Price) such Bonds, or portions thereof, shall cease to bear interest. Upon surrender of such Bonds for redemption in accordance with said notice, such Bonds will be paid by the Trustee at the Redemption Price. Installments of interest due on or prior to the redemption date shall be payable as provided in the Indenture for payment of interest. Upon surrender for any partial redemption of any Bond, there will be prepared for the registered owner a new Bond or Bonds of the same interest rate and maturity in the amount of the unpaid principal. If any Bond, or portion thereof, called for redemption shall not be so paid upon surrender thereof for redemption, the

' Preliminary; subject to change.

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principal shall, until paid, bear interest from the redemption date at the rate borne by such Bond, or portion thereof, so called for redemption.

### **Selection of Bonds for Redemption**

In the event of the redemption of fewer than all the Bonds of the same maturity and interest rate, the aggregate principal amount thereof to be redeemed shall be in an Authorized Denomination, and the Trustee shall assign to each Bond of such maturity and interest rate a distinctive number for each minimum Authorized Denomination of such Bond and shall select by lot from the numbers so assigned as many numbers as, at such minimum Authorized Denomination for each number, equals the principal amount of such Bonds to be redeemed. The Bonds to be redeemed shall be those which were assigned numbers so selected; provided that only so much of the principal amount of each Bond shall be redeemed as shall equal such minimum Authorized Denomination for each number assigned to it and so selected. For purposes of any redemption of fewer than all of the outstanding Bonds of a single maturity and interest rate, the particular Bonds or portions thereof to be redeemed shall be selected not more than 60 days prior to the redemption date by the Trustee. So long as DTC or its nominee is the registered owner of the Bonds, if fewer than all of the Bonds of any maturity and interest rate are called for redemption, the particular Bonds or portions of Bonds of such maturity and interest rate will be selected by lot by DTC in such manner as DTC may determine. See " - Book-Entry Only System."

### **Bond Registration and Transfers**

For a description of the procedure to transfer ownership of a Bond while in the book-entry only system, see "-Book-Entry Only System" below. Subject to the limitations described below, the Bonds are transferable upon surrender thereof at the principal office of the Trustee, duly endorsed by, or accompanied by a written instrument or instruments of transfer in form satisfactory to the Trustee and duly executed by the Bondholder or such Bondholder's authorized agent duly authorized in writing. Any Bond, upon surrender of such Bond at the principal office of the Trustee, may, at the option of the Bondholder, be exchanged for an equal aggregate principal amount of Bonds of like date and tenor of any Authorized Denomination. The Trustee may charge a fee sufficient

to cover any tax, fee or other governmental charge in connection with any exchange or transfer of any Bond, except in the case of issuance of one or more Bonds for the unredeemed portion of a Bond surrendered for redemption in part.

The Trustee shall not be required to transfer or exchange any Bond during the period commencing on the Record Date next preceding any Interest Payment Date of such Bond and ending on such Interest Payment Date, or to transfer or exchange such Bond after the mailing of notice calling such Bond for redemption has been made as described above under "- General Redemption Procedures" or during the period of 15 days next preceding the giving of notice of redemption of Bonds of the same maturity and interest rate.

### **Book-Entry Only System**

*The following information has been furnished by The Depository Trust Company for use in this Official Statement, and neither the City nor any of the Underwriters takes any responsibility for its accuracy or completeness.*

The Depository Trust Company ("DTC"), New York, New York, will act as securities depository for the Bonds. The Bonds will be issued as fully registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully registered Bond certificate will be issued for each maturity of the Bonds, each in the aggregate principal amount thereof set forth herein, and will be deposited with DTC.

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DTC, the world's largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC's participants ("Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants"). DTC has an S&P Global Ratings rating of AA+. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission (the "SEC"). More information about DTC can be found at [www.dtcc.com](http://www.dtcc.com) <<http://www.dtcc.com>>.

Purchases of the Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Bonds on DTC's records. The ownership interest of each actual purchaser of each Bond ("Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in Bonds, except in the event that use of the book entry system for the Bonds is discontinued.

To facilitate subsequent transfers, all Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect

Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of the Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the Bonds, such as redemptions, tenders, defaults, and proposed amendments to the Bond documents. For example, Beneficial Owners of the Bonds may wish to ascertain that the nominee holding the Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial

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Owners may wish to provide their names and addresses to the Trustee and request that copies of notices be provided directly to them.

Redemption notices shall be sent to DTC. If fewer than all of the Bonds of a maturity are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in the Bonds to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the City as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Redemption proceeds, distributions, and interest payments on the Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the City or the Trustee, on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Trustee or the City, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of redemption proceeds, distributions, and interest payments to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the City or the Trustee, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as securities depository with respect to the Bonds at any time by giving reasonable notice to the City or the Trustee. Under such circumstances, in the event that a successor securities depository is not obtained, certificates for the Bonds are required to be printed and delivered.

The City may decide to discontinue use of the system of book-entry only transfers through DTC (or a successor securities depository). In that event, certificates for the Bonds will be printed and delivered to DTC.

The information in this section concerning DTC and DTC's book-entry only system has been obtained from sources that the City believes to be reliable, but the City takes no responsibility for the accuracy thereof.

Additional Information. For every transfer and exchange of the Bonds, DTC, the Trustee and the Participants may charge the Beneficial Owner a sum sufficient to cover any tax, fee or other charge that may be imposed in relation thereto.

NEITHER THE CITY NOR THE TRUSTEE WILL HAVE ANY RESPONSIBILITY OR OBLIGATION TO ANY PARTICIPANTS, OR TO THE PERSONS FOR WHOM THEY ACT AS NOMINEES WITH RESPECT TO THE BONDS, OR TO ANY BENEFICIAL OWNER IN RESPECT OF THE ACCURACY OF ANY RECORDS MAINTAINED BY DTC OR ANY PARTICIPANT OR INDIRECT PARTICIPANT OF ANY AMOUNT IN RESPECT OF THE PRINCIPAL OF OR INTEREST ON THE BONDS, OR ANY NOTICE WHICH IS PERMUTED OR REQUIRED TO BE



GIVEN WITH RESPECT TO THE BONDS, INCLUDING ANY NOTICE OF REDEMPTION OR OTHER ACTION TAKEN, BY DTC AS REGISTERED OWNER OF THE BONDS.

The City is entitled to treat Owners as absolute owners of the Bonds for all purposes.

In reading this Official Statement it should be understood that while the Bonds are in the Book-Entry Only System, references in other sections of this Official Statement to registered owners should be read to include the person for which a Participant acquires an interest in the Bonds, but (a) all rights of ownership must be exercised through DTC and the Book-Entry Only System and (b) notices that are to be given to registered owners will be given only to DTC.

### **General Provisions of the Bonds When Not in Book-Entry Only System**

The Owners of the Bonds have no right to the appointment or retention of a securities depository for the Bonds. If (i) the City determines, or (ii) the City receives notice that the securities depository has received notice from its Participants having interests in at least 50 percent in principal amount of the Bonds of a given series, that the securities depository or its successor is incapable of discharging its responsibilities as a securities depository, or that it is in the best interests of the beneficial owners that they obtain certificated Bonds, the City may (or, in the case of clause (ii) above, the City shall) cause the Trustee to authenticate and deliver Bond certificates for such series. The City shall have no obligation to make any determination described in this paragraph.

If, following a determination or event specified in the preceding paragraph, the City discontinues the maintenance of the Bonds in book-entry form with the then-current securities depository, the City will issue replacement Bonds to the replacement securities depository, if any, or, if no replacement securities depository is selected for the Bonds, directly to the Participants as shown on the records of the former securities depository or, to the extent requested by any Participant, to the beneficial owners of the Bonds shown on the records of such Participant. The City and the Trustee may conclusively rely upon (i) a certificate of the securities depository as to the identity of the participants in the book-entry system and (ii) a certificate of such participants as to the identity of, and the respective principal amounts of Bonds beneficially owned by, the beneficial owners. Replacement Bonds shall be in fully registered form and in Authorized Denominations, be payable as to interest on the Interest Payment Dates of the Bonds by check mailed to each Owner at the address of such Owner as it appears on the Bond Register or at the option of any Owner of not less than \$1,000,000 principal amount of Bonds, by wire transfer to any address in the United States of America on such Interest Payment Date to such Owner as of such Record Date, if such Owner provides the Trustee with written notice of such wire transfer address not later than the Record Date (which notice may provide that it will remain in effect with respect to subsequent Interest Payment Dates unless and until changed or revoked by subsequent notice). Principal and premium, if any, on the replacement Bonds are payable only upon presentation and surrender of such replacement Bond or Bonds at the designated corporate trust office of the Trustee.

## **SECURITY FOR THE BONDS**

### **General**

The Bonds are limited obligations of the City having a claim for payment of principal, redemption premium, if any, and interest solely from the property conveyed by the City to the Trustee pursuant to the granting clauses of the Indenture (the "Trust Estate") and pledged to such payment under the Indenture. Neither the full faith and credit nor the taxing power of the City is pledged to the payment of the principal of, redemption premium, if any, or interest on the Bonds. The Bonds do not constitute an indebtedness of the City within the meaning of any constitutional or statutory provision or limitation as to

indebtedness. The Bonds do not have a claim for payment from any taxes of the City. The Bonds are not secured by a lien on or security interest in the physical assets of the Water System.

As described herein, the Bonds are Second Lien Bonds and, together with (i) the Outstanding Second Lien Bonds and any Second Lien Parity Bonds issued from time to time in the future and (ii) amounts constituting Section 2.08

Obligations and Section 2.09 Obligations under the Indenture, are secured by a pledge of Second Lien Bond Revenues that are derived from the Net Revenues Available for Bonds in the City's Water Fund and deposited from time to time into the Second Lien Bonds Account (but excluding monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other series of Second Lien Bonds issued or to be issued), which claim is junior and subordinate to the claim of Senior Lien Bonds. The Bonds are further secured by amounts on deposit from time to time in any Accounts established for the Bonds in the Ordinance and the Indenture. See APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - Flow of Funds - Second Lien Bonds Account."

"Net Revenues Available for Bonds" means that portion of the Net Revenues remaining in any period, minus any amounts deposited during that period in the Water Rate Stabilization Account as provided in the Ordinance (other than amounts deposited to that Account upon the issuance of the Series 1993 Bonds or any Senior Lien Parity Bonds) and plus the amounts withdrawn during that period from that Account.

### **Pledge of Second Lien Bond Revenues**

Under the Ordinance and the Indenture, the Bonds are secured by, and payable from, the Trust Estate, including Second Lien Bond Revenues and amounts on deposit in the Second Lien Bonds Account (but excluding monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other series of Second Lien Bonds issued or to be issued), and amounts held by the Trustee under the terms of the Indenture. Pursuant to the Ordinance and the Indenture, such Second Lien Bond Revenues are pledged to the payment of the principal of, premium, if any, and interest on all Second Lien Bonds (including the Bonds) without priority or distinction of one series of Second Lien Bonds over any other series of Second Lien Bonds.

To the extent set forth in the Indenture, the Trust Estate and all moneys and securities held or set aside or to be held or set aside by the Trustee under the Indenture or any Supplemental Indenture have been pledged to secure the payment of the principal and Redemption Price of, and interest on, the Second Lien Bonds and the payment of all amounts constituting Section 2.08 Obligations and Section 2.09 Obligations, subject only to the provisions of the Indenture or any Supplemental Indenture requiring or permitting the payment, setting apart or appropriation of such moneys and securities for or to the purposes and on the terms, conditions, priorities and orders set forth in or provided under the Indenture or such Supplemental Indenture.

The claim of the Second Lien Bonds, Section 2.08 Obligations and Section 2.09 Obligations to Net Revenues Available for Bonds is junior and subordinate to the claim of the Senior Lien Bonds (and all Senior Lien Debt Service Reserve Account Credit Instruments). The City has met certain of its Senior Lien Debt Service Reserve Account Requirements with certain credit instruments, including surety policies. Subject to the provisions of the Ordinance, the City reserves the right to issue unlimited amounts of Senior Lien Bonds.

### **Flow of Funds**

The City maintains the Water Fund as a separate fund of the City to, among other things, carry out the provisions of the ordinances authorizing Senior Lien Bonds, Second Lien Bonds, Subordinate Lien Obligations, Commercial Paper Notes and Water System Line of Credit Notes (collectively, "Water Revenue Bonds"). Gross Revenues of the Water System are credited as they are deposited to the Water Fund, which is held by a depository bank which is currently not the depository for the City's General Fund. The Water Fund constitutes a trust fund and has been and is irrevocably pledged to the owners of the Senior Lien Bonds, Second Lien Bonds (but solely with respect to those amounts on deposit in the Second Lien Bonds Account as described in this Official Statement) and other Water Revenue Bonds (but solely with respect to funds on deposit in the respective applicable Account in the Water Fund).

Moneys in the Water Fund are expended only as provided in the Ordinance and in the ordinances authorizing Water Revenue Bonds for (a) paying Operation and Maintenance Costs, (b) paying the principal of, redemption premium, if any, and interest on Senior Lien Bonds (or purchasing Senior Lien Bonds), and (c) establishing and maintaining (for the purposes specified in related ordinances) the Senior Lien Bonds Construction Accounts, the Accounts in the Water Fund established by the Ordinance and described below, including, without limitation, the Accounts securing the Bonds and other Second Lien Bonds, and all other reserve funds or accounts which are required to be established and maintained in the ordinances authorizing the issuance of Water Revenue Bonds. Any funds available after these requirements have been satisfied or which are not necessary to satisfy these requirements may be used for any lawful purpose of the Water System.

Net Revenues Available for Bonds are required to be transferred, without any further official action or direction, from the Water Fund to the following accounts in the following order of priority for the uses described below:

1. The Senior Lien Principal and Interest Account is used only to pay principal of, redemption premium, if any, and interest, whether upon maturity, redemption or otherwise, on the Outstanding Senior Lien Bonds. At least 10 days before each date that such debt service payments are due with respect to Senior Lien Bonds, sufficient amounts to make such payments are required to be deposited into this Account.

2. The Senior Lien Debt Service Reserve Account consists of one or more subaccounts established for each series of Senior Lien Bonds, each of which is required to contain a balance, either in cash on deposit in such subaccount or the deposit of one or more Senior Lien Debt Service Reserve Account Credit Instruments, equal to the Senior Lien Debt Service Reserve Requirement for the related series of Senior Lien Bonds. Funds or Senior Lien Debt Service Reserve Account Credit Instruments on deposit in any subaccount of the Senior Lien Debt Service Reserve Account are used to pay principal of, redemption premium, if any, and interest on the Outstanding Senior Lien Bonds of the series to which the subaccount relates (or when series of Senior Lien Bonds are secured on a parity basis by subaccounts relating to those various series, then funds in each such Subaccount shall be so used on a parity basis to pay principal of, redemption premium, if any, and interest on the Senior Lien Bonds to which those various Subaccounts relate) as the same become due at any time when there are insufficient funds available for such purpose in the Senior Lien Principal and Interest Account (after any available amounts in the Water Rate Stabilization Account have first been applied to that purpose). Within the next 12 months succeeding any deficiency in any subaccount of the Senior Lien Debt Service Reserve Account, the City is required to deposit funds from the Water Fund into such subaccount of the Senior Lien Debt Service Reserve Account sufficient to maintain the applicable balance in such subaccount at least equal to, in the aggregate, the Senior Lien Debt Service Reserve Requirement for such subaccount.

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3. The Senior Lien Rebate Accounts are used at the direction of the City to make required rebate payments of arbitrage to the United States with respect to any Senior Lien Bonds and, to the extent not needed for such purpose, are then transferred to the Water Fund, provided that earnings on the investment of amounts on deposit in the Senior Lien Rebate Accounts shall not be Investment Earnings, shall not be considered Gross Revenues and shall be retained in the respective Senior Lien Rebate Accounts except to the extent no longer required for rebate purposes.

4. The Second Lien Bonds Account is used to pay the principal of and interest on the Bonds and any other Second Lien Bonds. The City also is required to make deposits in the Second Lien Bonds Account to meet other payment obligations under the Indenture and any ordinance or indenture authorizing Second Lien Bonds, including deposits of monies and/or Qualified Reserve Account Credit Instruments to meet any series reserve account requirement. Moneys deposited in the Second Lien Bonds Account shall be transferred by the Chief Financial Officer on the date so deposited to the Trustee and the trustee or paying agent for each series of Second Lien Bonds in order to satisfy the debt service and other payment obligations under the Indenture and any ordinance or indenture authorizing such Second Lien Bonds. Moneys on deposit in the Second Lien Bonds Account shall be applied without priority as to any particular series of Second Lien Bonds (other than moneys, instruments and securities or any Qualified Reserve Account Credit Instrument in any Debt Service Reserve established within the Second Lien Bonds Account for any particular series of Second Lien Bonds).

5. The Subordinate Lien Obligations Account is used to make debt service payments and other required deposits with

respect to any Subordinate Lien Obligations. The City is obligated to make required debt service and other deposits to all subaccounts established in the Subordinate Lien Obligations Account on the Business Day immediately preceding each May 1 and November 1 in amounts specified in a certificate of its Chief Financial Officer reflecting the amount required by any ordinance authorizing the issuance of Subordinate Lien Obligations. Moneys on deposit in the Subordinate Lien Obligations Account shall be applied without priority to any subaccounts established in the Subordinate Lien Obligations Account.

6. The Commercial Paper Account is used to make debt service payments and other required deposits with respect to any Commercial Paper Notes authorized and issued under any ordinances or related indentures. The moneys on deposit in the Commercial Paper Account are required to be transferred by the Chief Financial Officer on the date so deposited to the appropriate paying agents or trustees for the related Commercial Paper Notes for the purpose of paying such amounts as may be required to be paid by the ordinances and related indentures authorizing such Commercial Paper Notes.

7. The Line of Credit Notes Account is used to make debt service payments and other required deposits with respect to any Water System Line of Credit Notes authorized and issued under any ordinances or related Water System Line of Credit Agreements. The moneys on deposit in the Line of Credit Notes Account are required to be transferred by the Chief Financial Officer on the date so deposited to the appropriate owners of or paying agents or trustees for the related Water System Line of Credit Notes for the purpose of paying such amounts as may be required to be paid by the ordinances and related Water System Line of Credit Agreements authorizing Water System Line of Credit Notes.

8. The Water Rate Stabilization Account is used at the City's discretion, in any year, to pay any expenses of or obligations of the Water System, including, without limitation, Operation and Maintenance Costs, deposits in the Senior Lien Principal and Interest Account,

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deposits in the Senior Lien Debt Service Reserve Account, deposits when due in the Second Lien Bonds Account (but only if and to the extent no amounts are required to be deposited in the Senior Lien Principal and Interest Account and the Senior Lien Debt Service Reserve Account), deposits when due in the Subordinate Lien Obligations Account (but only if and to the extent no amounts are required to be deposited in the Senior Lien Principal and Interest Account, the Senior Lien Debt Service Reserve Account or the Second Lien Bonds Account), deposits when due in the Commercial Paper Account (but only if and to the extent no amounts are required to be deposited in the Senior Lien Principal and Interest Account, the various Subaccounts of the Senior Lien Debt Service Reserve Account, in the Second Lien Bonds Account or the Subordinate Lien Obligations Account), deposits when due in the Line of Credit Notes Account (but only if and to the extent no amounts are required to be deposited in the Senior Lien Principal and Interest Account, the various Subaccounts of the Senior Lien Debt Service Reserve Account, in the Second Lien Bond Accounts, in the Subordinate Lien Obligations Account or in the Commercial Paper Account), any costs of repairs, replacements, renewals, improvements, equipment or extensions to the Water System or any other cost or expense relating to the Water System or the financing or refinancing of the Water System. The Water Rate Stabilization Account must be used to make all required deposits to the Senior Lien Principal and Interest Account and the Senior Lien Debt Service Reserve Account when no other funds are available for that purpose. Any Net Revenues remaining in any period and not required to be deposited in the Senior Lien Principal and Interest Account, the Senior Lien Debt Service Reserve Account, any Senior Lien Rebate Account, the Second Lien Bonds Account, the Subordinate Lien Obligations Account, the Commercial Paper Account or the Line of Credit Notes Account may be transferred to the Water Rate Stabilization Account at any time upon the direction of the Chief Financial Officer.

See APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - Flow of Funds."

The following chart shows the priority of the flow of funds from the Water Fund into each of the accounts established pursuant to the Ordinance as described in greater detail above and in APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - Flow of Funds."

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Ordinance FI

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Second Lien Bonds Allonnl

Subordinate Lien Obligations Account

Commercial Taper Account

Line of Credit Notes Account

Water; Rate Stabilization Account

To provide for debt service on the Bonds, the City, on or before each May 1 and November 1 (each a "Deposit Date"), commencing May 1, 2018, is required to deposit into the 2017-2 Second Lien Bonds Subaccount established within the Second Lien Bonds Account pursuant to the Ordinance, from amounts on deposit in the Second Lien Bonds Account (other than monies, instruments or securities or any "Qualified Resource Account Credit Instrument" on deposit in a Debt Service Reserve Account for any other series of Second Lien Bonds issued or to be issued), an amount equal to the aggregate of the following amounts (such amounts are calculated by the Trustee and transferred by the City to the Trustee in accordance with the Ordinance on or before each such Deposit Date):

a) for deposit into the Principal and Interest Account of the 2017-2 Second Lien Bonds Subaccount, an amount equal to the Principal and Interest Account Requirement; and

b) for deposit into the Program Fee Account of the 2017-2 Second Lien Bonds Subaccount, the amount estimated by the City to be required as of the close of business on the related Deposit Date to pay all Program Fees payable from amounts in the Program Fee Account during the semi-annual period commencing on such related Deposit Date and, in the case of the initial Deposit Date, any fees payable from the Date of Issuance to, but not including, such initial Deposit Date.

"Principal and Interest Account Requirement," as used in the preceding sentence, means an amount, calculated as of each Deposit Date, equal to the total principal installments and interest due on the Bonds on such Deposit Date. Except as otherwise provided in the Indenture, moneys on deposit in the

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Principal and Interest Account will be held by the Trustee for the sole and exclusive benefit of the Bonds and used for the purpose of paying the principal of and interest on the Bonds when due. See APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE -Application of Bond Proceeds - Deposits into 2017-2 Second Lien Bond Subaccount and Accounts Therein."

### Senior Lien Parity Bonds

As long as there are any Outstanding Senior Lien Bonds, no bonds, notes or other obligations of any kind which are payable from Net Revenues Available for Bonds or any Accounts of the Water Fund with a claim senior to that of the Senior Lien Bonds shall be issued. Senior Lien Parity Bonds may be issued for any lawful purpose of the Water System, including without limitation paying the cost of repairs, replacements, renewals, improvements, equipment or extensions to the Water System, funding capitalized interest and reserve funds for Senior Lien Bonds, funding working capital for the Water System, refunding Outstanding Senior Lien Bonds or obligations payable from revenues of the Water System on a basis subordinate to the Senior Lien Bonds, including Second Lien Bonds Subordinate Lien Obligations, Commercial Paper Notes and Water System Line of Credit Notes, or for paying costs of issuance of Senior Lien Bonds. The issuance of Senior Lien Parity Bonds is subject to certain conditions, including compliance with debt service coverage covenants.

### Second Lien Parity Bonds

As long as there are any Outstanding Second Lien Bonds, the City may issue Second Lien Parity Bonds for any lawful purpose of the Water System, including to refund Outstanding Senior Lien Bonds, Second Lien Bonds, Subordinate Lien Obligations or obligations payable from revenues of the Water System on a basis subordinate to the Second Lien Bonds and Subordinate Lien Obligations. The issuance of Second Lien Parity Bonds is subject to certain conditions, including compliance with debt service coverage covenants, which are summarized in APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE" - Additional Second Lien Bonds."

See "OUTSTANDING DEBT AND ANNUAL DEBT SERVICE - Additional Obligations" below for a description of certain additional Second Lien Bonds which have been authorized by the City Council of the City which may be issued subsequent to the issuance of the Bonds.

For additional descriptions of the Accounts in the Water Fund, the application of Net Revenues Available for Bonds, the Second Lien Bonds Rate Covenant and the restrictions on the issuance of additional Water Revenue Bonds, see APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE."

### Subordinate Lien Obligations and Other Subordinate Obligations

The Ordinance does not restrict the City's ability to issue obligations payable on a basis subordinate to the Bonds, including

Subordinate Lien Obligations, Commercial Paper Notes and Water System Line of Credit Notes. As of December 1, 2017, there was \$248.3 million outstanding aggregate principal amount of Subordinate Lien Obligations in the form of IEPA loans. There are no amounts currently outstanding under any Water System Line of Credit Notes nor are there any Commercial Paper Notes currently outstanding. See "OUTSTANDING DEBT AND ANNUAL DEBT SERVICE -Commercial Paper Notes and Water System Line of Credit Notes."

### **Deficiencies and Excesses**

In the event of a deficiency in any Fiscal Year in the Senior Lien Principal and Interest Account, any subaccount of the Senior Lien Debt Service Reserve Account, any Senior Lien Rebate Account, the Second Lien Bonds Account, the Subordinate Lien Obligations Account, the Commercial Paper Account or the Line of Credit Notes Account, the amount of such deficiency shall be included in the amount to be transferred from the Water Fund and deposited into such account during the next 12-month period or succeeding Fiscal Year. Whenever the balance in any subaccount of the Senior Lien Debt Service Reserve Account exceeds the amount required to be on deposit in that subaccount, such excess may be transferred to the Senior Lien Principal and Interest Account and whenever the balance in any subaccount of any Senior Lien Rebate Account exceeds the amount required to be on deposit in such account, the excess may be transferred to the Water Fund, provided that no such transfers shall be made when any debt service payments on outstanding obligations of the City (including the Bonds) that are payable by their terms from the revenues of the Water System are past due. Any funds that remain in the Water Fund at the end of any Fiscal Year shall be retained in the Water Fund and shall be available for appropriation for any proper purpose of the Water System.

### **Cash and Investments**

Cash, cash equivalents or investments in the Senior Lien Principal and Interest Account, the Subaccounts of the Senior Lien Debt Service Reserve Account, the Second Lien Bonds Account, the Subordinate Lien Obligations Account, the Commercial Paper Account, the Line of Credit Notes Account, the various construction accounts and the Senior Lien Rebate Accounts of the Water Fund are to be held in separate bank accounts and in separately identifiable investments. Other cash, cash equivalents or investments in the Water Fund are or may be (except to the extent prohibited by ordinances authorizing indebtedness of the Water System) deposited in bank accounts and invested on a pooled basis with a variety of other funds of the City, including its General Fund. The City has maintained these pooled accounts and investments so as to meet obligations of the Water Fund in a timely fashion. Notwithstanding the foregoing, cash, cash equivalents or investments in any of the Accounts of the Water Fund are only expended for lawful purposes of the Water Fund. See APPENDIX C - "CITY OF CHICAGO, ILLINOIS WATER FUND BASIC FINANCIAL STATEMENTS AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015, REQUIRED SUPPLEMENTARY INFORMATION, ADDITIONAL INFORMATION, AND INDEPENDENT AUDITORS' REPORT."

### **Investment of Funds**

Money held in the funds, accounts and subaccounts established under the Indenture shall be invested and reinvested in Permitted Investments; provided however that moneys in the Principal and Interest Account shall only be invested in Government Obligations scheduled to mature on the earlier of (i) (A) 30 days from the date of investment for amounts representing principal of the Bonds, or (B) six months from the date of investment for amounts representing interest payable on the Bonds, or (ii) the date upon which such moneys will be required to be used in accordance with the Indenture. The interest earned on any investment of money held under the Indenture, any profit realized from such investment and any loss resulting from such investment shall be credited or charged to the fund, account or subaccount for which such investment was made.

## **BOND INSURANCE**

The information under this caption has been furnished by AGM for use in this Official Statement, and neither the City nor the Underwriters take responsibility for its accuracy or completeness. Reference

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is made to APPENDIX E -SPECIMEN MUNICIPAL BOND INSURANCE POLICY" for a specimen of the Policy.

#### **Bond Insurance Policy**

Concurrently with the issuance of the Bonds, AGM will issue the Policy for the Bonds maturing on November 1 of the years 2028 through 2038, inclusive (the "Insured Bonds"). The Policy guarantees the scheduled payment of principal of and interest on the Insured Bonds when due as set forth in the form of the Policy included as an appendix to this Official Statement.

The Policy is not covered by any insurance security or guaranty fund established under New York, California, Connecticut or Florida insurance law.

#### **Assured Guaranty Municipal Corp.**

AGM is a New York domiciled financial guaranty insurance company and an indirect subsidiary of Assured Guaranty Ltd. ("AGL"), a Bermuda-based holding company whose shares are publicly traded and are listed on the New York Stock Exchange under the symbol "AGO". AGL, through its operating subsidiaries, provides credit enhancement products to the U.S. and global public finance, infrastructure and structured finance markets. Neither AGL nor any of its shareholders or affiliates, other than AGM, is obligated to pay any debts of AGM or any claims under any insurance policy issued by AGM.

AGM's financial strength is rated "AA" (stable outlook) by S&P Global Ratings, a business unit of Standard & Poor's Financial Services LLC ("S&P"), "AA+" (stable outlook) by Kroll Bond Rating Agency, Inc. ("KBRA") and "A2" (stable outlook) by Moody's Investors Service, Inc. ("Moody's"). Each rating of AGM should be evaluated independently. An explanation of the significance of the above ratings may be obtained from the applicable rating agency. The above ratings are not recommendations to buy, sell or hold any security, and such ratings are subject to revision or withdrawal at any time by the rating agencies, including withdrawal initiated at the request of AGM in its sole discretion. In addition, the rating agencies may at any time change AGM's long-term rating outlooks or place such ratings on a watch list for possible downgrade in the near term. Any downward revision or withdrawal of any of the above ratings, the assignment of a negative outlook to such ratings or the placement of such ratings on a negative watch list may have an adverse effect on the market price of any security guaranteed by AGM. AGM only guarantees scheduled principal and scheduled interest payments payable by the issuer of bonds insured by AGM on the date(s) when such amounts were initially scheduled to become due and payable (subject to and in accordance with the terms of the relevant insurance policy), and does not guarantee the market price or liquidity of the securities it insures, nor does it guarantee that the ratings on such securities will not be revised or withdrawn.

#### *Current Financial Strength Ratings*

On July 27, 2016, S&P issued a credit rating report in which it affirmed AGM's financial strength rating of "AA" (stable outlook). AGM can give no assurance as to any further ratings action that S&P may take.

On August 8, 2016, Moody's published a credit opinion affirming its existing insurance financial strength rating of "A2" (stable outlook) on AGM. AGM can give no assurance as to any further ratings action that Moody's may take.

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On December 14, 2016, KBRA issued a financial guaranty surveillance report in which it affirmed AGM's



insurance financial strength rating of "AA+" (stable outlook). AGM can give no assurance as to any further ratings action that KBRA may take.

For more information regarding AGM's financial strength ratings and the risks relating thereto, see AGL's Annual Report on Form 10-K for the fiscal year ended December 31, 2016.

### *Capitalization of AGM*

At March 31, 2017, (i) the policyholders' surplus of AGM was approximately \$2,204 million; (ii) the contingency reserves of AGM and its indirect subsidiary Municipal Assurance Corp. ("MAC") (as described below) were approximately \$1,263 million; and (iii) the net unearned premium reserves of AGM and its subsidiaries (as described below) were approximately \$1,349 million. The contingency reserve amount set forth above includes (i) 100% of AGM's contingency reserve, and (ii) 60.7% of MAC's contingency reserve. The net unearned premium reserve amount set forth above includes (i) 100% of the net unearned premium reserves of AGM and AGM's wholly owned subsidiary Assured Guaranty (Europe) Ltd. and (ii) 60.7% of the net unearned premium reserve of MAC. The policyholders' surplus of AGM and the contingency reserves and net unearned premium reserves of AGM and MAC were determined in accordance with statutory accounting principles. The net unearned premium reserves of Assured Guaranty (Europe) Ltd were determined in accordance with accounting principles generally accepted in the United States of America.

### *Incorporation of Certain Documents by Reference*

Portions of the following documents filed by AGL with the SEC that relate to AGM are incorporated by reference into this Official Statement and shall be deemed to be a part hereof:

- i) the Annual Report on Form 10-K for the fiscal year ended December 31, 2016 (filed by AGL with the SEC on February 24, 2017); and
- ii) the Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2017 (filed by AGL with the SEC on May 5, 2017).

All consolidated financial statements of AGM and all other information relating to AGM included in, or as exhibits to, documents filed by AGL with the SEC pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, excluding Current Reports or portions thereof "furnished" under Item 2.02 or Item 7.01 of Form 8-K, after the filing of the last document referred to above and before the termination of the offering of the Bonds shall be deemed incorporated by reference into this Official Statement and to be a part hereof from the respective dates of filing such documents. Copies of materials incorporated by reference are available over the internet at the SEC's website at <http://www.sec.ttov> <<http://www.sec.ttov>>. at AGL's website at <http://www.assuredauaraniy.com> <<http://www.assuredauaraniy.com>>. or will be provided upon request to Assured Guaranty Municipal Corp.: 1633 Broadway, New York, New York 10019, Attention: Communications Department (telephone (212) 974-0100). Except for the information referred to above, no information available on or through AGL's website shall be deemed to be part of or incorporated in this Official Statement.

Any information regarding AGM included herein under the caption "BOND INSURANCE -Assured Guaranty Municipal Corp." or included in a document incorporated by reference herein (collectively, the "AGM Information") shall be modified or superseded to the extent that any subsequently included AGM Information (either directly or through incorporation by reference)

modifies or supersedes such previously included AGM Information. Any AGM Information so modified or superseded shall not constitute a part of this Official Statement, except as so modified or superseded.



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CN**Subordinate Obligations**

The City has entered into loan agreements with the Illinois Environmental Protection Agency ("IEPA") as shown in the following table to fund Water System projects. Each loan constitutes a Subordinate Lien Obligation. It is anticipated that the City will enter into additional IEPA loans in the future. Subordinate Lien Obligations, including the IEPA loans, have a claim to payments from amounts in the Water Fund that is subordinate to the claim of the Bonds.

**IEPA WATER FUND LOANS OUTSTANDING****Loan**

L17-1247 L17-2054 L17-3767<sup>(2)</sup> L1 7-3770 L1 7-3769 L17-45 64 L17-4686 L1 7-4687 L1 7-4864 L1 7-4865 L1 7-5199 L17-5025 L17-5281 L17-5232 L17-5332 Total Outstanding Principal Balance

**Final Maturity Date**

11/1/2022 11/1/2025 9/9/2037 12/2/2031 11/1/2032  
12/21/2031 11/1/2032  
12/27/2032 3/21/2034 7/16/2034 6/17/2035  
10/16/2034 4/14/2035 1/31/2036 6/1/2036

**Interest Rate (%)**

2.905 2.570 1.995 0.000 1.250 1.250 1.250 2.295 1.930 1.995 1.930 1.995 2.210 1.860

**Amount of Loan Outstanding"**

S 1,122,655.55 1,259,552.35 40,450,214.94 6,610,632.06 1,207,242.55 4,496,130.58 1,187,413.12 4,959,957.56 5,601,915.94  
34,491,605.13 43,158,815.77 13,151,716.95 13,768,141.59 57,439,327.85 19,395,973.64 \$24S,3\_0\_1,2.95.,5,8,(->

Source:

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City of Chicago, Department of Water Management.

The outstanding principal amounts are as of December 1, 2017.

Loan L1 7-3767 will enter repayment in March 2018 with a principal amount of \$40.5 million. A balance of \$10.4 million remains to be drawn, with the remaining loan balance expected to be fully drawn in early 2018. This total does not include six IEPA loans which the Department has closed with IEPA. Until IEPA has fully disbursed these loans to the Department, the exact principal amounts of the loans, the debt service schedules and the maturity dates are not set. The six IEPA loans are as follows: L1 7-5331 for \$80,420,000 with a projected interest rate of 1.86% and an estimated maturity date of 2039, expected to be fully disbursed prior to December 21, 2019; L1 7-5417 for \$40,210,000 with a projected interest rate of 1.86% and an estimated maturity date of 2039, expected to be fully disbursed prior to December 22, 2019; L17-5384 for \$22,326,600 with a projected interest rate of 1.64% and an estimated maturity date of 2037, expected to be fully disbursed prior to April 10, 2018. L17-5229 for \$28,257,020 with a projected interest rate of 1.86% and an estimated maturity date of 2039, expected to be fully disbursed prior to February 16, 2020; L17-5361 for \$6,707,240.04 with a projected interest rate of 1.64% and an estimated maturity date of 2039, expected to be fully disbursed prior to November 15, 2019; and L1 7-5319 for \$40,431,567 with a projected interest rate of 1.64% and an estimated maturity date of 2041, expected to be fully disbursed prior to October 9, 2021.

Ordinances of the City authorizing the issuance of water revenue bonds also authorize the issuance from time to time of Commercial Paper Notes and Water System Line of Credit Notes for the purposes of financing or refinancing capital improvements to the Water System or providing funds to meet the cash flow needs of the Water System, among others. The maximum aggregate principal amount of all Commercial Paper Notes and Water System Line of Credit Notes outstanding at any one time may not exceed

principal amount of all Commercial Paper Notes and Water System Line of Credit Notes outstanding at any one time may not exceed \$200,000,000 without further authorization from the City Council. There are no Commercial Paper Notes outstanding (nor are there any letters of credit or other instruments in effect and available to support any Commercial Paper Notes), nor are there any Line of Credit Notes outstanding. Should either of these obligations be issued in the future, the claim of any Commercial Paper Notes or Water System

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Line of Credit Notes for payment from moneys in the Water Fund will be subordinate to the claim of the Bonds.

All interest rate swaps associated with the City's Second Lien Bonds have been terminated, however the City reserves its rights to enter into interest rate swaps in connection with Second Lien Bonds in the future.

### DEPARTMENT OF WATER MANAGEMENT

The City's Department of Water Management (the "Department") is an executive department of the City with responsibility for the operation, maintenance, repair, improvement and extension of the Water System and the Sewer System. Separate water and sewer funds are maintained to comply with legal requirements.

The budgeted employment level of the Department for 2017 for Water System employees was 1,431 and Sewer System employees was 500 (this represents the total number of employees on the City's payroll and excludes leaves of absence and duty disability). The Department includes employees with professional qualifications in the fields of engineering, law, science, construction management, public sector management and financial management, as well as skilled technical personnel. Substantially all of the Department's employees are covered by collective bargaining agreements that have expired or are expiring in 2017. While negotiations continue on successor agreements to those collective bargaining agreements, those prior agreements remain in effect. The 2018 Water Fund budget anticipates the impact of future funding increases, which includes wage increases and anticipated wage increases with respect to such successor collective bargaining agreements. The Department has worked to increase use of seasonal employees, lower the hourly rates for apprentice workers, lengthen probationary periods and reduce overtime rates for certain trades. The Department believes these efforts will create greater flexibility in managing the Water System's work force and make it more competitive with private construction companies.

The Department is building efficiencies and cost savings for the City by coordinating the activities of the Water System with the work of other City agencies, the Office of the Mayor, other City departments and private utility providers. For example, the Department and other City agencies participate in regularly scheduled coordination meetings to review critical infrastructure requirements, share in the costs of administration, set program deadlines, work with tax-increment financing capital planning and ensure that the Chicago Department of Transportation manages rights of way scheduling and construction. The Department has increased its use of mapping and technology. Some of the key benefits from these programs include but are not limited to: (i) the ability to update existing systems like 311 from the field; (ii) the ease of integrating the Geographic Information System with other systems such as the Department's work order management system, metering system, and scheduling software; (iii) the ability to coordinate with field crews and off-site contractors directly; and (iv) having live data presented in a visual format that provides a full operational picture and true status updates. The Department pushes information out into the field using mobile devices so that the construction and maintenance crews can quickly and easily follow the plan and report back live information and progress of their work.

#### Organization and Staffing

The chief administrator of the Department is the Commissioner, who is appointed by the Mayor with the approval of the City Council. On June 3, 2017, Alfonzo Conner was appointed as Commissioner of the Department. Under the direction of the Commissioner, the Department is organized into five bureaus and the Commissioner's office as follows:

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**Commissioner's Office:** The office is responsible for the oversight and management of general and project-specific initiatives for the other bureaus. This office also includes security and safety.

**Administrative Support:** This bureau is responsible for the collection and dissemination of all financial information, procurement and contract administration, personnel, labor relations, information technology and payroll.

**Operations and Distribution:** This bureau is responsible for the maintenance, repair and installation of water and sewer mains and appurtenances, including valves, fire hydrants, manholes, catch basins and valve basins.

**Water Supply:** This bureau is responsible for the treatment, purification, pumping and monitoring the quality and purity of the water supply.

**Engineering Services:** This bureau is responsible for providing engineering and inspection support for the planning, design, expansion, rehabilitation, operating, monitoring and inspection of the Water and Sewer Systems.

**Meter Service:** This bureau is responsible for water meter installation, reading and repair.

The City maintains a self-insurance program, including casualty coverage, general liability coverage and workers' compensation for the Department. The City also maintains replacement-cost property insurance that covers the major facilities of the Water System.

## **WATER SYSTEM**

### **Description of Facilities**

**Treatment Plants.** The Department operates the world's two largest conventional water treatment facilities, the Eugene Sawyer Purification Plant and the James W. Jardine Water Purification Plant, aggregating a continuous service capacity of 2.16 billion gallons per day ("BGD"). The Eugene Sawyer Water Purification Plant (previously named South Water Purification Plant) has a rated capacity of 720 million gallons per day ("MGD") and serves the City south of 39<sup>th</sup> Street and the City's south and southwest suburban customers. This plant was placed into service in 1947 with a rated capacity of 480 MGD. In 1966, this plant was expanded by 50 percent which increased its capacity by 240 MGD to its current rated capacity. The James W. Jardine Water Purification Plant is the largest fresh water purification plant in the world with a rated capacity of 1.44 BGD. It has been in operation since 1964 serving the City north of 39<sup>th</sup> Street, the DuPage Water Commission and the City's other western and northern suburban customers.

These plants are supplied from four water intakes, two of which are water intake cribs located in Lake Michigan two to four miles from shore and two of which are shore intakes (one at each plant).

**Pumping Stations; Water Supply Tunnels; Water Distribution.** Water is transported throughout the Water System by 64 miles of water supply tunnels. These tunnels are located 40 to 100 feet below the surface of the ground and range in size from six feet to 20 feet in diameter. Water is raised from the tunnels by the pumps in the 12 pumping stations and delivered to customers through a water distribution system of approximately 4,295 miles of water mains (ranging in size from four to 60 inches in diameter), approximately 48,190 fire hydrants and approximately 48,670 valves.

### **Capital Improvement Program**

The City, through the Department, continually improves and rehabilitates the Water System. To provide for future additions to the Water System, replacement of facilities and rehabilitation of existing facilities, the Department has prepared a projected capital improvement program covering a ten-year period from 2012 to 2021 (the "Capital Improvement Program"). The Capital

improvement program covering a ten-year period from 2012 to 2021 (the Capital Improvement Program). The Capital Improvement Program includes a series of annual benchmarks that the Department intends to achieve in order to implement the entire Capital Improvement Program. The Capital Improvement Program addresses the renewal and replacement of the Water System's infrastructure, and focuses on four major areas: (i) water main replacement, (ii) meter installation, (iii) electrification of pumping stations, and (iv) rehabilitation and upgrading of the Water System's two purification plants.

Now in the sixth year of the ten-year Capital Improvement Program, the Department has generally remained on track with its goals. Over the ten-year period from 2012 through 2021, the Department planned to replace 880 miles of water mains (500 miles will have been completed by the end of 2017), install 204,000 meters, design the electrification of pumping stations (two designs are complete and one is in progress), electrify three pumping stations (one has been completed and one is in progress) and rehabilitate and upgrade the water system's two purification plants. Since 2012, the Department has replaced 106,184 water meters, exceeding its goal of replacing 15,000 meters per year through 2017. The Department intends to continue to install 15,000 water meters in each of the years from 2017 through 2020. With respect to water main replacement, the Department replaced 70 miles of water mains in 2013 and 2014, and 90 miles in 2015 and 2016, more than twice as many water mains as it had been replacing prior to the implementation of the Capital Improvement Program. The Department plans to replace an additional 90 miles of water mains in each of the years 2017 through 2019, and 100 miles in 2020. With respect to the electrification of pumping stations, the Department has completed the electrification of the Springfield pumping station and the Department is in the process of bidding the design plans for the conversion of the Central Park pumping station from steam to electric power. With respect to the rehabilitation and upgrading of the Water System's two purification plants, the Department is in the process of replacing all the medium voltage electrical power distribution systems and installing standby generators, improving the switchgear, and replacing the filter backwash controls at the Eugene Sawyer Purification Plant. At the Jardine Water Purification Plant, the Department is in the process of improving the chlorine system, improving the electrical switchgear, and installing standby generators, and recently completed a new roof on the East Filter Building.

The ongoing projects of the Department will ensure continued economical and reliable delivery of water. The Department 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 efficient operation of the Water System.

The Water System's expenditures for 2013 through 2016 and projected expenditures for 2017 through 2020 under the Capital Improvement Program are summarized in the table below. The information presented in the table reflects the Department's expected allocations of resources to various projects, but does not necessarily represent an expectation of actual cash expenditures for these projects, which are subject to annual approval of the Budget Office. The primary sources of funds to undertake these projects are expected to be proceeds from contemplated debt issuances, IEPA loans, as well as funding from current water revenue (also referred to as "pay-go").

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**2013-2020 HISTORICAL AND PROJECTED CAPITAL IMPROVEMENT PROGRAM  
FUNDING BY SOURCE (Dollars in Millions)**

| <b>Funding Sources</b> | <b>2013</b> | <b>2014</b> | <b>2015</b>  | <b>2016</b>  | <b>2017</b>  | <b>2018</b>  | <b>2019</b>    | <b>2020</b>        |
|------------------------|-------------|-------------|--------------|--------------|--------------|--------------|----------------|--------------------|
| Bonds                  | \$179       | \$152       | \$157        | \$164        | \$--         | \$--         | \$130          | \$195              |
| Pay-Go                 | 56          | 146         | 94           | 53           | 195          | 213          | 136            | 113                |
| IEPA Loans             | 56          | 104         | 112          | 144          | 140          | 180          | 175            | 150                |
| <b>Total</b>           |             | <b>E2£L</b> | <b>\$4Q2</b> | <b>\$263</b> | <b>\$361</b> | <b>\$335</b> | <b>\$3 9 3</b> | <b>\$441 \$458</b> |

**Quality of Water Supplied**

The quality of the water drawn by the City from Lake Michigan meets currently applicable federal and State standards in all material respects. The water operations of the Department are subject to the requirements of the federal Safe Drinking Water Act of 1974, 42 U.S.C. §300f et seq., as amended in 1986 and 1996 by Congress (the "Safe Drinking Water Act"). The Safe Drinking Water Act sets the regulatory agenda of the United States Environmental Protection Agency ("USEPA"), to include, among other things, the development of drinking water standards for more than 90 contaminants. In addition, the Department is subject to compliance of Title 35, Subtitle F, Chapter 1, Part 611 of Illinois Administrative Code as the IEPA has primary authority over drinking water utilities within Illinois.

The Department is in compliance with all physical, chemical, radiological, and bacteriological standards established by the regulations currently in effect under the Safe Drinking Water Act, and is studying the potential impacts of proposed rules as well as those still under development by the USEPA. As the USEPA promulgates additional regulations, the Department could potentially be required to modify operations and/or construct facilities beyond those contemplated by the Capital Improvement Program. The Department believes, however, that planned capital projects should address all current regulatory requirements.

Water treatment at each plant includes the addition of chlorine to disinfect, fluoride to help fight tooth decay, coagulants to settle out impurities in the water and blended phosphate to coat pipes and service lines.

The Department has microbiology and chemistry laboratories at each plant that conduct compliance sampling for the treatment process and distribution system. Additionally, the Department maintains water quality laboratories at each plant that analyze the water throughout the treatment process continuously.

The IEPA implemented a Source Water Assessment Program ("SWAP") to assist with watershed protection of public drinking water supplies. The SWAP inventoried potential sources of contamination and determined the susceptibility of the source water to contamination. The IEPA has completed the SWAP for the City's water supply. The SWAP, as implemented helps the City make important decisions about how to protect Lake Michigan, its drinking water source. By working to ensure safe drinking water supplies, the health and economy of the community, as well as the preservation of natural resources, may be greatly improved. However, at certain times of the year the potential for contamination still exists due to wet-weather flows. In addition, the crib structures serve to attract waterfowl, gulls and terns that frequent the Great Lakes area, thereby concentrating fecal deposits at the intakes and thus compromising the source water quality. Additionally, the shore intakes may be susceptible to contaminants from storm water runoff, marinas and shoreline point sources due to the influx of groundwater to the lake. Having

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this information allows the Department to continually monitor water quality throughout the treatment process to ensure compliance with all standards established by the regulations currently in effect under the Safe Drinking Water Act.

**Lead and Copper Rule Compliance.** Pursuant to the Safe Drinking Water Act, the Department is required to conduct Lead and Copper Rule (LCR) monitoring every three years. Compliance monitoring in 2015 demonstrated that the Department continues to be in compliance with the LCR; its only LCR violation was in 1993. Further, to reduce the leaching of metals, including lead, the Department adds a blended phosphate to the water before it enters the distribution system, which promotes the formation of a protective coating inside pipes and plumbing; this system of corrosion control corrected the LCR violation found in 1993.

**Monitoring.** The City continues monitoring for *Cryptosporidium*, *Giardia* and *E. coli* in its source water as part of its water quality program. To date, *Cryptosporidium* has not been detected in these samples, but *Giardia* was detected in one raw lake water sample collected in September 2010. Treatment processes have subsequently been optimized to provide effective barriers for removal of *Cryptosporidium* oocysts and *Giardia* cysts in the source water, effectively removing these organisms in the treatment process. By maintaining low turbidity through the removal of particles from the water, the possibility of *Cryptosporidium* and *Giardia* organisms getting into the drinking water system is greatly reduced.

Currently, the City has also continued monitoring for hexavalent chromium, also known as chromium-6. USEPA has not yet established a standard for chromium-6, a contaminant of concern which has both natural and industrial sources

Sources.

A diagram of the City's water treatment process is set forth below:

Polymer Fluoride  
# CI: • Blended Phosphate

Flocculation Sedimentation

**Total System Capacity - 2.16 BGD Jardine Plant -1.44 BGD Sawyer (South) Plant - 0.72 BGD**  
Distribution System

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## **WATER SYSTEM SERVICE AREA**

### **Service Area**

The Water System supplied water to a service area of approximately 806 square miles as of December 31, 2016. The City accounted for approximately 228 square miles and the suburban customers accounted for approximately 578 square miles of the service area.

Included in the current service area are seven suburbs (Elk Grove Village, Hanover Park, Hoffman Estates, Mount Prospect, Rolling Meadows, Schaumburg and Streamwood) which formed the Northwest Suburban Municipal Joint Action Water Agency ("JAWA") which, in turn, has built facilities necessary to obtain water from the City. These facilities were acquired by the City from JAWA over time by crediting a portion of the charges for water purchased by JAWA under a contract between JAWA and the City.

In May 1992, 24 suburbs, acting through the DuPage Water Commission ("DWC"), became customers of the Water System, expanding the Water System's service area by approximately 24 percent. The Department supplies water to DWC with existing facilities and has not incurred any substantial capital costs in providing such service. DWC is responsible for the construction of pumping, water retention and related facilities at delivery points just within the City's territorial limits. These facilities were acquired by the City from DWC over time by crediting a portion of the charges for water purchased by DWC under a contract between DWC and the City.

### **Population Served**

The following table shows the population for the City and the suburban customers of the Water System as shown in each decennial census since 1970:

## **WATER SYSTEM SERVICE AREA POPULATION**

**Year**

1970 1980 1990 2000 2010

**Chicago**

3,369,357 3,005,072 2,783,726 2,896,016 2,695,598

**Suburban Customers**

1,127,446 1,152,614 1,589,557 2,410,021 2,600,496

**Total**

4,496,803 4,157,686 4,373,283 5,306,037 5,296,094

**Number of Suburbs Served**

72 75 95 125 125

Source of population figures. U.S. Department of Commerce, Census Bureau.

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The following table lists the 125 suburban customers currently served, directly or indirectly, by the Water System.

**SUBURBAN CUSTOMERS SERVED BY THE WATER SYSTEM**

Addison Alsip

Bedford Park

Bellwood

Bensenville

Berkeley

Berwyn

Bloomington

Blue Island

Bolingbrook

Bridgeview

Broadview

Brookfield

Bumham

Burr Ridge

Calumet City

Calumet Park

Carol Stream

Central Stickney

Sanitary District Chicago Ridge Cicero

Sanitary District Chicago Ridge Cicero  
Clarendon Hills  
Country Club Hills  
Countryside  
Crestwood  
Darien  
Des Plaines  
Dixmoor  
Dolton  
Downers Grove East Hazel Crest Elk Grove Village  
Elmhurst Elmwood Park Evergreen Park Flossmoor Forest Park Forest View Franklin Park Garden Homes  
Sanitary District Glen Ellyn Glendale Heights Glenview Golf  
Hanover Park Harvey  
Harwood Heights  
Hazel Crest  
Hickory Hills  
Hillside  
Hinsdale  
Hodgkins  
Hoffman Estates  
Homer Township  
Hometown  
Homewood  
IAWC<sup>(1)</sup>  
Indian Head Park Itasca Justice La Grange La Grange Highland Sanitary District La Grange Park  
Leyden Township Lincolnwood Lisle Lombard Lyons Markham Matteson Maywood McCook Melrose Park Merrionette Park  
Midlothian Mokena Morton Grove Mount Prospect Naperville New Lenox Niles Norridge North Riverside Northlake Oak Brook Oak  
Forest Oak Lawn Oak Park Oakbrook Terrace Olympia Fields Orland Park Palos Heights Palos Hills Palos Park Park Ridge Phoenix  
Posen  
River Forest River Grove Riverdale Riverside Robbins  
Rolling Meadows Roselle Rosemont Schaumburg Schiller Park South Holland South Stickney  
Sanitary District Stickney Stone Park Streamwood Summit Thornton Tinley Park Villa Park Westchester Westmont Wheaton  
Willow Springs Willowbrook Winfield Wood Dale Woodridge Worth

Source: City of Chicago, Department of Water Management.

IAWC (Illinois American Water Company, formerly Citizens' unincorporated areas in Cook and DuPage Counties, Illinois.

## **Water Accounts**

As of December 31, 2016, the Water System supplied 494,264 accounts. Of these, 206,913 were non-metered and 287,351 were metered. The number of metered accounts has recently exceeded the number of non-metered accounts as a result of the Meter Installation Program for all single-family and two-family dwellings within the City. Water meters are required on all new construction of single-family and two-family dwellings within the City and on any new services to existing buildings in the City. All suburban customers (primarily municipal corporations) are metered.

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The following table reflects the total accounts of the Water System, non-metered and metered, for the past 10 years:

### WATER SYSTEM ACCOUNTS

Year Ended December 31

|      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|
| 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|------|------|------|------|------|------|------|------|------|------|

Non-metered

320,579 319,205 318,088 314,002 304,519 290,863 273,426 250,304 227,801  
206,913

Metered

175,256 178,457 179,649 183,618 192,304 205,097 220,759 241,304 266,284 287,351

Total

495,835 497,662 497,737 497,620 496,823 495,960 494,185 491,608 494,085 494,264

Source: City of Chicago, Department of Water Management.

Non-City Customers

Suburbs. The Department's service to its suburban customers is based on various contracts and on an Illinois statute which establishes and authorizes the operation of the Metropolitan Water Reclamation District of Greater Chicago (the "Water Reclamation District"), formerly known as the Metropolitan Sanitary District of Greater Chicago. Among other things, the statute requires the City to supply water at the City limits to any municipal corporation within the Water Reclamation District at no greater price or charge than that applicable to similar large users in the City. The Water Reclamation District currently serves municipalities in the Chicago area and its function is to construct, maintain and operate sewage treatment plants, necessary sewers and drainage outlets.

Currently, the Department's outstanding contracts with its suburban customers generally have terms of 10 years with three 10-year extensions for a total of 40 years and include certain water supply and planning provisions, such as requiring the suburban customers to maintain storage capacity for a two-day supply of water and establishing the maximum rate at which suburban customers may withdraw water from the Department's mains. The Department has continued to supply water at the current water rate to those suburban customers that have not yet renewed their contracts. While the City may be precluded from shutting off water service to suburban customers for failure to pay amounts owed, the City has available legal remedies to enforce such contracts.

The respective contracts which the City has executed with JAWA and DWC are substantially similar, but are different from the standard contracts described above. The contracts with JAWA and DWC are for 40-year terms, expiring in 2032 and 2023, respectively. JAWA and DWC have made substantial capital investments to connect with the Water System. The Village of Oak Lawn (which serves several other south and southwestern suburban customers) entered a contract with the Department in 2013 with a 30-year term, expiring at the end of calendar year 2042 with an option to extend the contract for a further ten years. In 2016, DWC was the Department's largest suburban customer, Oak Lawn was the second largest suburban customer and JAWA was the third largest suburban customer, with sales of approximately \$102.7 million, \$39.5 million and \$38.1 million, respectively.

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In 2016, the suburban customers accounted for approximately 38 percent of water pumpage and approximately 49 percent of net water sales of the Water System.

Listed below are the Department's 10 largest suburban customers in 2016. Several of these customers supply one or more other suburban customers.

**10 LARGEST SUBURBAN CUSTOMERS OF THE WATER  
SYSTEM IN 2016**

| Customer                      | Amount of Sales<br>(in Thousands) |
|-------------------------------|-----------------------------------|
| DuPage Water Commission (DWC) | \$102,711                         |
| Oak Lawn, Illinois            | 30,530                            |

|                                                               |              |
|---------------------------------------------------------------|--------------|
| Northwest Suburban Municipal Joint Action Water Agency (JAWA) | 38,086       |
| Bedford Park, Illinois                                        | 29,817       |
| Harvey, Illinois                                              | 12,033       |
| Cicero, Illinois                                              | 11,460       |
| Melrose Park Illinois                                         | 11,053       |
| Niles, Illinois                                               | 8,227        |
| Alsip, Illinois                                               | 8,095        |
| <u>McCook, Illinois</u>                                       | <u>7,361</u> |
| Total                                                         | \$268,382    |

Source: City of Chicago, Department of Water Management.

From time to time, including at the present time, the City is notified that one or more suburban communities that now receive water service from the City are considering potential alternative sources for their water supply. In April 2017, the City received a letter (the "April Letter") from a law firm representing both the Village of Niles, Illinois ("Niles") and the Village of Morton Grove, Illinois ("Morton Grove"). The April Letter stated that both villages were pursuing an alternative water supply source and requested that the City enter into a new 10-year water supply agreement with each village that would include, among other things, the following provisions: (i) each village would purchase an agreed-upon minimum amount of water necessary to demonstrate the operability of its respective water supply system, and (ii) the City would provide an emergency water supply to each village, at then-current water rates, in the event that either village required such service. The Department responded to the April Letter by means of a letter sent the following month (the "May Letter"), which estimated that to enter into a water supply agreement as requested in the April Letter, Niles would be required to draw 3.0 MGD and Morton Grove would be required to draw 1.5 MGD. The May Letter pointed out that for the prior year, Niles' average usage of City water was 5.9 MGD and Morton Grove's average usage was 2.7 MGD. The City has not to date received a response to the May Letter from either village. No assurance can be given as to whether either village will continue to purchase water from the City or whether any other suburban communities may similarly explore alternative water supply sources.

See "LITIGATION" for a discussion of certain litigation by the City against the City of Harvey, Illinois ("Harvey") to recover moneys owed by Harvey to the City under its water supply contract.

State of Illinois. The State of Illinois (the "State") is obligated to make payments to the City in instances where it is a user of the Water System, except in situations and to the extent that the applicable State property qualifies for an exemption. The revenue from the State as user constitutes less than one

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percent of the Water System's annual operating revenues. No operating revenues from any users of the Water System (other than the State) flow through the State; all such revenues are paid directly to the City.

### Water Pumpage

During 2016, the Water System pumped approximately 256.6 billion gallons of water. Because the Water System supplies water to non-metered customers and certain exempt users, many of which are also not metered, it is impossible for the Department to account exactly for its total system pumpage. However, the Department estimates that, in 2016, total water losses were approximately 6.26% of total pumpage.

Year



Total

2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

**WATER PUMPAGE TO CITY AND SUBURBAN CUSTOMERS (in Millions of Gallons)**CityJAWADWC

199,492 191,778 185,197 176,773 176,718 182,050 173,877 173,804 164,187 159,161

12,003 11,542 11,560 11,087 10,938 11,364 10,616 10,503 10,296 10,130

31,855 30,235 29,017 28,729 28,194 29,800 28,113 27,219 26,776 26,938

**Other Suburban Customers**

72,566 68,469 66,794 65,779 65,655 66,331 63,433 63,026 61,347 60,391

Total

315,916 302,024 292,568 282,368 281,505 289,545 276,039 274,552 262,606 256,620

Source: City of Chicago, Department of Water Management.

As the table below indicates, from 2007 through 2016 the Water System's maximum daily pumpage ranged from 41 percent to 61 percent of the Water System's capacity.

**WATER SYSTEM PUMPAGE AND CAPACITY**

| <u>Year</u> | <u>Annual Pumpage (MGD)</u> | <u>Total Daily Pumpage (MGD)</u> | <u>Average Daily Pumpage (MGD)</u> | <u>Maximum Pumpage Capacity (MGD)</u> | <u>System's Rated Daily Pumpage as % of Capacity</u> | <u>Maximum</u> |
|-------------|-----------------------------|----------------------------------|------------------------------------|---------------------------------------|------------------------------------------------------|----------------|
| 2007        | 315,916                     | 8661,200                         | 2,160                              | 56                                    |                                                      |                |
| 2008        | 302,024                     | 8271,136                         | 2,160                              | 53                                    |                                                      |                |
| 2009        | 292,568                     | 8021,112                         | 2,160                              | 51                                    |                                                      |                |
| 2010        | 282,368                     | 7731,012                         | 2,160                              | 47                                    |                                                      |                |
| 2011        | 281,505                     | 7711,317                         | 2,160                              | 61                                    |                                                      |                |
| 2012        | 289,545                     | 7931,248                         | 2,160                              | 58                                    |                                                      |                |
| 2013        | 276,039                     | 7561,095                         | 2,160                              | 51                                    |                                                      |                |
| 2014        | 274,552                     | 7521,023                         | 2,160                              | 47                                    |                                                      |                |
| 2015        | 262,606                     | 7198,902                         | 2,160                              | 41                                    |                                                      |                |
| 2016        | 256,620                     | 7019,032                         | 2,160                              | 42                                    |                                                      |                |

Source: City of Chicago, Department of Water Management.

**Lake Michigan Allocations**

City Allocations. Diversion of water from Lake Michigan began in 1900 when the flow of the Chicago River was reversed. In 1922, the State of Wisconsin filed the first lawsuit relating to the diversion of Lake Michigan water at Chicago. The United States Supreme Court referred the case to a Special Master and a decree was issued in 1930 which allowed the State to divert 6,500 cubic feet per second ("cfs") until 1938 and 1,500 cfs thereafter. Water pumpage for potable water supply use was not chargeable to the amounts allowed for diversion under the decree. In 1957, the State of Wisconsin again filed suit in the United States Supreme Court. The suit led to the appointment of a Special Master and the resultant 1967 decree, based on the Special Master's findings, restricted the State from diverting more than 3,200 cfs (2,068 MGD). This limitation on diversion includes water pumpage for potable water supply.

In a related matter, on July 26, 1996, the State, the seven other Great Lakes states, the United States and the Water Reclamation District entered into a Memorandum of Understanding ("MOU") with respect to water diversion from Lake Michigan. The MOU was designed to address a dispute among the states as to an alleged violation of the decrees of the United States Supreme Court (discussed above) limiting the total amount of water diverted by the State and its political subdivisions. The other Great Lakes states contended that the water being diverted had exceeded the Supreme Court's limitation of 3,200 cfs.

To address the other Great Lakes states' concern that the State was exceeding its diversion limit, the State agreed to (1) maintain its diversions at the Supreme Court's limit and in fact, to use less than the 3,200 cfs for the next 20 years, (2) reduce leakage at the Chicago River Controlling Works, (3) reduce diversion for navigation make-up, and (4) complete allocation proceedings regarding all domestic and industrial Illinois Lake Michigan water users. The MOU also provided that the State shall use its power to ensure that municipalities using water from Lake Michigan, including the City, comply with allocation limits, unaccounted-for-flow requirements, and conservation requirements required by State law, regulation, court order, consent decree or settlement agreement.

The City was not a signatory to the MOU, but in 1996, in an effort to assist the State in meeting the diversion requirements set out in the MOU, voluntarily agreed to expand a Water Conservation Plan initially implemented by the Department in 1989. The City's 1996 Water Conservation Plan (the "1996 Plan") expanded the repair program to eliminate or prevent delays in leak repairs, expanded its public education program and required the metering of various large non-metered water users. Since the MOU, the City has seen a decrease in its actual water usage.

Illinois Allocations. The Illinois Department of Natural Resources ("IDNR"), previously a part of the Illinois Department of Transportation ("IDOT"), is responsible for the apportionment of Lake Michigan water within the State pursuant to the Level of Lake Michigan Act (615 ILCS 50/1 et seq.). On July 28, 1999, IDNR entered its allocation Order LMO 99-3 with respect to its allocations of Lake Michigan water. The allocations under Order LMO 99-3 are as follows:

**LAKE MICHIGAN ALLOCATION UNDER ORDER LMO 99-3 TO CITY AND  
SUBURBS SERVED BY CITY<sup>(1)</sup>**

|                       |         |         |         |
|-----------------------|---------|---------|---------|
| <b>Year</b>           |         |         |         |
|                       | 2000    | 2010    | 2020    |
| <b><u>City</u></b>    |         |         |         |
|                       | 713.0   | 737.1   | 750.1   |
| <b><u>Suburbs</u></b> |         |         |         |
|                       | 334.3   | 362.2   | 388.0   |
| <b><u>Total</u></b>   |         |         |         |
|                       | 1,047.3 | 1,099.3 | 1,138.1 |

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|                |                                                                                               |             |                |              |
|----------------|-----------------------------------------------------------------------------------------------|-------------|----------------|--------------|
|                | <b>Year</b>                                                                                   | <b>City</b> | <b>Suburbs</b> | <b>Total</b> |
| <sup>171</sup> | Source: IDNR. Allocations are rounded to tenths; actual allocations are specific to .001 MGD. |             |                |              |

Order LMO 99-3 modified Order LMO 89-2 entered by IDOT in 1989 and decreased the allocations of Lake Michigan water to the City. For example, under Order 89-2 (as revised in 1995) the Year 2000 allocations to the City and the suburbs that the City serves would have been 833.3 MGD for the City and 344.0 MGD for the suburbs. But, under Order LMO 99-3 the same allocations for the-year 2000 were decreased to 713 MGD for the City and 334.3 MGD for the suburbs, as reflected in the table above.

The IDNR reduced the City's allocation because: (1) the State had agreed in connection with the MOU to reduce State-wide usage; and (2) the City's actual water usage had decreased from over 800 MGD in the late 1980s to approximately 680 MGD in 1998. The City's decreased usage is, in part, a result of its successful undertaking to conserve water pursuant to its 1996 Plan.

The City fully expects that its allocation will be sufficient to meet its water needs for the next 20 years. In addition, IDNR rules allow the City to petition for an increase in its allocation in the event the City's expected water needs exceed its allocation.

Also, in 1999, the City amended the 1996 Plan to further conserve water and reduce unaccounted-for flow. This amended plan expands the 1996 Plan in four primary respects: (1) the continuation of water main replacements at an annual rate of approximately 45 miles; (2) increased leak detection and repair activities; (3) the installation of meters in certain un-metered municipal and commercial buildings; and (4) the adoption of an accelerated suburban meter repair program which provides for accuracy testing and repair if necessary of all active meters every two years. Order LMO 99-3 reflects the acceptance by the IDNR of the City's amended plan.

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## **FINANCIAL OPERATIONS**

### **Rates, Fees and Users**

The Water Fund receives no share of any state or local property or income taxes. Revenues from the sale of water provide for the operation, maintenance and debt service of the Water System. The City obtains Water System operating revenues only from the users of the Water System. The operating revenues from users of the Water System do not flow through the State, any State agency or any other political subdivision, but are paid directly to the City. The State is, however, like any other user, obligated to make payments to the City in instances where it is a user of the Water System (with the exception of situations and to the extent that the applicable property qualifies for an exemption). See "WATER SYSTEM SERVICE AREA-Non-City Customers."

Water System rates are set by City Council. No regulation by any administrative agency applies to Water System rates. Water System rates for metered accounts are based on a dollar rate per thousand cubic feet. The assessment of non-metered users is based on a formula primarily involving the front width of the building and the number of stories therein plus a charge for an outside hose connection and extra charges for large water-using devices such as water-cooled air conditioners. See " - Water System Rates" below.

Certain publicly owned properties and not-for-profit organizations enjoy exemptions from the payment of Water System rates in connection with metered accounts. These exemptions range from 100% (e.g., for many publicly owned entities such as properties owned by the City and certain not-for-profit organizations that have net assets or fund balances at the end of the year preceding the water rate charge of less than \$1 million) to 25% (e.g., for not-for-profit organizations having net assets or fund balances at the end of the year preceding the water rate charge of greater than or equal to \$10 million but less than \$250 million).

Whenever projected Gross Revenues will not be sufficient to comply with the Rate Covenant in the Ordinance and the Indenture, the City is required to prepare a rate study for the Water System identifying the rate charges necessary to comply with the Rate Covenant, and the Budget Office and the Chief Financial Officer are required to recommend appropriate action to the City Council to comply with the Rate Covenant, which may include rate increases and/or expenditure reductions. See "INTRODUCTION - Rate Covenant."

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## **Water System Rates**

Historical Water System rates, as authorized by the City Council, are summarized in the table below. By ordinance, annual Water System rates are now automatically adjusted by applying to the previous year's rates the rate of inflation, calculated based on the Consumer Price Index published by the United States Bureau of Labor Statistics for the 365-day period ending on the most recent January 1. Such increases do not require further action by the City Council. Any such automatic annual increase, however, shall be capped at 5% of the previous year's rate. Subject to applicable rate covenants, the City Council may take action at any time to alter the then-current schedule of water or sewer rates.

### **HISTORICAL WATER RATE INCREASES**

#### **Date Effective**

| Jan. 1,2007 | Jan. 1,2008 | Jan. 1,2009 | Jan. 1,2010 | Jan. 1,2011 | Jan. 1,2012 | Jan. 1,2013 | Jan. 1,2014 | Jan. 1,2015 | June 1,2016 | June 1,2017 |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|

#### **1,000 Cubic Feet**

|      |       |       |       |       |       |       |       |       |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 9.95 | 11.44 | 13.15 | 15.00 | 15.00 | 18.75 | 21.56 | 24.80 | 28.52 | 28.52 | 29.04 |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|

**1,000 Gallons**

1.33 1.53 1.76 2.01 2.01 2.51 2.88 3.31 3.81 3.81 3.88

**Increase Over Prior Rate**

(%)

0.00 15.00 15.00 14.00

0.00 25.00 15.00 15.00 15.00

0.00

1.83

Source: City of Chicago, Department of Water Management.

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**Water Rate Comparisons**

The following chart compares the Water System's single family cost per 7,500 gallons of water to the rates charged for the same level of water usage by water systems serving other selected U.S. cities. The reader should note, however, that other cities' water rates shown below may be based on different assumptions which could render any comparison less reliable. Further, the Water System rate shown below applies only to metered accounts for the Water System and not to non-metered accounts.

**Water Rate Comparison (as of September 2017)**

**Chicago and Other Selected U.S. Cities Single Family Cost per  
7,500 Gallons of Water**

Source: City of Chicago, Department of Water Management.

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**\$100**

## **Collections and Delinquencies**

The Department of Finance follows the same collection strategy for collecting water accounts and sewer accounts, as described below. The Department of Finance bills most large industrial accounts each month, with a few exceptions that are billed quarterly. Metered commercial and residential accounts are billed once every two months. Non-metered accounts are billed once every six months. Chicago residents receiving both water and sewer service from the City, as well as refuse collection services provided by the City's Department of Streets and Sanitation, are sent a unified utility bill which details the charges for each service. Pursuant to the Municipal Code, payments on the unified bills are allocated pro rata among the charges shown on the bills, with oldest unpaid amounts being paid first. The first unified bills which included refuse collection services were sent between April and September 2016 to residents. Beginning in March 2017, the unified bills also include the Chicago Water and Sewer Tax as a separate charge (see "THE BONDS - Chicago Water and Sewer Tax"). To date, the allocation of partial payments on the unified bills to sewer accounts and refuse collection services has not had a material adverse effect on the collection by the City of water charges. See "INVESTMENT CONSIDERATIONS - Other Considerations - Unified Billing" for a discussion of certain risks related to the inclusion of the refuse collection services fee, together with the water and sewer charges, on a unified bill.

Payments on both metered and non-metered accounts are due 21 days after the bills are issued. A late payment penalty assessed at a monthly rate of one and one-fourth percent is imposed on all sewer charges in excess of \$10.00 for which payment in full is not received within 30 calendar days from the date the bill was issued.

Delinquency notices, which were generated at an average rate of 24,319 per week in 2016, are sent to delinquent account holders when their balances are 30 days past due. A second delinquency notice is sent after 60 days. A third delinquency notice is sent after 90 days. After an active account reaches 210 days past due with a balance greater than \$300, the account is referred to an outside law firm for collections. Inactive accounts (those that do not currently have water or sewer service) that are 91 days past due with balances of \$200 or greater are referred to an outside law firm for collection. The outside law firm may pursue collection by obtaining a judgment at the City of Chicago Department of Administrative Hearings, recording a lien against the property, or by additional legal collection actions.

Additionally, active accounts are eligible to be posted for shutoff by the Department where account balances have not been paid for 60 days or longer and the account balance is \$350 or greater. Properties which have been posted are eligible for water service to be shut off by the Department if the accounts remain past due 12 days after posting and the balance requirement is met. Due to the concern for public health, the Department of Finance makes every effort to collect delinquent accounts prior to the Department terminating water service. It is not possible to terminate use of the Sewer System by an individual user unless water service is terminated. Further, by ordinance, when a property is transferred, a deed cannot be recorded with the Cook County Recorder of Deeds unless the Department of Finance certifies that all water and sewer service charges and penalties due and owing for service to that property have been paid in full.

See also "LITIGATION" for a discussion of certain litigation by the City against Harvey to recover moneys owed by Harvey to the City under its water supply contract.

### Distribution of Revenues by Type of Account

The following table identifies the approximate percentage distribution of revenues by type of account for the years 2007 through 2016:

| <u>City Service Area</u>       |                   |                     |    |
|--------------------------------|-------------------|---------------------|----|
| <b>Residential</b>             |                   |                     |    |
| <u>Year</u>                    | <u>Metered</u>    | <u>Non-Metered</u>  |    |
| 2007                           | 14%               | 19%                 |    |
| 2008                           | 19                | 21                  |    |
| 2009                           | 19                | 21                  |    |
| 2010                           | 20                | 21                  |    |
| 2011                           | 19                | 18                  |    |
| 2012                           | 18                | 22                  |    |
| 2013                           | 20                | 19                  |    |
| 2014                           | 19                | 18                  |    |
| 2015                           | 21                | 17                  |    |
| 2016                           | 22                | 15                  |    |
| <b>Industrial and Suburban</b> |                   |                     |    |
| <u>Total</u>                   | <u>Commercial</u> | <u>Service Area</u> |    |
| 33%                            | 20%               | 47%                 |    |
| 40                             | 13                | 47                  |    |
| 40                             | 13                | 47                  |    |
| 41                             | 12                | 47                  |    |
| 41                             | 37                | 15                  | 48 |
| 41                             | 40                | 14                  | 46 |
| 41                             | 39                | 14                  | 47 |
| 37                             | 16                | 47                  |    |
| 38                             | 15                | 47                  |    |
| 38                             | 37                | 14                  | 49 |

Source: City of Chicago, Department of Water Management.

### Annual Budget Review and Implementation of Annual Budget

The Department's annual budget is developed and implemented as part of the City's annual budget and is based upon an analysis of its historical Operation and Maintenance Costs. If the projected Gross Revenues are not sufficient to satisfy the Water System rate covenants, taking into account net transfers from the Water Rate Stabilization Account, proposed rate increases are included in the Department's proposed annual budget. See INTRODUCTION - "Rate Covenant" and APPENDIX B - "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCES AND THE INDENTURES -Second Lien Bonds Rate Covenant." In addition to or in lieu of rate increases, the City could take other steps to meet the Water System rate covenants. See "Historical and Projected Financial Operations" under this caption.

Once the Department has prepared and finalized its proposed annual budget, the Director of the Office of Budget and Management (the "Budget Director") considers the Department's proposed budget along with the proposed annual budgets recommended and submitted by all of the other departments and agencies whose budgets become part of the City's proposed annual budget. Following the Budget Director's approval, the budgets must be approved by the Mayor, the City Council's Committee on Budget and Governmental Operations and the City Council. After the City Council has approved the proposed annual budgets as the City's annual appropriation ordinance, the ordinance is forwarded to the Mayor for approval.

Should the Mayor veto the approved annual appropriation ordinance, the City Council may override the veto with a two-thirds vote.

The City Council may also refuse to approve the Mayor's proposed annual budget. In such a case, the appropriate process for passage of the City budget may have to be judicially determined. By law, the City's budget must be approved by December 31 of the year preceding the budget year. The City's 2018 budget was approved by the City Council on November 21, 2017.

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During each year, the City allocates certain funds to meet debt service requirements and central services and General Fund reimbursements. The Budget Director uses an allotment system to manage each department's expenditures against its respective annual appropriation. The Budget Director requires departments to submit quarterly allotment budgets which the Budget Director, in turn, monitors. Should any department's expenditures exceed its receipt of revenues, the Budget Director, through the quarterly budget allotment procedure, has the authority to institute economy measures against such department to ensure that its expenditures do not exceed or outpace its revenue collection. During 2016, there were no such restrictions in the Department's quarterly expenditures.

### **Historical and Projected Financial Operations**

Following are the Water Fund's Statements of Operations as summarized from the audited financial statements of the Water Fund for the years ended December 31, 2012 through December 31, 2016 together with projected financial operations and projected debt service coverage calculations for the years ending December 31, 2017 through December 31, 2020, reflecting the issuance of the Bonds and the application of the proceeds therefrom.

The Water Fund's operating revenues for 2016 decreased by \$8.0 million compared to prior year operating revenues. This decrease of 1.0% is primarily due to the continued conversion of non-metered accounts to metered accounts and the absence of a water rate increase in 2016.

The Water Fund's operating expenses before depreciation and amortization for 2016 decreased \$199.4 million from the year ended 2015 due to a decrease in pension expenses. Operating expenses exclusive of pension expense decreased by \$3.4 million in 2016, primarily due to decreases in power and pumping costs, administrative costs, and general fund reimbursements. Depreciation and amortization increased due to an increase in utility plant.

For 2017, projected operating revenues are estimated to decrease by 1.5%, primarily due to the lack of a rate increase for the first 5 months of the year and a decrease in other operating revenues. The projections include a rate increase of 1.83% on June 1, 2017 (which occurred on such date) based on 2016 growth in the Consumer Price Index. Rates are conservatively projected to increase by 1.5% on June 1 of 2018, 2019, and 2020 based on anticipated Consumer Price Index growth. Future rate increases are projected to be offset by decreases in consumption due to water conservation efforts, including increased meter installation. Therefore, operating revenues are projected to decrease from 2017 to 2020.

Projected operating expenses (excluding pension contributions) in 2017 through 2020 are reflective of an expected 2.0% increase in expenses based on historical trends. Projected operating expenses reflect an increase in each year based on growth in indirect costs being charged to the Water Fund as reimbursements to the General Fund, including public safety departments. The methodology for charging these indirect costs to the Water Fund is consistent with generally accepted accounting principles.



methodology for charging these indirect costs to the Water Fund is consistent with generally accepted accounting principles.

Indirect pension contributions allocable to the Water Fund are budgeted at \$14.9 million and \$16.8 million in 2017 and 2018, respectively, and are projected to grow by 10% yearly thereafter. Direct pension contributions are budgeted at \$24.5 million and \$32.1 million in 2017 and 2018, respectively, and are projected to be \$38.5 million and \$45.8 million in 2019 and 2020, respectively.

In addition to rate increases, the City could achieve compliance with its covenant to maintain Net Revenues Available for Bonds (see INTRODUCTION - "Rate Covenant" and APPENDIX B -"SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCES AND THE INDENTURES -Second Lien Bonds Rate Covenant") in some other manner. Such other manner could include any combination of rate increases, decreases in operating expenses, changes in its Capital Improvement

Program or in the timing and amounts of future borrowings or changes in net transfer to (from) the Water Rate Stabilization Account. Contributions to the Water Rate Stabilization Account are projected in amounts necessary to maintain an account balance equal to three months of Water Fund operating expenses. See "Annual Budget Review and Implementation of Annual Budget" above.

*The City has prepared the projections discussed herein and summarized in the tables below. The City believes that the underlying assumptions provide a reasonable basis for the projections, and that the projections present, to the best of the City's knowledge and belief, the City's expected course of action. However, some of the assumptions upon which the projections are based may not materialize and unanticipated events and circumstances may occur. The accompanying prospective financial information was not prepared with a view toward complying with the guidelines established by the American Institute of Certified Public Accountants with respect to prospective financial information, but, in the view of the City's management, was prepared on a reasonable basis, reflects the best currently available estimates and judgments, and presents, to the best of management's knowledge and belief, the expected course of action and the expected future financial performance of the Water System. Accordingly, these projections are not, and should not be viewed as being, necessarily indicative of future results. Readers of this Official Statement are cautioned not to place undue reliance on the projected financial operations of the Water System which are contained herein.*

Neither the City's independent auditors, nor any other independent accountants, have compiled, examined, or performed any procedures with respect to the prospective financial information contained herein, nor have they expressed any opinion or any other form of assurance on such information or its achievability. Such parties assume no responsibility for, and disclaim any association with, the prospective financial information.

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The amounts of annual net water sales and cash collected from the then current and prior years' billings are included in the following table:

### NET WATER SALES AND CASH COLLECTIONS

Year

2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

#### Net Water Sales'''

|                                                               |             |             |             |             |             |             |             |             |
|---------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| \$320,470,772                                                 | 332,364,712 | 355,135,872 | 397,214,059 | 446,723,999 | 436,781,646 | 572,402,645 | 604,283,431 | 692,966,242 |
| 769,334,533                                                   | 764,277,595 |             |             |             |             |             |             |             |
| Cash Collected During Year for Current and Prior Years' Sales |             |             |             |             |             |             |             |             |
| \$320,979,596                                                 | 330,913,045 | 350,809,042 | 385,590,932 | 427,570,333 |             |             |             |             |
| 433,070,239                                                   | 542,570,130 | 594,826,380 | 666,968,092 | 756,185,018 | 758,387,972 |             |             |             |

#### Percentage of Sales Collected

100.2 99.6 98.8 97.1 95.7 99.2 94.8 98.4 96.2 98.3 99.2

Source: Cily of Chicago, Department of Water Management.

<!! Actual amounts billed during calendar year differs from Water Fund Basic Financial Statements which include charges accrued for calendar year regardless of year in which billed.

#### Pension Costs

Determination of Pension Contributions. Pension costs paid out of the Water Fund constitute Operation and Maintenance Costs for purposes of determining Net Revenues Available for Bonds and compliance with the City's covenants (including the Rate Covenant) under the Ordinance and the Indenture. See "INTRODUCTION - Rate Covenant."

The City participates in four single-employer defined-benefit pension plans for City employees: the Municipal Employees' Annuity and Benefit Fund of Chicago ("MEABF"), the Laborers' and Retirement Board Employees' Annuity and Benefit Fund of Chicago ("LABF," and together with MEABF, the "Municipal and Laborers' Funds"), the Policemen's Annuity and Benefit Fund ("PARE") and the Firemen's Annuity and Benefit Fund ("FARE " and together with PARE the "Public Safety Funds " which together

(PABF), and the Firemen's Annuity and Benefit Fund (FABF), and together with PABF, the Public Safety Funds, which, together with the Municipal and Laborers' Funds, are referred to herein as the "Retirement Funds"). Water System employees participate in the Municipal and Laborers' Funds.

Certain of the comprehensive annual financial reports of the Retirement Funds and certain of the actuarial valuations of the Retirement Funds may be obtained by contacting the Retirement Funds. Certain of these reports may also be available on the Retirement Funds' websites ([www.meabf.org](http://www.meabf.org) <<http://www.meabf.org>>; [www.labfchicago.org](http://www.labfchicago.org) <<http://www.labfchicago.org>>; [www.chipabf.org](http://www.chipabf.org) <<http://www.chipabf.org>> and [www.fabf.org](http://www.fabf.org) <<http://www.fabf.org>>); provided, however, that the contents of these reports and of the Retirement Funds' websites are not incorporated herein by such reference.

Members of each Retirement Fund are eligible (individually, an "Eligible Member," and collectively, "Eligible Members") for an annual annuity payment (the "Annuity Benefits") if they meet certain age, years of service and prior service credit requirements (the "Eligibility Factors"). Benefits to

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each Eligible Member are statutorily established based on a combination of the Eligibility Factors and the Eligible Member's average annual salary for certain years prior to retirement (the "Annuity Factors").

Annuity Benefits for each of the Retirement Funds are funded from three sources: (i) contributions from the City (the "City Contributions") which are funded from the proceeds of a property tax levy on all taxable property located within the City or other available funds, including payments from the Department on behalf of Water System employees, (ii) contributions from Eligible Members (the "Employee Contributions," and together with the City Contributions, the "Contributions"), and (iii) investment returns. The Department has historically contributed its pro rata share of City Contributions to the Retirement Systems (the "Department Portion") based on the Annuity Factors for the number of Water System employees who are Eligible Members. See APPENDIX C - "CITY OF CHICAGO, ILLINOIS WATER FUND BASIC FINANCIAL STATEMENT'S AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015, REQUIRED SUPPLEMENTARY INFORMATION, ADDITIONAL INFORMATION, AND INDEPENDENT AUDITORS' REPORT-Notes to Basic Financial Statements - 6. Pension Plans." Pension liabilities are not recorded at the fund level for the Water Fund.

The City Contributions and Employee Contributions are each established by the Illinois Pension Code (the "Pension Code"). Historically, the Contributions required under the Pension Code do not relate to, and in recent years have been substantially less than, the contribution amounts that would have been required if the Retirement Funds were funded based on actuarial determinations of the contribution amounts necessary to fully fund the Annuity Benefits to Eligible Members of each Retirement Fund over an extended period. See "INVESTMENT CONSIDERATIONS - Unfunded Pensions" herein. In an effort to improve the funded status of the Public Safety Funds, the Illinois General Assembly passed Public Act 96-1495 ("P.A. 96-1495"), which modified provisions of the Pension Code with respect to PABF and FABF.

#### *Public Safety Funds*

The Pension Code establishes the Employee Contributions to PABF at 9.0 percent of the salary of each employee on an annual basis and Employee Contributions to FABF at 9.125 percent of the salary of each employee on an annual basis and establishes Annuity Benefits for Eligible Members of the Public Safety Funds hired prior to January 1, 2011 based on the Annuity Factors, subject to 3.0 percent automatic annual increases after each member's first full year of retirement. Prior to the effectiveness of P.A. 96-1495, the Pension Code established the City Contribution to PABF at an amount based upon a fixed multiplier of 2.00 times the annual employee contributions to PABF and the City Contribution to FABF at an amount based upon a fixed multiplier of 2.26 times the employee contributions to FABF.

P.A. 96-1495 provided for the City to contribute the actuarially determined amounts necessary to achieve a 90 percent funded ratio in the Public Safety Funds by 2040, but made no changes to the Annuity Benefits for Eligible Employees hired before January 1, 2011 and established Annuity Benefits for Eligible Members hired on or after January 1, 2011 based on the Annuity Factors, but with the average annual salary capped at a certain amount, and the annual increases to the Annuity Benefits tied to the lesser of 3.0 percent or the consumer price index. Additionally, for Eligible Members hired on or after January 1, 2011, Act 1495 reduced a survivor's Annuity Benefit equal to 2/3 of the Annuity Benefits that the deceased Eligible Member was receiving at the time

reduced a survivor's Family Benefit equal to 2/3 of the Family Benefits that the deceased Employee Member was receiving at the time of his or her death.

Beginning with the contribution to be made to the Retirement Funds in 2016, the City's contributions to PABF and FABF will be determined pursuant to Public Act 99-506 ("P.A. 99-506") (which modified the funding approach for unfunded liabilities set forth in P.A. 96-1495), rather than the multiplier funding formula. P.A. 99-506 (i) extends the period by which the unfunded liabilities of the

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Public Safety Funds are amortized, on a level percentage of payroll basis, to a 90 percent funded ratio from 2040 to 2055 and (ii) institutes a phase-in period during 2016-2020 to allow for a more gradual increase in the City Contributions to the Public Safety Funds than originally required by P.A. 96-1495.

#### *Municipal and Laborer's Funds*

The Pension Code establishes Annuity Benefits for Eligible Members of the Municipal and Laborers' Funds hired prior to January 1, 2011 based on the Annuity Factors, subject to 3 percent automatic annual increases after the Eligible Members' first full year of retirement and Annuity Benefits for Eligible Members hired on or after January 1, 2011 based on the Annuity Factors, but with the average annual salary capped at a certain amount, and the annual increases to the Annuity Benefits are tied to the consumer price index. Further, the Pension Code establishes the Employee Contribution for MEABF and LABF Eligible Members hired prior to January 1, 2017 at 8.5 percent of the salary of each employee on an annual basis. Pursuant to Public Act 100-23 ("P.A. 100-23"), MEABF and LABF Eligible Members hired on or after January 1, 2017 ("New Members") will contribute 11.5 percent of their salaries to their respective Retirement Funds and will be eligible for benefits at age 65 (as opposed to age 67 for Eligible Members hired between January 1, 2011 and January 1, 2017) ("Tier II Member"). In addition, Tier II Members of MEABF and LABF will be eligible to receive benefits at age 65 provided that such Tier II Members agree to contribute an additional 3.0 percent of their salaries to their respective Retirement Funds.

Prior to the effectiveness of P.A. 100-23, the City Contributions were established at an amount based on a fixed multiplier of 1.25 times the annual Employee Contributions for MEABF and 1.00 times the annual Employee Contributions for LABF. P.A. 100-23 requires that the City contribute the actuarially determined amounts required to achieve a 90 percent funded ratio in each of MEABF and LABF by 2058, following a phase-in of increased City Contributions ending in 2022.

#### *2017-2018 Budgeted Contributions*

The City's Fiscal Year 2017 budget includes the following contributions to the Retirement Funds (as indicated by total annual contribution and the Water Fund's proportional share): (i) \$267 million for MEABF, of which \$18.9 million, or approximately seven percent, is the Water Fund's proportional share; and (ii) \$36 million for LABF, of which \$5.5 million, or approximately fifteen percent, is the Water Fund's proportional share. The City's Fiscal Year 2018 budget includes the following contributions to the Retirement Funds (as indicated by total annual contribution and the Water Fund's proportional share): (i) \$402.2 million for MEABF, of which \$24.5 million, or approximately six percent, is the Water Fund's proportional share; and (ii) \$36 million for LABF, of which \$7.7 million, or approximately sixteen percent, is the Water Fund's proportional share. The Water Fund does not contribute to FABF and PABF.

### INVESTMENT CONSIDERATIONS

*The following discussion of investment considerations should be reviewed by prospective investors prior to purchasing the Bonds. Any one or more of the investment considerations discussed herein could lead to a decrease in the market value and the liquidity of the Bonds or, ultimately, a payment default on the Bonds. There can be no assurance that other factors not discussed herein will not become material in the future.*



### **Effect of Potential Future Ratings Downgrades**

The City does not anticipate that any potential credit downgrades would affect collection or availability of Net Revenues Available for Bonds in any material respect. However, such events could have an adverse effect on the Water System because the City funds ongoing capital improvement projects to the Water System, in part, through the sale of indebtedness of the Water System. Downgrades could increase the cost, or decrease the availability, or both, of such borrowing. If this occurred, additional pressure may be placed on Water System rates or capital funding. Additionally, ratings downgrades may have an adverse effect on the market value or liquidity of the Bonds.

### **Unfunded Pensions**

The Retirement Funds have significant unfunded liabilities and low funding ratios. The City's contributions to the Retirement Funds in accordance with the Pension Code have not been sufficient, when combined with employee contributions and investment returns, to offset increases in the Retirement Funds' liabilities, which has contributed to the significant underfunding of the Retirement Funds. Moreover, the contributions to the Retirement Funds in accordance with the Pension Code have had the effect of deferring the funding of the Retirement Funds' liabilities, which increases the costs of such liabilities and the associated financial risks, including the risk that each Retirement Fund will not be able to pay its obligations when due. Furthermore, increases in the City's contributions to the Retirement Funds (such as those scheduled to occur under Act 1495, as modified by Act 506, and under Act 23) caused the City to increase its revenues and may require the City to further increase its revenues, reduce its expenditures, or some combination thereof, which may impact the services provided by the City or limit the City's ability to generate additional revenues for other purposes in the future.

See "FINANCIAL OPERATIONS - Pension Costs" for a more complete discussion of the City's unfunded pension liabilities.

### **Environmental Regulations**

As described herein under "WATER SYSTEM - Quality of Water Supplied," the City is subject to state and federal environmental laws and regulations applicable to the Water System. These laws and regulations are subject to change, and the City may be required to expend substantial funds to meet the requirements of such changing laws and regulations in the future. Failure to comply with these laws and regulations may result in the imposition of administrative, civil and criminal penalties, or the imposition of an injunction requiring the City to take or refrain from taking certain actions. While the Department has budgeted for future capital and operating expenditures to comply with these laws and regulations, it is possible that new or stricter standards could be imposed that will require additional capital expenditures or raise operating costs.

### **Security of the Water System**

Damage to the Water System resulting from vandalism, sabotage, or terrorist activities may adversely affect the operations and finances of the Water System. There can be no assurance that the City's security, emergency preparedness and response plans will be adequate to prevent or mitigate such damage, or that the costs of maintaining such security measures will not be greater than currently anticipated.

The Department relies on information technology systems with respect to customer service and billing and accounting. In addition, the Department relies on these systems to track utility assets and to manage maintenance and construction projects, materials and supplies. A loss of these systems, or major

problems with the operation of these systems, could have a material adverse effect on the financial condition and results of operations of the Department. Information technology systems may be vulnerable to damage or interruption from the following types of cyber security attacks or other events:

- power loss, computer systems failures, and internet, telecommunications or data network failures;
- operator negligence or improper operation by, or supervision of, employees;
- physical and electronic loss of data;
- computer viruses, cyber security attacks, intentional security breaches, hacking, denial of service actions, misappropriation of data and similar events;
- difficulties in the implementation of upgrades or modification to information technology systems; and
- fires, floods, severe weather events and other natural disasters.

Although the Department does not believe that its systems are at a materially greater risk of cyber security attacks than other similar utilities, its information technology systems may be vulnerable to damage or interruption from the types of cyber security attacks or other events listed above or other similar actions, and such incidents or other events may go undetected for a period of time.

#### **Water Conservation**

Decreased customer water consumption as a result of water conservation efforts may adversely affect demand for water services and may reduce revenues and earnings. There may be declines in water usage per customer as a result of an increase in conservation awareness, and the structural impact of an increased use of more efficient plumbing fixtures and appliances. Difficulty obtaining future rate increases to offset decreased customer water consumption to cover investments and expenses, may adversely affect the business, financial condition, and results of operations of the Department.

#### **Limited Obligations**

The Bonds are limited obligations of the City payable solely from Second Lien Bond Revenues. The Bonds are not secured by a lien upon any physical properties of the Water System, nor has the City established a debt reserve fund or obtained any third-party credit enhancement, credit support, surety bond or insurance with respect to the Bonds.

#### **Second Lien Status of Bonds**

The Bonds are secured by a junior lien on Net Revenues Available for Bonds. Therefore, the security for the payment of the principal of and interest on the Bonds could be adversely affected by the amount of debt service payable with respect to Senior Lien Bonds.

#### **Issuance of Additional Bonds**

Subject to certain financial tests and limitations contained in the Indenture, the City may issue Water Revenue Bonds senior to or on a parity with the Bonds. The debt service requirements for the payment of any such additional Water Revenue Bonds may be substantial.

The financial tests that must be satisfied to permit the issuance of additional bonds are based on certain assumptions concerning future revenue and debt service requirements. Actual debt service requirements may exceed assumed requirements and result in lower debt service coverage on the Bonds

result in lower debt service coverage on the Bonds.

### **Adverse Change in Laws**

There are a variety of State and federal laws, regulations and constitutional provisions that apply to the City's ability to raise taxes, fund its pension obligations or to reorganize its debts. There is no assurance that there will not be any change in, interpretation of, or addition to such applicable laws, regulations and provisions. Any such change, interpretation or addition may have a material adverse effect, either directly or indirectly, on the City or the taxing authority of the City, which could materially adversely affect the City's operations or financial condition.

Interest on the Bonds could become subject to federal and/or State income tax as a result of changes in tax laws. For example, recent legislative tax proposals in the U.S. Congress would eliminate, reduce or otherwise alter the tax benefits currently provided to certain owners of state and local government bonds. The Bonds will not be subject to mandatory redemption, and the interest rates on the Bonds will not be subject to adjustment, in the event of any change in the tax treatment of interest on the Bonds. In such event, the market value and of and ability of owners to sell the Bonds could be adversely affected. No assurance can be provided, and no predictions can be made, as to whether there will be any change in tax laws relating to state and local government bonds, including the Bonds, or to what effect.

Investors in the Bonds should consult their own financial and tax advisors in connection with their purchase of the Bonds.

### **Bankruptcy**

Under federal law, municipalities, including the City, are ineligible for bankruptcy unless specifically authorized to be a debtor in bankruptcy by state law or by a governmental officer or organization empowered by state law to authorize such entity to be a debtor in a bankruptcy. State law does not currently permit municipalities, including the City, to be debtors in bankruptcy, and therefore municipalities, including the City, are currently ineligible for bankruptcy.

As with all State law, the current prohibition on municipal bankruptcies is subject to review or change by State government. From time to time, legislation has been introduced in the Illinois General Assembly which, if enacted, would permit Illinois municipalities to be debtors in bankruptcy. The City is unable to predict whether the Illinois General Assembly will adopt any such legislation or the form of such legislation if enacted.

In the event of a change in State law to provide that the City is eligible to be a debtor in bankruptcy, and that authority is acted upon, there is no guarantee that the bankruptcy court would consider the Bondholders to have a secured claim under the Bankruptcy Code with respect to Second Lien Bond Revenues that are derived from the remittance of Gross Revenues into the Water Fund or amounts on deposit in any Second Lien Construction Accounts. The Water Fund is not held by the Trustee, and is not subject to a statutory lien in favor of the Bondholders. In addition, the Second Lien Bond Revenues may not be "special revenues" as defined in the Bankruptcy Code.

### **Uncertain Enforcement Remedies**

The remedies available to bondholders upon nonpayment of principal of or interest on the Bonds are uncertain and in many respects dependent upon discretionary judicial actions. See APPENDIX B-

### **"SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE- Defaults and Remedies."**

The Indenture does not contain a provision allowing for the acceleration of the Bonds in the event of a default in the payment of principal of and interest on the Bonds when due.

### **Force Majeure Events**

Certain unanticipated events beyond the City's control could have a material adverse effect on the Department's and the City's operations and financial conditions if they were to occur. These events include fire, flood, earthquake, epidemic, adverse health conditions or other unavoidable casualties or acts of God, freight embargo, labor strikes or work stoppages, civil commotion, new acts of war or escalation of existing war conditions, sabotage, terrorism or enemy action, pollution, unknown subsurface or concealed conditions affecting the environment, and any similar causes. No assurance can be provided that such events will not occur, and, if any such events were to occur, the effect of such event or events on the Department's and the City's operations and financial condition on the Net Revenues Available for Bonds cannot be predicted.

### **Other Considerations**

**Debt Covenants.** The City is obligated to comply with the Rate Covenant. Failure to comply with such Rate Covenant, if not cured or waived, could result in the City being required to repay or finance the related borrowings before their due date, limit future borrowings, cause cross default issues, and increase borrowing costs. If forced to repay or refinance (on less favorable terms) these borrowings, the Department's business, financial condition, and results of operations could be adversely affected by increased costs and rates.

**Water Rates.** While there is currently no State statute regulating Water System rates, future State statutes or court decisions could limit or otherwise adversely affect the City's ability to set Water System rates. See "-Adverse Change in Laws" above.

**Unified Billing.** As described herein under "FINANCIAL OPERATIONS-Collections and Delinquencies," partial bill payments made pursuant to the unified bill are allocated on a pro rata basis among the water, sewer and refuse collection charges and fees, with the oldest unpaid amounts being paid first. As of January 1, 2017, the City has also imposed the Chicago Water and Sewer Tax on the use or consumption of water in the City, and on the transfer of wastewater to the Sewer System from properties located in the City, which appears on the unified bill. Partial bill payments made, starting in 2017, on the unified bill are applied pro rata among the water, sewer, refuse collection and Chicago Water and Sewer Tax charges, with the oldest unpaid amount being paid first. No assurance can be given, however, that this will always be the method of allocation of partial payments. It is possible that partial payments may be allocated in the future in a non-pro rata manner, in which event water charges could receive a lower priority than refuse collection charges, sewer charges and/or the Chicago Water and Sewer Tax in allocating partial payments. No assurance can be given as to the impact of the unified bill on the collection by the City of water charges.

### **Forward Looking Statements**

This Official Statement contains certain statements relating to future results that are forward-looking statements. When used in this Official Statement, the words "estimate," "intend," "expect" and similar expressions identify forward-looking statements. Any forward-looking statement is subject to uncertainty and risks that could cause actual results to differ, possibly materially, from those

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contemplated in such forward-looking statements. Inevitably, some assumptions used to develop forward-looking statements will not be realized or unanticipated events and circumstances may occur. Therefore, bondholders and potential investors should be aware that there are likely to be differences between forward-looking statements and actual results; those differences could be material. The City does not undertake any obligation to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

### **LITIGATION**

There are no pending legal proceedings to which the City is a party or to which any of its property is subject that may materially affect the City's ability to pay the principal of and interest on the Bonds when they become due.

The City, like other large municipalities, is involved in various litigation relating principally to claims arising from contracts, personal injury, property damage, tax claims, police conduct and other matters. However, there is neither litigation pending nor, to the best of the City's knowledge, threatened, seeking to restrain or enjoin the issuance or delivery of the Bonds, or except as disclosed herein, materially adversely affecting the collection, pledge or application

of any moneys or security provided for the payment of the Bonds.

City of Harvey. In December 2012, the City filed suit in the Circuit Court of Cook County (the "Circuit Court") against Harvey, one of the suburban customers receiving water service from the City, to recover monies owed by Harvey to the City under its water supply contract. Harvey had been delinquent in fully paying for water service since November 2008, although some partial payments have been received by the City since then. The City's complaint further named five other suburbs which purchase water from Harvey and sought appointment of a trustee to collect funds paid by those five suburbs. On August 29, 2014, the court entered an order restraining Harvey from depositing its water revenues from its municipal customers in a fund other than a water fund and from using its water revenues on anything other than water-related expenses. On January 20, 2015, the court entered a consent decree requiring, inter alia, that Harvey pay its current water charges by their due date and pay monthly installments of past due principal. Harvey committed multiple defaults under the consent decree, resulting in reinstatement of the judgment against it on January 20, 2017. In addition, the Court ordered the five suburban municipalities who receive water from Harvey to make all future water payments directly to the City until all amounts owed have been paid in full, and directed the bank depository of Harvey's water fund account to wire all money in that account directly to the City. The judgment against Harvey is currently \$19,200,708.58, and Harvey has continued to default on its payment obligations to the City, and has not paid any current water bills since October 2016. Additionally, the City has recently filed a motion to appoint a receiver as an independent monitor to oversee the operation of Harvey's water fund to ensure that it is run in accordance with the dictates of State law and the consent decree. Harvey has filed an appeal from the appointment of the receiver; the appeal is pending. The City intends to pursue this case vigorously.

Gordon Berry and Ilya Peysin et al. v. City of Chicago. On February 18, 2016, three individual residents of the City filed a putative class action complaint against the City (Tatjana Blotkevic et al. v. City of Chicago) in the Circuit Court alleging actions taken by the City that increased lead levels in drinking water supplied to the plaintiffs' homes. The City filed a motion to dismiss the complaint on May 12, 2016, which was granted on October 6, 2016. Two of the three named plaintiffs were dismissed from the action. In June 2017, two plaintiffs filed an amended class action complaint, titled Gordon Berry and Ilya Peysin et al. v. City of Chicago. The amended complaint alleges that the partial replacement of the lead service line that runs between the water main and a resident's home is causing elevated and unsafe lead levels in the water to travel through lead service pipes into homes. Plaintiffs request that the City pay

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the costs of diagnostic testing necessary to detect lead levels in individuals, and to require the City to replace the service lines in full. The plaintiffs seek certification of a class consisting of City residents who have resided in an area where the City replaced water mains since January 1, 2008, as well as residents for whom the City installed water meters during the same period. The City has filed a motion to dismiss the amended complaint and intends to defend this case vigorously.

## **RATINGS**

The Insured Bonds are expected to receive ratings of "AA" from S&P and "AA+" from KBRA, contingent upon the issuance of the Policy by AGM at the time of delivery of the Bonds. See "BOND INSURANCE." The Bonds have received underlying ratings of "A" (stable) from S&P, "AA-" (negative) from Fitch Ratings and "AA" (stable) from KBRA, based on the creditworthiness of the Water System. The City did not request a rating from any other rating service for the Bonds. Any explanation of the significance of such ratings may be obtained only from the respective Rating Agencies. Certain information and materials concerning the Bonds, the City and the Water System were furnished to the Rating Agencies by the City and others. There is no assurance that any of the ratings will be maintained for any given period of time or that any of them may not be raised, lowered or withdrawn entirely by the respective Rating Agency, if, in its judgment, circumstances so warrant. Any change in or withdrawal of any rating may have an adverse effect on the price at which the Bonds may be resold.

## **CERTAIN LEGAL MATTERS**

Legal matters incident to the authorization and issuance of the Bonds are subject to the separate approving opinions of Reyes Kurson. Ltd., Chicago, Illinois, and Burke Burns & Pinelli, Ltd., Chicago, Illinois. Co-Bond Counsel. The proposed form of their

opinions is included herein as APPENDIX D - "PROPOSED FORM OF OPINIONS TO BE DELIVERED BY CO-BOND COUNSEL."

Certain legal matters will be passed upon for the City by (i) its Corporation Counsel, and (ii) in connection with the preparation of this Official Statement, Duane Morris LLP, Chicago, Illinois, and Golden Holley James LLP, Chicago, Illinois, Co-Disclosure Counsel to the City. Certain legal matters will be passed on for the Underwriters by Ice Miller LLP, Chicago, Illinois.

### **INDEPENDENT AUDITORS**

The basic financial statements of the City of Chicago, Illinois Water Fund as of and for the years ended December 31, 2016 and 2015 and included as APPENDIX C to this Official Statement have been audited by Deloitte & Touche LLP, independent auditors, as stated in their report appearing herein.

### **FINANCIAL ADVISOR AND INDEPENDENT REGISTERED MUNICIPAL ADVISOR**

The City has retained Acacia Financial Group, Inc., Chicago, Illinois, to act as financial advisor (the "Financial Advisor") in connection with the issuance and sale of the Bonds. The Financial Advisor has provided advice on the plan of financing and structure of the Bonds and has reviewed certain documents, including this Official Statement, with respect to financial matters. The Financial Advisor has not independently verified the factual information contained in this Official Statement but has relied on the information provided by the City and other sources. The Financial Advisor is a "municipal advisor" as defined in SEC Rule 15Ba1-1.

The City has retained Martin J. Luby LLC as its independent registered municipal advisor (the "IRMA") as defined in SEC Rule 15Ba1-1 to evaluate financing proposals and recommendations in connection with the City's various bond issuance programs and other financing ideas being considered by

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the City; however, the IRMA will not advise on the investment of City funds held by the Office of the City Treasurer. The IRMA's compensation is not dependent on the issuance of the Bonds.

### **CERTAIN VERIFICATIONS**

Robert Thomas, CPA, LLC, Shawnee Mission, Kansas (the "Verifier"), upon delivery of the Bonds, will deliver to the City, Co-Bond Counsel and the Underwriters a report stating that the firm, at the request of the City and the Underwriters, has reviewed the mathematical accuracy of certain computations based on certain assumptions relating to (i) the sufficiency of the principal and interest received from the investment in the Defeasance Obligations, together with any initial cash deposit, to meet the timely payment of the applicable principal or Redemption Price of and interest on the Refunded Bonds, as described under "PLAN OF FINANCING" and (ii) the yields on the Bonds and on the Defeasance Obligations.

The Verifier will express no opinion on the attainability of any assumptions or the tax-exempt status of the Bonds. The computations verified by the Verifier are intended in part to support conclusions of the City and Co-Bond Counsel concerning the federal income tax status of the Bonds.

### **UNDERWRITING**

Mesirow Financial, Inc., as representative on behalf of itself and the other underwriters listed on the cover of this Official Statement (the "Underwriters"), has agreed, subject to certain conditions, to purchase the Bonds at a price of \$272,730,363.95 (which represents the aggregate principal amount of the Bonds plus a premium of \$38,668,270.25, less an Underwriters' discount of \$1,197,906.30).

The obligation of the Underwriters to accept delivery of the Bonds is subject to various conditions set forth in a Bond Purchase Agreement between the Underwriters and the City. The Underwriters are obligated to purchase all of the Bonds if any of the Bonds are purchased.

The Bonds are being offered for sale to the public at the prices shown on the inside cover page hereof. The Underwriters reserve the right to lower such initial offering prices as they deem necessary in connection with the marketing of the Bonds. The Underwriters may offer and sell the Bonds to certain dealers (including dealers depositing the Bonds into investment trusts) and others at prices lower than the initial public offering price or prices set forth in this Official Statement. The Underwriters reserve the right to join with dealers and other underwriters in offering the Bonds to the public.

The Underwriters and their respective affiliates are full service financial institutions engage in various activities, which may include sales and trading, commercial investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services. Certain of the Underwriters and their respective affiliates have provided, and may in the future provide, a variety of these services to the City and to persons and entities with relationships with the City, for which they received or will receive customary fees and expenses.

## **TAX MATTERS**

### **Federal Tax Exemption**

Federal tax law contains a number of requirements and restrictions which apply to the Bonds, including investment restrictions, periodic payments of arbitrage profits to the United States, requirements regarding the proper use of bond proceeds and the facilities financed therewith, and certain other matters.

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The City has covenanted to comply with all requirements that must be satisfied in order for the interest on the Bonds to be excluded from gross income for federal income tax purposes. Failure to comply with certain of such covenants could cause interest on the Bonds to become includible in gross income for federal income tax purposes retroactively to the date of issuance of the Bonds.

Subject to the City's compliance with the above-referenced covenants, under present law, in the opinion of Co-Bond Counsel, interest on the Bonds is excluded from the gross income of the owners thereof for federal income tax purposes, and is not included as an item of tax preference in computing the federal alternative minimum tax for individuals and corporations. Interest on the Bonds is taken into account, however, in computing an adjustment used in determining the federal alternative minimum tax for certain corporations.

In rendering their opinions, Co-Bond Counsel will rely upon certifications of the City and certain other parties with respect to certain material facts solely within their knowledge relating to the facilities financed or refinanced and to be financed or refinanced with the Bonds, the application of the proceeds of the Bonds and certain other matters pertinent to the tax exemption of the Bonds. Co-Bond Counsel's opinions represent each firm's legal judgment based upon its review of the law and the facts that it deems relevant to render such opinion and is not a guarantee of a result. Co-Bond Counsel assumes no obligation to revise or supplement their opinions to reflect any facts and circumstances that may come to their attention or any changes in law that may occur after their opinions are delivered.

The Internal Revenue Code of 1986, as amended (the "Code"), includes provisions for an alternative minimum tax ("AMT") for corporations in addition to the corporate regular tax in certain cases. The AMT, if any, depends upon the corporation's alternative minimum taxable income ("AMTI"), which is the corporation's taxable income with certain adjustments. One of the adjustment items used in computing AMTI of a corporation (with certain exceptions) is an amount equal to 75% of the excess of such corporation's "adjusted current earnings" over an amount equal to its AMTI (before such adjustment item and the alternative tax net operating loss deduction). "Adjusted current earnings" would include certain tax-exempt interest, including interest on the Bonds.

Ownership of the Bonds may result in collateral federal income tax consequences to certain taxpayers, including, without limitation, corporations subject to the branch profits tax, financial institutions, certain insurance companies, certain S corporations, individual recipients of Social Security or Railroad Retirement benefits and taxpayers who may be deemed to have incurred (or continued) indebtedness to purchase or carry tax exempt obligations. Prospective purchasers of the Bonds should consult their tax advisors as to applicability of any such collateral consequences.

The Internal Revenue Service (the "Service") has an ongoing program of auditing tax-exempt obligations to determine whether in the view of the Service, interest on such tax-exempt obligations is includable in the gross income of the owners thereof for federal income tax purposes. It cannot be predicted whether or not the Service will commence an audit of the Bonds. If an audit is commenced, under current procedures the Service will treat the City as the taxpayer and the Bondholders may have no right to participate in such procedure. The commencement of an audit could adversely affect the market value and liquidity of the Bonds until the audit is concluded, regardless of the ultimate outcome.

There are or may be pending in the Congress of the United States legislative proposals, including some that carry retroactive effective dates, that, if enacted, could alter or amend the federal tax matters referred to above or affect the market value of the Bonds, including certain legislative proposals currently pending in Congress which, if enacted, would significantly change the individual and corporate income tax rates and eliminate the alternative minimum tax for individuals and corporations effective for tax years beginning after 2017. It cannot be predicted whether or in what form any such proposal might be

enacted or whether, if enacted, it would apply to Bonds issued prior to enactment. Prospective purchasers of the Bonds should consult their own tax advisors regarding any pending or proposed federal tax legislation. Co-Bond Counsel expresses no opinion regarding any pending or proposed federal tax legislation.

#### **Bond Premium**

An investor may purchase a Bond at a price in excess of its stated principal amount. Such excess is characterized for federal income tax purposes as "bond premium" and must be amortized by an investor on a constant yield basis over the remaining term of the Bond in a manner that takes into account potential call dates and call prices. An investor cannot deduct amortized bond premium relating to a tax-exempt bond. The amortized bond premium in that case is treated as a reduction in the tax-exempt interest received. As bond premium is amortized, it reduces the investor's basis in the Bond.

The rules governing amortization of bond premium are complex. Investors who purchase a Bond at a premium should consult their own tax advisors regarding the amortization of bond premium and its effect on the Bond's basis for purposes of computing gain or loss in connection with the sale, exchange, redemption or early retirement of the Bond.

#### **Original Issue Discount**

The issue price (the "Issue Price") for each maturity of the Bonds is the price at which a substantial amount of such maturity of that series of the Bonds is first sold to the public. The Issue Price of a maturity and series of the Bonds may be different from the prices set forth, or the prices corresponding to the yields set forth, on the inside cover page hereof.

If the Issue Price of a maturity of the Bonds is less than the principal amount payable at maturity, the difference between the Issue Price of each such maturity, if any, of the Bonds (the "OID Bonds") and the principal amount payable at maturity is "original issue discount."

For an investor who purchases an OID Bond that is a Bond in the initial public offering at the Issue Price for such maturity and who holds such OID Bond to its stated maturity, subject to the condition that the City complies with the covenants discussed above, (a) the full amount of original issue discount with respect to such OID Bond constitutes interest that is excluded from the gross income of the owner thereof for federal income tax purposes; (b) such owner will not realize taxable capital gain or market discount upon payment of such OID Bond at its stated maturity; and (c) such original issue discount is not included as an item of tax preference in computing the alternative minimum tax for individuals and corporations under the Code. (The recognition of tax-exempt income may have collateral tax consequences for certain taxpayers, as described above in connection with the receipt of tax-exempt interest on the Bonds.) Based upon the stated position of the Illinois Department of Revenue under State income tax law, accreted original issue discount on such OID Bonds is subject to taxation as it accretes, even though there may not be a corresponding cash payment until a later year. Owners of OID Bonds should consult their own tax advisors with respect to the state and local tax consequences of original issue discount on such OID Bonds.



Owners of Bonds who dispose of Bonds prior to the stated maturity (whether by sale, redemption, or otherwise), who purchase Bonds in the initial public offering, but at a price different from the Issue Price, or who purchase Bonds subsequent to the initial public offering should consult their own tax advisors.

**Market Discount**

If a Bond is purchased at any time for a price that is less than the Bond's stated Redemption Price at maturity or, in the case of an OID Bond, its Issue Price plus accreted original issue discount reduced by payments of interest included in the computation of original issue discount and previously paid (the "Revised Issue Price"), the purchaser will be treated as having purchased a Bond with market discount subject to the market discount rules of the Code (unless a statutory de minimis rule applies). Accrued market discount is treated as taxable ordinary income (even in the case of obligations bearing interest that is excluded from gross income for federal income tax purposes) and is recognized when a Bond is disposed of (to the extent such accrued discount does not exceed gain realized) or, at the purchaser's election, as it accrues. Such treatment would apply to any purchaser who purchases an OID Bond for a price that is less than its Revised Issue Price, even if the purchase price exceeds par. The applicability of the market discount rules may adversely affect the liquidity or secondary market price of such Bond. Purchasers should consult their own tax advisors regarding the potential implications of market discount with respect to the Bonds.

**No State Tax Exemption**

Interest on the Bonds is not exempt from present Illinois income taxes. Ownership of the Bonds may result in other state and local tax consequences to certain taxpayers. Co-Bond Counsel express no opinion regarding any such collateral consequences arising with respect to the Bonds. Prospective purchasers of the Bonds should consult their tax advisors regarding the applicability of any such state and local taxes.

**SECONDARY MARKET DISCLOSURE**

The City will enter into a Continuing Disclosure Undertaking (the "Undertaking") for the benefit of the Beneficial Owners of the Bonds to send certain information annually and to provide notice of certain events to the Municipal Securities Rulemaking Board (the "MSRB") to enable the Underwriters to meet the requirements of Section (b)(5) of Rule 15c2-12 (the "Rule") adopted by the SEC under the Exchange Act. The MSRB has designated its Electronic Municipal Market Access system, known as "EMMA," as the system to be used for continuing disclosures to investors. The information to be provided on an annual basis, the events which will be noticed on an occurrence basis and a summary of other terms of the Undertaking, including termination, amendment and remedies, are set forth below.

A failure by the City to comply with the Undertaking will not constitute a default under the Bonds or the Ordinance and Beneficial Owners of the Bonds are limited to the remedies described in the Undertaking. See "- Consequences of Failure of the City to Provide Information" under this caption. A failure by the City to comply with the Undertaking must be reported in accordance with the Rule and must be considered by any broker, dealer or municipal securities dealer before recommending the purchase or sale of the Bonds in the secondary market. Consequently, such a failure may adversely affect the transferability and liquidity of the Bonds and their market price.

The following is a brief summary of certain provisions of the Undertaking of the City and does not purport to be complete. The statements made under this caption are subject to the detailed provisions of the Undertaking, a copy of which is available upon request from the City.

**Annual Financial Information Disclosure**

The City covenants that it will disseminate to EMMA its Annual Financial Information and its Audited Financial Statements (as described below) to the MSRB, commencing with the Audited Financial

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Statements for the fiscal year ended December 31, 2017, prepared in accordance with generally accepted accounting principles applicable to government units (as described below).

Annual Financial Information means financial information and statistical data generally consistent with that contained under the table included under the caption "WATER SYSTEM - 2013- 2020 Historical and Projected Capital Improvement Program Funding by Source" (total amounts only), the tables captioned "Water System Service Area Population," "Water System Accounts" and "Water System Pumpage and Capacity" under the caption "WATER SYSTEM SERVICE AREA" and the five-year historical data contained in the tables captioned "Historical and Projected Financial Operations" under the caption "FINANCIAL OPERATIONS."

Audited Financial Statements means the audited basic financial statements of the Water Fund prepared in accordance with generally accepted accounting principles applicable to governmental units as in effect from time to time.

Annual Financial Information exclusive of Audited Financial Statements (commencing with the Audited Financial Statements for the fiscal year ended December 31, 2017) will be provided to the MSRB on EMMA, not more than 210 days after the last day of the City's fiscal year, which currently is December 31. If Audited Financial Statements are not available when the Annual Financial Information is filed, unaudited financial statements will be included, and Audited Financial Statements will be filed within 30 days of availability to the City.

### **Reportable Events Disclosure**

The City covenants that it will disseminate in a timely manner, not in excess of ten business days after occurrence, to the MSRB the disclosure of the occurrence of a Reportable Event (defined below). Certain Reportable Events are required to be disclosed only to the extent that such Reportable Event is material, as materiality is interpreted under the Exchange Act. The "Reportable Events," certain of which may not be applicable to the Bonds, are:

- a) principal and interest payment delinquencies;
- b) non-payment related defaults, if material;
- c) unscheduled draws on debt service reserves reflecting financial difficulties;
- d) unscheduled draws on credit enhancements reflecting financial difficulties;
- e) substitution of credit or liquidity providers, or their failure to perform;
- f) adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, notices of proposed issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the Bonds, or other material events affecting the tax status of the Bonds;
- g) modifications to rights of security holders, if material;
- h) bond calls, if material, and tender offers;
- (i) defeasances;

- (j) release, substitution or sale of property securing repayment of the securities, if material; (k) rating changes;

(l) bankruptcy, insolvency, receivership or similar event of the City (considered to have occurred in the following instances: the appointment of a receiver, fiscal agent or similar officer for the City in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the City, or if the jurisdiction of the City has been assumed by leaving the City Council and the City's officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the City);

(m) the consummation of a merger, consolidation, or acquisition involving the City or the sale of all or substantially all of the assets of the Water System, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material; and

- (n) appointment of a successor or additional trustee or the change of name of a trustee, if material.

#### **Consequences of Failure of the City to Provide Information**

The City shall give notice in a timely manner to the MSRB of any failure to provide disclosure of Annual Financial Information and Audited Financial Statements when the same are due under the Undertaking.

In the event of a failure of the City to comply with any provision of the Undertaking, the beneficial owner of any Bond may seek mandamus or specific performance by court order, to cause the City to comply with its obligations under the Undertaking. The Undertaking provides that any court action must be initiated in the Circuit Court. A default under the Undertaking shall not be deemed a default under the Bonds, the Ordinance or the Indenture, and the sole remedy under the Undertaking in the event of any failure of the City to comply with the Undertaking shall be an action to compel performance.

#### **Amendments; Waiver**

Notwithstanding any other provision of the Undertaking, the City may amend the Undertaking, and any provision of the Undertaking may be waived, if:

- (a) (i) the amendment or waiver is made in connection with a change in circumstances that arises from a change in legal requirements, change in law, or change in the identity, nature or status of the City or type of business conducted;

ii) the Undertaking, as amended, or the provision, as waived, would have complied with the requirements of the Rule at the time of the primary offering, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and

iii) the amendment or waiver does not materially impair the interests of the beneficial owners of the Bonds, as determined by a party unaffiliated with the City (such as the

Trustee or co-bond counsel), or by approving vote of the owners of the Bonds at the time of the amendment or waiver; or

- (b) the amendment or waiver is otherwise permitted by the Rule.

EMMA

All documents submitted to the MSRB through EMMA pursuant to the Undertaking shall be in electronic format and accompanied by identifying information as prescribed by the MSRB, in accordance with the Rule. All documents submitted to the MSRB through EMMA will be word-searchable PDFs, configured to permit documents to be saved, viewed, printed and electronically retransmitted.

### **Termination of Undertaking**

The Undertaking shall be terminated if the City shall no longer have any legal liability for any obligation on or relating to repayment of the Bonds.

### **Additional Information**

Nothing in the Undertaking will be deemed to prevent the City from disseminating any other information, using the means of dissemination set forth in the Undertaking or any other means of communication, or including any other information in any Annual Financial Information or Audited Financial Statements or notice of occurrence of a Reportable Event, in addition to that which is required by the Undertaking. If the City chooses to include any information in any Annual Financial Information or Audited Financial Statements or notice of occurrence of a Reportable Event in addition to that which is specifically required by the Undertaking, the City shall have no obligation under the Undertaking to update such information or include it in any future Annual Financial Information or Audited Financial Statements or notice of occurrence of a Reportable Event.

### **Corrective Action Related to Certain Bond Disclosure Requirements**

The City failed to comply with certain continuing disclosure undertakings previously entered into by it pursuant to the Rule as described below. Such non-compliance may or may not be material.

Annual Financial Information and Audited Financial Statements were not filed by the City in 2011 for the Fiscal Year ended December 31, 2010, and in 2012 for the Fiscal Year ended December 31, 2011, with respect to the City of Chicago O'Hare International Airport General Airport Third Lien Revenue and Revenue Refunding Bonds, Series 201 OA through Series 201 OF. Annual Financial Information and Audited Financial Statements were not filed by the City in 2011 for the Fiscal Year ended December 31, 2010, and in 2012 for the Fiscal Year ended December 31, 2011, with respect to the City of Chicago O'Hare International Airport Passenger Facilities Charge Revenue and Revenue Refunding Bonds, Series 201 OA through Series 201 OD. On October 12, 2016, the City filed with EMMA such Annual Financial Information and Audited Financial Statements with respect to such bonds.

Annual Financial Information and Audited Financial Statements were not filed by the City in 2012 for the Fiscal Year ended December 31, 2011, with respect to the City of Chicago O'Hare International Airport General Airport Third Lien Revenue Bonds, Series 2011A through Series 2011C. Annual Financial Information and Audited Financial Statements were not filed in 2012 for the Fiscal Year ended December 31, 2011, with respect to the City of Chicago O'Hare International Airport Passenger Facility Charge Revenue Bonds, Series 2011A and Series 201 IB. On October 12, 2016, the City filed

with EMMA such Annual Financial Information and Audited Financial Statements with respect to such bonds.

With respect to the City's Collateralized Single Family Mortgage Revenue Bonds, Series 2006A (the "Series 2006A Bonds"), S&P lowered its rating on the Series 2006A Bonds from "AA+" to "AA" and placed the Series 2006A Bonds on "Credit Watch with negative implications" effective December 16, 2011. The City did not cause the trustee as dissemination agent to file a notice of a reportable event with EMMA at that time. Subsequently, S&P upgraded the rating on the Series 2006A Bonds from "AA" to "AA+" effective March 12, 2012. On March 18, 2012, S&P removed the "Credit Watch with negative implications" characterization from the Series 2006A Bonds. The City caused the trustee, as dissemination agent, for the Series 2006A Bonds to file a notice of a reportable event with EMMA on March 26, 2012 disclosing the downgrade and subsequent upgrade of the Series 2006A Bonds by S&P.

With respect to multiple series of the City's Chicago O'Hare International Airport General Airport Third Lien Revenue Bonds, American Airlines is an "obligated person" with respect to such bonds. On November 29, 2011, AMR Corporation (the parent company of American Airlines and Envoy Air (formerly American Eagle)) and certain of its United States-based subsidiaries (including American Airlines and American Eagle) filed voluntary petitions for Chapter 11 reorganization in the United States Bankruptcy Court for the Southern District of New York. The City filed a notice with EMMA with respect to this event on March 30, 2012 (not within the 10 business-day deadline imposed by the Rule). On December 9, 2013, American Airlines merged with US Airways. The City filed a notice with EMMA with respect to this event on August 25, 2014 (not within the 10 business-day deadline imposed by the Rule).

With respect to the City's Outstanding Motor Fuel Tax Revenue Bonds, the City's pledge of Additional City Revenues to the payment of such bonds (in addition to the pledge of Motor Fuel Tax Revenues) became effective as of March 19, 2013. The City filed a notice with EMMA describing the pledge of this additional source of revenue on May 16, 2013.

With respect to the City's Outstanding O'Hare International Airport Customer Facility Charge Senior Lien Revenue Bonds, Series 2013, Simply Wheelz, LLC d/b/a Advantage Rent A Car ("Advantage") is an "obligated person" with respect to such bonds. Advantage filed a voluntary bankruptcy petition in the Southern District of Mississippi on November 5, 2013. The City filed a notice with EMMA with respect to this event on December 5, 2013.

The rating agencies took certain rating actions with respect to the ratings of Ambac Assurance Corporation and Financial Security Assurance Inc. (collectively, the "Bond Insurers"). The Bond Insurers provided municipal bond insurance policies relating to certain series of the City's Chicago Midway Airport revenue bonds. Event notices with respect to such rating changes were not filed with EMMA. The City made such filings on May 22, 2014.

Ambac provided a municipal bond insurance policy relating to the City's Motor Fuel Tax Revenue Bonds, Series 2003A and Assured Guaranty Municipal Corp. provided municipal bond insurance policies relating to the City's Motor Fuel Tax Revenue Bonds, Series 2008. Event notices with respect to the rating changes taken by the Rating Agencies with respect to these insurers were not filed. The City made filings with EMMA on June 3, 2014 and August 22, 2014 with respect to these rating changes.

The City failed to file timely material event notices with respect to certain rating changes affecting the City's bonds subject to the Rule and for which the City is an "obligated person" under the Rule (collectively, the "Prior Bonds") or affecting bond insurance companies which insured any Prior

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Bonds (collectively, the "Prior Bond Insurers"). The City filed with EMMA on August 29, 2014 a notice with respect to all rating changes known to the City and affecting the Prior Bonds (including certain Senior Lien Bonds and Second Lien Bonds) occurring over the last ten years. The City filed with EMMA on August 27, 2014 a notice with respect to all rating changes known to the City and affecting the Prior Bond Insurers occurring during the last seven years.

On January 15, 2016, S&P upgraded the rating of the City's Midway Second Lien Bonds from A- to A. On May 17, 2016, the City filed with EMMA an event notice relating to this rating upgrade.

On May 18, 2015, S&P downgraded the rating of the City's then-outstanding second lien water revenue bonds from AA- to A. The City timely filed a material event notice on EMMA regarding this rating downgrade for all of its then-outstanding second lien water revenue bonds except the Series 2010B Bonds and the Series 2010C Bonds. On November 28, 2017, the City filed a material event notice on EMMA relating to this rating downgrade with respect to the Series 2010B Bonds and the Series 2010C Bonds.

In July 2015, the City filed on EMMA on a timely basis the audited financial statements for the Water Fund for the year 2014 for all then-outstanding water revenue bonds, except with respect to the Series 2010B Bonds and the Series 2010C Bonds. On November 28, 2017, the City filed on EMMA the 2014 audited financial statements for the Water Fund with respect to the Series 2010B Bonds and the Series 2010C Bonds. On November 30, 2017, the City filed on EMMA a notice regarding its failure to file on a timely basis the 2014 audited financial statements with respect to the Series 2010B

Bonds and the Series 2010C Bonds.

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#### **MISCELLANEOUS**

The foregoing summaries or descriptions of provisions of the Ordinance and the Indenture and all references to other materials not purporting to be quoted in full, are qualified in their entirety by reference to the complete provisions of the documents and other materials summarized or described. Copies of these documents may be obtained from the office of the Chief Financial Officer.

The references, excerpts and summaries of all documents referred to herein do not purport to be complete statements of the provisions of such documents, and reference is directed to all such documents for full and complete statements of all matters of fact relating to the Bonds, the security for the payment of the Bonds and the rights and obligations of the Owners thereof.

Any statements made in this Official Statement involving matters of opinion, projection or estimates, whether or not so expressly stated, are set forth as such and not as representations of fact, and no representation is made that any of the projections or estimates will be realized. Neither this Official Statement nor any statement that may have been made orally or in writing shall be construed as a contract with the Owners or Beneficial Owners of the Bonds.

Chief Financial Officer

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CITY OF CHICAGO

**APPENDIX A GLOSSARY OF CERTAIN TERMS**

**APPENDIX A**

**CERTAIN DEFINITIONS**

*Capitalized words and terms used in this Official Statement that are not otherwise defined in this Official Statement shall have the meanings set forth below in this Appendix A, unless the context clearly indicates that some other meaning is intended.*

"Aggregate Second Lien Bonds Requirement" means, as of any particular date of computation and with respect to a particular Bond Year or other specified 12-month period, an amount of money equal to 110 percent of Aggregate Second Lien Debt Service with respect to such Bond Year or other specified 12-month period with respect to the Second Lien Bonds of all series and all Section 2.08 Obligations and Section 2.09 Obligations, provided that for purposes of the provisions of the Master Indenture relating to the issuance of Second Lien Parity Bonds, "Aggregate Second Lien Bonds Requirement" means, as of any particular date of computation and with respect to a particular Bond Year or other specific 12-month period, 110 percent of Annual Second Debt Lien Debt Service with respect to such Bond Year or other specified 12-month period, and for purposes of calculating interest payable during such Bond Year or other specified 12-month period in respect of any Variable Rate Bonds, the rate of interest shall be assumed to equal the average of the BMA Municipal Index for the immediately preceding 36 months or, if higher, the rate of interest paid with

respect to such Variable Rate Bonds on the Interest Payment Date immediately preceding the date of calculation.

"Aggregate Second Lien Debt Service" means, as of any particular date of computation and with respect to a particular Bond Year or other specified 12-month period, an amount of money equal to the aggregate amounts required by the provisions of all Supplemental Indentures creating series of Second Lien Bonds and all instruments creating Section 2.08 Obligations and Section 2.09 Obligations to be deposited from Second Lien Bond Revenues in all sub-funds, accounts and subaccounts created under such Supplemental Indentures in such Bond Year or other specified 12-month period, provided that for purposes of calculating interest payable during such Bond Year or other specified 12-month period in respect to any Variable Rate Bonds, the rate of interest shall be assumed to equal the average of the BMA Municipal Index for the immediately preceding 36 months or, if higher, the rate of interest paid with respect to such Variable Rate Bonds on the Interest Payment Date immediately preceding the date of calculation.

"Aggregate Senior Lien Debt Service" means, as of any particular date of computation and with respect to a particular Bond Year or other specified 12-month period, an amount of money equal to the aggregate of the amounts of Annual Senior Lien Debt Service with respect to such Bond Year or other specified 12-month period and to the Senior Lien Bonds of all series.

"Aggregate Subordinate Lien Debt Service" means, as of any particular date of computation and with respect to a particular Bond Year or other specified 12-month period, an amount of money equal to the aggregate of the amounts of Annual Subordinate Lien Debt Service with respect to such Bond Year or other specified 12-month period and to the Subordinate Lien Obligations of all series.

"Annual Second Lien Debt Service" means, as of any particular date of computation and with respect to a particular Bond Year or other specified 12-month period and with respect to Second Lien Bonds of a particular series or consisting of a particular Section 2.08 Obligation or Section 2.09 Obligation, an amount of money equal to the sum of (a) all interest, costs or fees payable during such Bond Year or other specified 12-month period with respect to all Second Lien Bonds of said series, such Section 2.08 Obligation and Section 2.09 Obligation Outstanding on said date of computation and (b) all

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Principal Installments payable during such Bond Year or other specified 12-month period with respect to all Second Lien Bonds of said series, such Section 2.08 Obligation and Section 2.09 Obligation Outstanding on said date of computation, all calculated on the assumption that such Second Lien Bonds, Section 2.08 Obligation and Section 2.09 Obligation will after said date of computation cease to be Outstanding by reason, but only by reason, of the payment when due and application in accordance with the Master Indenture and the Supplemental Indenture creating such series or the instrument creating such Section 2.08 Obligation or Section 2.09 Obligation of Principal Installments payable at or after said date of computation.

"Annual Senior Lien Debt Service" means, as of any particular date of computation and with respect to a particular Fiscal Year or other specified 12-month period and with respect to Senior Lien Bonds of a particular series, an amount of money equal to the sum of (a) all interest payable during such Bond Year or other specified 12-month period on all Senior Lien Bonds of said series Outstanding on said date of computation and (b) all Principal Installments payable during such Bond Year or other specified 12-month period with respect to all Senior Lien Bonds of said series Outstanding on said date of computation, all calculated on the assumption that Senior Lien Bonds will after said date of computation cease to be Outstanding by reason, but only by reason, of the payment when due and application in accordance with the Senior Lien Bond Ordinances of Principal Installments payable at or after said date of computation.

"Annual Subordinate Lien Debt Service" means, as of any particular date of computation and with respect to a particular Fiscal Year or other specified 12-month period and with respect to Subordinate Lien Obligations of a particular series, an amount of money equal to the sum of (a) all interest payable during such Fiscal Year or other specified 12-month period on all Subordinate Lien Obligations of said series Outstanding on said date of computation and (b) all Principal Installments payable during such Fiscal Year or other specified 12-month period with respect to all Subordinate Lien Obligations of said series Outstanding on said date of computation, all calculated on the assumption that Subordinate Lien Obligations will after said date of computation cease to be Outstanding by reason, but only by reason, of the payment when due and application in accordance with the Subordinate Lien Obligation Ordinances of Principal Installments payable at or after said date of computation.



"Authorized Denominations" means, with respect to a particular Bond, \$5,000 and any integral multiple of \$5,000.

"BMA Municipal Index" means The Bond Market Association Municipal Swap Index as of the most recent date for which such index was published or such other weekly, high-grade index comprised of seven-day, tax-exempt variable rate demand notes produced by Municipal Market Data, Inc. or its successor, or as otherwise designated by The Bond Market Association; provided, however, that if such index is no longer produced by Municipal Market Date, Inc. or its successor, then "BMA Municipal Index" means such other reasonably comparable index selected by the City.

"Bond Register" means the registration books of the City kept by the Trustee (in its capacity as Bond Registrar) to evidence the registration and transfer of Bonds.

"Bond Registrar" means the Trustee.

"Bond Year" means a 12-month period commencing on November 1 of a calendar year to and including October 31 of the next succeeding calendar year.

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"Bonds" means the \$272,730,363.95 aggregate principal amount of Second Lien Water Revenue Refunding Bonds, Series 2017-2 of the City authorized to be issued pursuant to the Eleventh Supplemental Indenture.

"Business Day" means any day of the year on which banks located in the city, or cities, respectively, in which are located the designated corporate trust office of the Trustee are not required or authorized to remain closed on and which The New York Stock Exchange is not closed.

"Chief Financial Officer" means the Chief Financial Officer appointed by the Mayor of the City or, in the event no person is at the time then so appointed and acting, the City Comptroller of the City.

"City Clerk" means the duly elected and qualified person serving as the City Clerk of the City.

"Code" means the United States Internal Revenue Code of 1986, as amended. References to the Code and to sections of the Code shall include relevant final, temporary or proposed regulations as in effect from time to time and, with reference to any series of Second Lien Bonds, as applicable, to obligations issued on the date of issuance of such series.

"Commercial Paper Account" means the separate and segregated account of that name established and existing in the Water Fund.

"Commercial Paper Notes" means obligations commonly described as "Commercial Paper" issued by City from time to time and payable from the Commercial Paper Account.

"Constitution" means the 1970 Constitution of the State of Illinois.

"Costs of Issuance" means all fees and costs incurred by the City relating to the issuance of the Bonds, including, without limitation, printing costs, authenticating agent's initial fees and charges, Bond Registrar's fees and charges, Paying Agent's fees and charges, Escrow Agent's Fees and Charges, financial advisory fees, costs of credit ratings, engineering fees, legal fees, accounting fees, the cost of any premiums for municipal bond insurance to insure the Bonds, and the cost of any related services with respect to the Bonds.

"Costs of Issuance Account" means the account designated the "Series 2017-2 Bonds, Costs of Issuance Account" established pursuant to the Eleventh Supplemental Indenture into which Bond proceeds are to be deposited to pay Costs of Issuance, as described in Appendix B hereto under the caption "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE

INDENTURE -Application of Bond Proceeds."

"Deposit Date" means May 1 and November 1 of each year.

"Escrow Agent" means The Bank of New York Mellon Trust Company, N.A.

"Escrow Agreement" means the Escrow Deposit Agreement dated December , 2017, between the City and the Escrow Agent.

"Federal Compliant Obligation Authorization" means subsidies, tax credits or other incentives or benefits, pursuant to legislation hereafter enacted by the Congress of the United States, to provide at various subsidy levels to state and local governments in connection with the issuance of debt obligations by such governments, which incentives or benefits may, but need not, be similar to those direct payments being made by the United States Treasury Department to

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the City of a portion of the interest payable by the City on the 201 OB Second Lien Bonds and the 2010C Second Lien Bonds.

"Federal Subsidies" means (i) the direct payments by the Treasury Department to the City of a portion of the interest payable by the City on the 201 OB Second Lien Bonds and the 2010C Second Lien Bonds and (ii) to the extent hereafter provided in Federal Compliant Obligation Authorization, payments by the Treasury Department to the City resulting from subsidies, tax credits or other incentives or benefits to state and local governments in connection with the issuance of debt obligations by such governments.

"Fiscal Year" means the period beginning January 1 and ending December 31 of any year.

"Governmental Obligations" means securities which are obligations described in clause (a) of the definition of "Permitted Investments" set forth below.

"Gross Revenues" means all income and receipts from any source which under generally accepted accounting principles are properly recognized as being derived from the operation of the Water System, including without limitation (a) charges imposed for water service and usage, (b) charges imposed for sales of water to municipalities (other than the City) and other users of water service, (c) charges imposed for inspections and permits for connection to the Water System, (d) grants (excluding grants received for capital projects) and (e) Investment Earnings. Gross Revenues do not include (1) amounts credited to customers on their bills, such as for payment of the price of purchasing from them capital assets of the water systems; (2) Federal Subsidies; or (3) Chicago Water and Sewer Tax revenues.

"IEPA" means the Illinois Environmental Protection Agency, and its successors and assigns, or in the case of Loans made pursuant to the IEPA Program, the authorized lender under such program.

"IEPA Program" means the Illinois Clean Water Initiative Public Water Supply Loan Program or any successor program administered by the State, and any similar program through which funds authorized by the United States Government, including the United States Environmental Protection Agency, and administered by the State or any federally authorized agency.

"Interest Payment Date" means each May 1 and November 1, commencing on May 1, 2018.

"Investment Earnings" means interest plus net profits and less net losses derived from investments made with any portion of the Gross Revenues or with any money in the Accounts in the Water Fund (other than the Senior Lien Rebate Accounts) specified in the Ordinance. Investment earnings do not include interest or earnings on investments of the account established when the Escrow Agreement or any Second Lien Rebate Accounts established under the Indenture.

"Line of Credit Notes Account" means the separate and segregated account of that name established and existing in the Water Fund.

"Loan" means, collectively, the borrowing or borrowings by the City from the IEPA under the IEPA Program and evidenced by one or more Loan Agreements.

"Loan Agreement" means each loan agreement to be entered into or to be entered into between the City and the IEPA setting forth the terms of the Loan.

"Maturity Date" means November 1 of any year in which Principal Installments become due on the Bonds.

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"Mayor" means the Mayor of the City.

"Net Revenues" means that portion of the Gross Revenues remaining in any period after providing sufficient funds for Operation and Maintenance Costs.

"Net Revenues Available for Bonds" means that portion of the Net Revenues remaining in any period, minus any amounts deposited during that period in the Water Rate Stabilization Account as provided in the Ordinance (other than amounts deposited to that Account upon the issuance of the Series 1993 Bonds or upon the issuance of any Senior Lien Parity Bonds) and plus the amounts withdrawn during that period from that Account.

"Operation and Maintenance Costs" means all expenses reasonably incurred by the City in connection with the operation, maintenance, renewal, replacement and repair of the Water System, which under generally accepted accounting principles are properly chargeable to the Water System and not capitalized, including, without limitation, salaries, wages, taxes, contracts for services, costs of materials and supplies, purchase of power, fuel, insurance, reasonable repairs and extensions necessary to render efficient service, the costs related to any agreements or other arrangements entered into pursuant to the Ordinance, Paying Agent's fees, and all incidental expenses, but excluding any provision for depreciation or for interest on Senior Lien Bonds, Second Lien Bonds, Subordinate Lien Obligations, Commercial Paper Notes, Water System Line of Credit Notes or other obligations for borrowed money payable from the Net Revenues, Net Revenues Available for Bonds, Second Lien Bond Revenues or Subordinate Lien Obligation Revenues and, from and after the earlier to occur of (i) the date all Senior Lien Bonds issued prior to the date of issuance of the 2000 Senior Lien Bonds are no longer Outstanding or (ii) the effective date of amendments to the ordinances authorizing Outstanding Senior Lien Bonds issued prior to the date of issuance of the 2000 Senior Lien Bonds which permit the following to be included in the definition of Operation and Maintenance Costs, the fees of the trustee and any remarketing agent, paying agent or bond registrar for the Second Lien Bonds, and the paying agent, if any, for Subordinate Lien Obligations, the costs related to any agreements or other arrangements entered into pursuant to the Ordinance or the Master Indenture.

"Opinion of Bond Counsel" means a written opinion of one or more firms of nationally recognized bond counsel designated by the Corporation Counsel of the City in form and substance acceptable to the City and the Trustee, which opinion may be based on a ruling or rulings of the Internal Revenue Service.

"Ordinance" means the ordinance passed by the City Council on November 8, 2017, authorizing the Bonds, the Eleventh Supplemental Indenture and the Second Lien Bond Determination Certificate of the Chief Financial Officer in connection with the Bonds as modified or amended from time to time pursuant to the terms of the ordinance.

"Outstanding" means, with reference to any series of Second Lien Bonds, all of such obligations issued under the Master Indenture or incurred pursuant to the Master Indenture that are outstanding and unpaid, provided that such term shall not include obligations:

- i) which have been paid or redeemed in full both as to principal, redemption, premium, if any, and interest; or
- ii) which have matured or which have been duly called for redemption and for the payment of which money is on deposit with designated paying agents for such Second Lien Bonds or are otherwise properly available, sufficient to pay the principal of, redemption premium, if any, and interest on such Second Lien Bonds; or

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iii) for which the City has provided for payment by depositing in an irrevocable trust or escrow, cash or Governmental Obligations, in each case the maturing principal of and interest on which will be sufficient, without reinvestment, to pay at maturity, or if called for redemption on the applicable redemption date, the principal of, redemption premium, if any, and interest on such Second Lien Bonds; or

iv) which are owned by the City.

When used with respect to Senior Lien Bonds or Subordinate Lien Obligations, "Outstanding" shall have the meaning ascribed to such term in the related Senior Lien Bond Ordinances or Subordinate Lien Obligation Ordinance as applicable.

"Paying Agent" means the Trustee and any other bank, national banking association or trust company designated by the City or the Trustee pursuant to the Eleventh Supplemental Indenture as a paying agent for the Bonds, and any successor or successors appointed by the Chief Financial Officer or the Trustee under the Eleventh Supplemental Indenture.

"Payment Date" means any date on which a Principal Installment or interest on any series of Second Lien Bonds is payable in accordance with its terms and the terms of the Master Indenture and the Supplemental Indenture creating such series, or, in the case of any Section 2.08 Obligation or amounts which are payable under any Section 2.09 Obligation, in accordance with the terms of the instrument creating such Section 2.08 Obligation or such Section 2.09 Obligation.

"Permitted Investments" means to the extent permitted by law and under the Master Indenture at the time of such investment, any of the following:

a) direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America; and

b) shares of a money market fund registered under the Investment Company Act of 1940, whose shares are registered under the Securities Act of 1933, as amended, including those for which the Trustee or an affiliate performs services for a fee, whether as custodian, transfer agent.

"Principal Installment" means:

a) as of any particular date of computation and with respect to Senior Lien Bonds of a particular series, an amount of money equal to the aggregate of (i) the principal amount of Outstanding Senior Lien Bonds of said series which mature on a single future date, reduced by the aggregate principal amount of such Outstanding Senior Lien Bonds which would at or before said future date be retired by reason of the payment when due and the application in accordance with the Senior Lien Bond Ordinances authorizing the issuance of each series of Senior Lien Bonds of Sinking Fund Payments payable at or before said future date for the retirement of such Outstanding Senior Lien Bonds, plus (ii) the amount of any Sinking Fund Payments payable on said future date for the retirement of any Outstanding Senior Lien Bonds of such series, and for all purposes of the Indenture, said future date shall be deemed to be the date when such Principal Installment is payable and the date of such Principal Installment;

b) as of any particular date of computation and with respect to Second Lien Bonds of a particular series or consisting of a particular Section 2.08 Obligation, an amount of money equal to the aggregate of (i) the principal amount of Outstanding Second Lien Bonds of said

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series or Section 2.08 Obligation which mature on a single future date, reduced by the aggregate principal amount

Series of Section 2.08 Obligation which mature on a single future date, reduced by the aggregate principal amount of such Outstanding Second Lien Bonds which would at or before said future date be retired by reason of the payment when due and the application in accordance with the Indenture, with respect to the Second Lien Bonds, or the ordinance or trust indenture creating any other series of Second Lien Bonds or the instrument creating such Section 2.08 Obligation, of Sinking Fund Payments payable at or before said future date for the retirement of such Outstanding Second Lien Bonds, plus (ii) the amount of any Sinking Fund Payments payable on said future date for the retirement of such Outstanding Second Lien Bonds, and for all purposes of the Indenture, said future date shall be deemed to be the date when such Principal Installment is payable and the date of such Principal Installment; and

(c) as of any particular date of computation and with respect to Subordinate Lien Obligations of a particular series, an amount of money equal to the aggregate of (i) the principal amount of Outstanding Subordinate Lien Obligations of said series which mature on a single future date, reduced by the aggregate principal amount of such Outstanding Subordinate Lien Obligations which would at or before said future date be retired by reason of the payment when due and the application in accordance with the Subordinate Lien Obligation Ordinance authorizing the issuance of each series of Subordinate Lien Obligations of Sinking Fund Payments payable at or before said future date for the retirement of such Outstanding Subordinate Lien Obligations, plus (ii) the amount of any Sinking Fund Payments payable on said future date for the retirement of any Outstanding Subordinate Lien Obligations of such series, and for all purposes of the Indenture, said future date shall be deemed to be the date when such Principal Installment is payable and the date of such Principal Installment.

"Program Fee Account" means the account designated the "Series 2017-2 Bonds, Program Fee Account" established in the 2017-2 Second Lien Bonds Subaccount as described in Appendix B hereto under the caption "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - 2017-2 Second Lien Bonds Subaccount."

"Program Fees" means:

a) the fees, expenses and other charges payable to each fiduciary, including the applicable Trustee, the applicable Trustee's Agent and any Paying Agent, pursuant to the provisions of the Master Indenture and the corresponding Supplemental Indenture; provided that if at any time there shall be any Series of Second Lien Bonds Outstanding under a Supplemental Indenture other than the corresponding series of Bonds, then "Program Fees" for such purposes, shall mean only such portion of such fees, expenses and other charges as shall be payable with respect to, or properly allocable to, the duties performed by each such fiduciary with respect to such Bonds;

b) ongoing fees payable to any Rating Agency maintaining a rating on such Bonds,  
and

c) any other fees, expenses and other charges of a similar nature payable by the City to any person under such Supplemental Indenture or otherwise with respect to such Bonds.

"Qualified Reserve Account Credit Instrument" means, with respect to Second Lien Bonds, a letter of credit, surety bond or non-cancelable insurance policy issued by a domestic or foreign bank, insurance company or other financial institution whose debt obligations are rated "Aa" or "AA" or better by a Rating Agency as of its date of issuance.

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"Qualified Second Lien Swap Agreement" means an agreement between the City and a swap provider under which the City agrees to pay the swap provider an amount calculated at an agreed-upon rate or index based upon a notional amount and the swap provider agrees to pay the City for a specified period of time an amount calculated at an agreed-upon rate or index based upon such notional amount, where (i) each Rating Agency (if such Rating Agency also

rates the unsecured obligations of the swap provider or its guarantor) has assigned to the unsecured obligations of the swap provider or of the person or entity who guarantees the obligation of the swap provider to make its payments to the City, as of the date the swap agreement is entered into, in one of the highest credit rating categories (without regard to any refinement or gradation of such rating by a numerical modifier or otherwise) of such Rating Agency, and (ii) the City has notified each Rating Agency (whether or not such Rating Agency also rates the unsecured obligations of the swap provider or its guarantor) in writing, at least 15 days prior to executing and delivering the swap agreement of its intention to enter into the swap agreement and, if the City's Second Lien Bonds have an unenhanced rating from such Rating Agency, the City has received from such Rating Agency a written indication that the entering into of the swap agreement by the City will not in and of itself cause a reduction or withdrawal by such Rating Agency of its unenhanced rating on the Second Lien Bonds.

"Rating Agencies" or "Rating Services" means the nationally recognized rating services, or any of them, that shall have assigned ratings to any Bonds Outstanding as requested by or on behalf of the City, and which ratings are then currently in effect.

"Record Date" means, with respect to the Bonds, each April 15 and October 15 (whether or not a Business Day).

"Redemption Price" means with respect to the Bonds, the redemption prices set forth under the caption "DESCRIPTION OF THE BONDS - Redemption" and, with respect to any other series of Second Lien Bonds, the redemption price of such Second Lien Bonds pursuant to the provisions of such Second Lien Bonds or the Supplemental Indenture creating such Second Lien Bonds, or such other redemption price as may be specified in such Second Lien Bonds or Supplemental Indenture.

"Refunded Bonds" means the Series 2008 Second Lien Bonds maturing on November 1 of the years and in the amounts set forth below:

Maturity Principal (November 1) Amount

"Registered Owner" means the person or persons in whose name or names a Bond is registered in the registration books kept by the Bond Registrar.

"Second Lien Bond Determination Certificate" means the certificate of the Chief Financial Officer with respect to the Bonds filed with the Office of the City Clerk or the Deputy City Clerk, addressed to the City Council as provided in the Ordinance.

"Second Lien Bond Revenues" means all sums, amounts, funds or moneys which are deposited to the Second Lien Bonds Account pursuant to the Ordinance, subject to the priority for the deposit of Net Revenues Available for Bonds established in the Ordinance.

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"Second Lien Bonds" means the Bonds, the Series 2017 Bonds, the Series 2016A Bonds, the Series 2014 Bonds, the Series 2012 Second Lien Bonds, the Series 2010 Second Lien Bonds, the Series 2008 Second Lien Bonds, the Series 2004 Bonds, the 2001 Second Lien Bonds, the Series 2000 Bonds and all Second Lien Parity Bonds.

"Second Lien Bonds Account" means the separate account of that name previously established in the Water Fund as described in the Ordinance.

"Second Lien Parity Bonds" means obligations which may be issued after the issuance of the Bonds which are payable from Second Lien Bond Revenues on an equal and ratable basis with the Bonds and all other Outstanding Second Lien Bonds.

"Second Lien Revenue Fund" means the fund of that name established by the Master Indenture.

"Section 2.08 Obligations" means any obligations incurred by the City to reimburse or otherwise make payments to the issuer or issuers of one or more letters of credit, lines of credit, standby purchase agreements, financial guaranty insurance policies or surety bonds (including Qualified Reserve Account Credit Instruments) securing one or more series of Second Lien Bonds as described in the Master Indenture, including any fees or other amounts payable to the issuer of any such letter of credit, line of credit, standby purchase agreement, financial guaranty insurance policy or surety bond, whether such obligations are set forth in one or more reimbursement agreements entered into between the City and the issuer of any such letter of credit, line of credit, standby purchase agreement, financial guaranty insurance policy or surety bond, or in one or more notes or other evidences of indebtedness executed and delivered by the City pursuant thereto, or any combination thereof.

"Section 2.09 Obligations" means any obligations incurred by the City to any one or more swap providers pursuant to the Master Indenture, including any fees or amounts payable by the City under each related Qualified Second Lien Swap Agreement or agreement described in the Master Indenture.

"Senior Lien Bond Provider" means a company, banking institution or other financial institution which is the issuer of a Senior Lien Debt Service Reserve Account Credit Instrument or a municipal bond insurance policy as described in the Ordinance.

"Senior Lien Bond Ordinances" means the ordinances of the City authorizing the issuance of Senior Lien Bonds.

"Senior Lien Bond Reimbursement Agreement" means an agreement between the City and a Senior Lien Bond Provider entered into with respect to a Senior Lien Debt Service Reserve Account Credit Instrument and which pertains to the repayment of the Senior Lien Bond Provider, with interest, if any, of amounts advanced pursuant to that Senior Lien Debt Service Reserve Account Credit Instrument.

"Senior Lien Bonds" means the Series 1997 Bonds, the 2000 Senior Lien Bonds and all Senior Lien Parity Bonds.

"Senior Lien Bonds Construction Accounts" means the various accounts established for construction purposes by the Senior Lien Bond Ordinances.

"Senior Lien Debt Service Requirement" means, for any Fiscal Year, the principal of and interest on Senior Lien Bonds required to be paid in that Fiscal Year. With respect to any Senior Lien Bonds for which any interest is payable by appreciation in principal amount, the Senior Lien Debt Service Requirement for a Fiscal Year includes all appreciated principal payable in that Fiscal Year but does not

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include the increase in principal which occurs in that Fiscal Year but is not payable in that Fiscal Year. Any Senior Lien Bonds required to be redeemed pursuant to a mandatory sinking fund redemption shall be treated for these purposes as being due on the date they are required to be redeemed and not on their stated maturity dates.

"Senior Lien Debt Service Reserve Account" means the separate account entitled "Bond Debt Service Reserve Account" previously established by the City in the Water Fund and described in the Ordinance and each Subaccount of that Account.

"Senior Lien Debt Service Reserve Account Credit Instrument" means a non-cancelable insurance policy, a non-cancelable surety bond or an irrevocable letter of credit which may be delivered to the City in lieu of or in partial substitution for cash or securities required to be on deposit in a Subaccount of the Senior Lien Debt Service Reserve Account. In the case of an insurance policy or surety bond, the Senior Lien Bond Provider of such insurance policy or surety bond shall be an insurer which, at the time of issuance of the insurance policy or surety bond, has been assigned a credit rating which is within one of the two highest ratings, without regard to any refinement or gradation of rating categories by numerical modifier or otherwise, accorded insurers by at least

two Rating Agencies. Letters of credit shall be issued by a banking institution which has, or the parent of which has, or the holding corporation of which it is the principal bank has, at the time of issuance of the letter of credit, a credit rating on its long-term unsecured debt within one of the two highest rating categories, without regard to any refinement or gradation of rating categories by numerical modifier or otherwise, from at least two Rating Agencies. The insurance policy, surety bond or letter of credit shall grant to the City the right to receive payment for the purposes of which the Subaccount of the Senior Lien Debt Service Reserve Account may be used or for deposit in that Subaccount and shall be irrevocable during its term.

"Senior Lien Debt Service Reserve Account Credit Instrument Coverage" means, with respect to any Senior Lien Debt Service Reserve Account Credit Instrument on any date of determination, the amount available to pay principal of and interest on the Senior Lien Bonds under that Senior Lien Debt Service Reserve Account Credit Instrument.

"Senior Lien Debt Service Reserve Requirement" means (i) with respect to each of the Series 1997 Senior Lien Bonds and the 2000 Senior Lien Bonds, the amount, as of any date of computation, specified in the respective ordinance of the City, as amended, authorizing those bonds; and (ii) and with respect to any series of Senior Lien Parity Bonds, as of any date of computation, such amounts as shall be established by the ordinance authorizing that series of Senior Lien Parity Bonds, not to exceed the least of (A) the highest future Senior Lien Debt Service Requirement of that series of Senior Lien Parity Bonds in any Fiscal Year including the Fiscal Year in which the date of computation falls; (B) 10 percent of the original principal amount of that series of Senior Lien Parity Bonds (less original issue discount); or (C) 125 percent of the average annual Senior Lien Debt Service Requirement for that series of Senior Lien Parity Bonds. Any Senior Lien Bonds required to be redeemed pursuant to a mandatory sinking fund redemption shall be treated for purposes of this definition as being due on the dates they are required to be redeemed and not on their stated maturity dates.

"Senior Lien Parity Bonds" means obligations which may be issued after the issuance of the Bonds which are payable from Net Revenues Available for Bonds on an equal and ratable basis with all Outstanding Senior Lien Bonds.

"Senior Lien Principal and Interest Account" means the separate account entitled "Bond Principal and Interest Account" previously established by the City in the Water Fund and described in the Ordinance.

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"Senior Lien Rebate Accounts" means the separate accounts with that title in the Water Fund referred to in the Ordinance.

"Series 1993 Bonds" means the Water Revenue Bonds, Refunding Series 1993, of the City.

"Series 1997 Bonds" means the Water Revenue Bonds, Series 1997, of the City which are Outstanding from time to time.

"Series 2000 Bond Ordinance" means the ordinance passed by the City Council on November 17, 1999, authorizing the issuance of the Series 2000 Bonds, and the Senior Lien Bond Determination Certificate of the Chief Financial Officer in connection with the Series 2000 Bonds.

"Series 2000 Bonds" means the \$100,000 aggregate principal amount of Second Lien Water Revenue Bonds, Series 2000, of the City.

"Series 2000 Senior Lien Bonds" means the Senior Lien Water Revenue Bonds, Series 2000, of the City which are Outstanding from time to time.

"Series 2000 Subordinate Lien Obligations" means the Loans authorized by and defined in the Series 2000 Bond Ordinance which are Outstanding from time to time.

"Series 2001 Second Lien Bonds" means the Second Lien Water Revenue Refunding Bonds, Series 2001, of the City which are Outstanding from time to time.



"Series 2001 Second Lien Bond Ordinance" means the ordinance passed by the City Council on March 7, 2001, authorizing the issuance of the 2001 Second Lien Bonds, and the Second Lien Bond Determination Certificate of the Chief Financial Officer in connection with the 2001 Second Lien Bonds.

"Series 2001 Subordinate Lien Bond Ordinance" means the ordinance passed by the City Council on October 31, 2001, authorizing the issuance of the 2001 Subordinate Lien Obligations.

"Series 2001 Subordinate Lien Obligations" means the Loans authorized by and defined in the Series 2001 Subordinate Lien Bond Ordinance.

"Series 2004 Bonds" means the \$344,575,000 aggregate principal amount of Second Lien Water Revenue Refunding Bonds, Series 2004, of the City.

"Series 2004 Second Lien Bond Ordinance" means the ordinance passed by the City Council on May 26, 2004, as amended by the Series 2012 Second Lien Bond Ordinance, authorizing the issuance of the Series 2004 Bonds and the Second Lien Bond Determination Certificate of the Chief Financial Officer in connection with the Series 2004 Bonds.

"Series 2006 Second Lien Bond Ordinance" means the ordinance passed by the City Council on June 28, 2006, authorizing, among other things, the issuance of 2006 Subordinate Lien Obligations.

"Series 2006 Subordinate Lien Obligations" means the Loans authorized by and defined in the Series 2006 Second Lien Bond Ordinance.

"Series 2008 Second Lien Bonds" means the Second Lien Water Revenue Project and Refunding Bonds, Series 2008, of the City, which are Outstanding from time to time.

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"Series 2010 Second Lien Bonds" means, collectively, the Series 201 OA Second Lien Bonds, the Series 201 OB Second Lien Bonds and the Series 2010C Second Lien Bonds which are Outstanding from time to time.

"Series 2010A Second Lien Bonds" means the Second Lien Water Revenue Bonds, Project and Refunding Series 201 OA (Tax-Exempt), of the City, which are Outstanding from time to time.

"Series 2010B Second Lien Bonds" means the Second Lien Water Revenue Bonds, Taxable Project Series 2010B (Build America Bonds - Direct Payment), of the City, which are Outstanding from time to time.

"Series 2010C Second Lien Bonds" means the Second Lien Water Revenue Bonds, Taxable Project Series 2010C (Qualified Energy Conservation Bonds - Direct Payment), of the City, which are Outstanding from time to time.

"Series 2012 Second Lien Bond Ordinance" means the ordinance passed by the City Council on March 14, 2012 as amended by the ordinance passed by the City Council on May 9, 2012, authorizing, among other things, the issuance of the Series 2012 Second Lien Bonds and the 2012 Subordinate Lien Obligations, and the Second Lien Bond Determination Certificate of the Chief Financial Officer in connection with the Series 2012 Second Lien Bonds.

"Series 2012 Second Lien Bonds" means the Second Lien Water Revenue Bonds, Project Series 2012, of the City, which are Outstanding from time to time.

"Series 2012 Subordinate Lien Obligations" means the Loans authorized by and defined in the Series 2012 Second Lien Bond Ordinance.

"Series 2014 Bonds" means, the Second Lien Water Revenue Bonds, Project Series 2014, of the City, which are Outstanding from time to time.

"Series 2016A Bonds" means the Second Lien Water Revenue Bonds, Series 2016A-1 (Tax-Exempt) and Series 2016A-2 (Taxable) of the City, which are Outstanding from time to time.

"Series 2017 Bonds" means the Second Lien Water Revenue Refunding Bonds, Series 2017, which are Outstanding from time to time.

"Series 2017 Subordinate Lien Obligations" means the Loans authorized by and defined in the Ordinance.

"Series 2017-2 Deposit Requirement" has the meaning set forth in Appendix B hereto under the caption "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE -Application of Bond Proceeds - Deposits into 2017-2 Second Lien Bonds Subaccount and Accounts Therein."

"Series 2017-2 Principal and Interest Account" means the account designated the "Series 2017-2 Bonds, Principal and Interest Account" established in the 2017-2 Second Lien Bonds Subaccount as described in Appendix B hereto under the caption "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - 2017-2 Second Lien Bonds Subaccount."

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"Sinking Fund Payment" means:

a) as of any particular date of determination and with respect to the Outstanding Senior Lien Bonds of any series, the amount required by the Senior Lien Bond Ordinances to be paid in any event by the City on a single future date for the retirement of Senior Lien Bonds of such series which mature after said future date, but does not include any amount payable by the City by reason only of the maturity of a Senior Lien Bond;

b) as of any particular date of determination and with respect to the Outstanding Second Lien Bonds of any series or consisting of any Section 2.08 Obligation, the amount required by the Supplemental Indenture creating such series or the instrument creating such Section 2.08 Obligation to be paid in any event by the City on a single future date for the retirement of such Second Lien Bonds which mature after said future date, but does not include any amount payable by the City by reason only of the maturity of a Second Lien Bond; and

c) as of any particular date of determination and with respect to the Outstanding Subordinate Lien Obligations of any series, the amount required by a Subordinate Lien Obligation Ordinance to be paid in any event by the City on a single future date for the retirement of Subordinate Lien Obligations of such series which mature after said future date, but does not include any amount payable by the City by reason only of the maturity of a Subordinate Lien Obligation.

"State" means the State of Illinois.

"Subordinate Lien Debt Service Requirement" means, for any Fiscal Year, the principal of and interest on Subordinate Lien Obligations required to be paid in that Fiscal Year.

"Subordinate Lien Debt Service Reserve Subaccount" means the separate Subaccount of that name previously established by the City in the Subordinate Lien Obligations Account and described in the Ordinance.

"Subordinate Lien Obligation Ordinances" means each ordinance of the City authorizing the issuance of Subordinate Lien Obligations.

"Subordinate Lien Obligation Revenues" means all sums, amounts, funds or moneys which are deposited to the Subordinate Lien Obligations Account.

"Subordinate Lien Obligations" means the 2000 Subordinate Lien Obligations, the 2001 Subordinate Lien Obligations, the 2006 Subordinate Lien Obligations, the 2012 Subordinate Obligations, the 2017 Subordinate Lien Obligations and all Subordinate Lien Parity Obligations.

"Subordinate Lien Obligations Account" means the separate account of that name established in the Water Fund as described in the Ordinance.

"Subordinate Lien Parity Obligations" means obligations which are payable from Subordinate Lien Obligation Revenues on an equal and ratable basis with all Outstanding Subordinate Lien Obligations.

"Subordinate Lien Principal and Interest Subaccount" means the separate Subaccount of that name established by the City in the Subordinate Lien Obligations Account and described in the Ordinance.

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"Supplemental Indenture" means any indenture modifying, altering, supplementing or conforming the terms of the Master Indenture duly entered into in accordance with the terms of the Master Indenture, including, without limitation, the Eleventh Supplemental Indenture.

"Trust Estate" means the property conveyed to the Trustee pursuant to the granting clauses of the Eleventh Supplemental Indenture.

"2017-2 Second Lien Bonds Subaccount" means the 2017-2 Second Lien Bonds Subaccount established within the Second Lien Bonds Account pursuant to the Ordinance, as described in Appendix B hereto under the caption "SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE - 2017-2 Second Lien Bonds Subaccount."

"Variable Rate Bonds" means any Second Lien Bonds the interest rate on which is not established at the time of their issuance at a single numerical rate for the entire term of such Second Lien Bonds.

"Water Fund" means the separate fund designated the "Water Fund of the Municipality of Chicago" previously established by the City and described in the Ordinance.

"Water Rate Stabilization Account" means the separate account of that name previously established in the Water Fund and described in the Ordinance.

"Water Revenue Bonds" means collectively, the Senior Lien Bonds, the Second Lien Bonds, Subordinate Lien Obligations, Commercial Paper Notes and Water System Line of Credit Notes Outstanding from time to time.

"Water System" means all property, real, personal or otherwise, owned or to be owned by the City or under the control of the City and used for water supply, distribution or collection purposes, including any and all further extensions, improvements and additions to the Water System.

"Water System Line of Credit Agreement" means a line of credit agreement with a commercial bank or other financial institution in the form customarily used to provide borrowers with a revolving line of credit.

"Water System Line of Credit Notes" means obligations issued by the City from time to time pursuant to a Water System Line of Credit Agreement, payable from the Line of Credit Notes Account.

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## **APPENDIX B**

### **SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE APPENDIX B**

#### **SUMMARY OF CERTAIN PROVISIONS OF THE ORDINANCE AND THE INDENTURE**

The following is a composite summary of certain provisions of the Ordinance and the Indenture to which reference is made for a complete statement of the provisions and contents of each of such documents. This summary does not purport to be complete or definitive and is qualified in its entirety by reference to the Ordinance and the Indenture, copies of which are on file with the Trustee.

#### **Source of Payment; Pledge of Second Lien Bond Revenues**

The provisions of the Ordinance and the Indenture constitute a contract among the City, the Trustee and the Registered Owners of the Bonds. The Bonds are issued under the Ordinance and the Indenture as Second Lien Bonds.

The Bonds shall be limited obligations of the City having a claim for payment of principal, redemption premium and interest solely from amounts in the 2017-2 Second Lien Bonds Subaccount of the Second Lien Bonds Account, the sources pledged under the Indenture and, together with any Second Lien Bonds Outstanding, from Second Lien Bond Revenues, except for any monies, instruments and securities or any Qualified Reserve Credit Instrument on deposit in a Debt Service Reserve Account for any other series of Second Lien Bonds issued or to be issued. The Bonds shall not constitute an indebtedness of the City within the meaning of any constitutional or statutory provisions or limitation as to indebtedness and shall have no claim to be paid from taxes of the City. A lien on and security interest in Second Lien Bond Revenues is granted to the registered owners of the Second Lien Bonds Outstanding from time to time, and a lien on amounts in the 2017-2 Second Lien Bonds Subaccount is granted to the Registered Owners of the Bonds Outstanding from time to time, subject to amounts in those Accounts being deposited, credited and expended as provided in the Ordinance. See "- Flow of Funds - Application of Net Revenues Available for Bonds - Second Lien Bonds Account," "-" and Section 2.08 and Section 2.09 Obligations" below.

#### **Section 2.08 and Section 2.09 Obligations**

The City reserves the right under the Indenture to provide one or more irrevocable letters of credit, lines of credit, standby purchase agreements, financial guaranty insurance policies or surety bonds (including Qualified Reserve Account

Credit Instruments) or a combination of the foregoing to secure the payment of the principal of, premium, if any, and interest on one or more series of Second Lien Bonds, including the Bonds, or in the event owners of such series of Second Lien Bonds have the right to require tender or purchase thereof, to secure the payment of the tender or purchase price of such Second Lien Bonds upon the demand of their owners. Any Section 2.08 Obligation constitutes a Second Lien Bond under the Indenture to the same extent as any series of Second Lien Bonds issued pursuant to a Supplemental Indenture, and any and all amounts payable by the City under Section 2.08 Obligations, together with interest on such amounts, shall for purposes of the Indenture be deemed to constitute the payment of principal of, premium, if any, and interest on Second Lien Bonds.

If the City enters into Qualified Second Lien Swap Agreements with swap providers requiring the City to pay a fixed interest rate on a notional amount, or requiring the City to pay a variable interest rate on a notional amount, where the City has made a determination that such Qualified Second Lien Swap Agreement was entered into for the purpose of providing substitute interest payments for Senior Lien Bonds or Second Lien Bonds of a particular maturity or maturities in a principal amount equal to the notional amount of the Qualified Second Lien Swap Agreement and so long as the swap provider is not in default under such Qualified Second Lien Swap Agreement: (i) for purposes of any calculation of Annual

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Senior Lien Debt Service or Annual Second Lien Debt Service, as applicable, the interest rate on the Senior Lien Bonds or Second Lien Bonds of such maturity or maturities, as applicable, shall be determined as if such Senior Lien Bonds or Second Lien Bonds, as applicable, bore interest at the fixed interest rate or the variable interest rate, as the case may be, payable by the City under such Qualified

Second Lien Swap Agreement, (ii) any net payments required to be made by the City to the swap provider pursuant to such Qualified Second Lien Swap Agreement from Net Revenues shall be deemed payments on Senior Lien Bonds or Second Lien Bonds, as applicable, and be made on a parity with payments due on other Senior Lien Bonds or Second Lien Bonds, as applicable, and (iii) any net payments received by the City from the swap provider pursuant to such Qualified Second Lien Swap Agreement shall be applied in the Senior Lien Revenue Fund or Second Lien Revenue Fund, as applicable.

If the City shall enter into a swap agreement of the type generally described in the immediately preceding paragraph that does not satisfy the requirements for qualification as a Qualified Second Lien Swap Agreement as a result of its failure to make the determination described therein or otherwise, then:

(i) the interest rate adjustment or assumptions referred to in (i) of the immediately preceding paragraph shall not be made, (ii) any net payments required to be made by the City to the swap provider pursuant to such swap agreement from Gross Revenues shall be made only from amounts available after the payment of all Second Lien Bonds, and (iii) any net payments received by the City from the swap provider pursuant to such swap agreement may be treated as Gross Revenues at the option of the City and applied as directed by the City.

Termination payments made with respect to a swap agreement described in the immediately preceding paragraphs shall be subordinate to payments due on Second Lien Bonds.

#### Second Lien Bonds Rate Covenant

The City will establish, maintain and collect at all times fees, charges and rates for the use and service of the Water System sufficient at all times to (a) pay Operation and Maintenance Costs, and (b) produce Net Revenues Available for Bonds sufficient to pay the principal (at maturity or pursuant to mandatory sinking fund redemption) of and applicable redemption premium and interest on all Water

j ; Revenue Bonds Outstanding from time to time and to establish and maintain the Senior Lien Principal  
: and Interest Account and various subaccounts of the Senior Lien Debt Service Reserve Account as may  
be covenanted in Senior Lien Bond Ordinances, which Net Revenues Available for Bonds shall in each  
Fiscal Year at least equal the greater of:

- i) 120 percent of the sum required to pay promptly when due the Aggregate Senior Lien Debt Service Requirement for the Fiscal Year on all Senior Lien Bonds then Outstanding, or
- ii) the sum of
  - A) 100 percent of the Aggregate Senior Lien Debt Service for the Fiscal Year with respect to all Senior Lien Bonds Outstanding, plus
  - B) 110 percent of the Aggregate Second Lien Debt Service for the Fiscal Year with respect to all Second Lien Bonds Outstanding and all Section 2.08 Obligations and Section 2.09 Obligations, plus
  - C) 100 percent of the Subordinate Lien Debt Service Requirement for the Fiscal Year on all Subordinate Lien Obligations Outstanding.

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These fees, charges and rates shall not be reduced, while any Second Lien Bonds are Outstanding, below the level necessary to ensure compliance with the covenants set forth above.

The City will, prior to the end of each Fiscal Year, conduct a review to determine if it has been and will be in compliance with the rate covenant set forth above. Whenever the annual review indicates that projected Gross Revenues will not be sufficient to comply with the rate covenant, the City shall have prepared a rate study for the Water System identifying the rate changes necessary to comply with the rate covenant and the Budget Office and the Chief Financial Officer shall recommend appropriate action to the City Council to comply with this rate covenant.

### Flow of Funds

There has been created and there exists a separate fund of the City designated the Water Fund into which the Gross Revenues of the Water System are and shall be deposited as collected. The Water Fund shall continue as a separate fund of the City. The Water Fund shall constitute a trust fund and has been and is irrevocably pledged to the owners of the Senior Lien Bonds, Second Lien Bonds (but solely with respect to amounts on deposit in the Second Lien Bonds Account), Subordinate Lien Obligations (but solely with respect to amounts on deposit in the Subordinate Lien Obligations Account), Commercial Paper Notes (but solely with respect to amounts on deposit in the Commercial Paper Account) and Water System Line of Credit Notes (but solely with respect to amounts on deposit in the Line of Credit Notes Account), from time to time Outstanding for the sole purpose of carrying out the covenants, terms and conditions of the ordinances authorizing the Senior Lien Bonds, Second Lien Bonds (but solely with respect to amounts on deposit in the Second Lien Bonds Account), Subordinate Lien Obligations (but solely with respect to amounts on deposit in the Subordinate Lien Obligations Account), Commercial Paper Notes (but solely with respect to amounts on deposit in the Commercial Paper Account) and Water System Line of Credit Notes (but solely with respect to amounts on deposit in the Line of Credit Notes Account).

Moneys in the Water Fund are expended only as provided in the Ordinance and in the ordinances authorizing Water Revenue Bonds for (a) paying Operation and Maintenance Costs, (b) paying the principal of, redemption premium, if any, and interest on Senior Lien Bonds (or purchasing Senior Lien Bonds), and (c) establishing and maintaining (for the purposes specified in those ordinances) the Senior Lien Bonds Construction Accounts and the Accounts in the Water Fund described in the Ordinance and all other reserve funds or accounts which are required to be established and maintained in the ordinances authorizing the issuance of Senior Lien Bonds, Second Lien Bonds, Subordinate Lien Obligations, Commercial Paper Notes and Water System Line of Credit

Notes; provided that any funds available after these requirements have been satisfied or which are not necessary to satisfy these requirements may be used for any lawful purpose of the Water System.

A lien on and security interest in the Net Revenues Available for Bonds and the various Accounts of the Water Fund established as provided in the Ordinances (other than the Second Lien Bonds Account, the Subordinate Lien Obligations Account, the Commercial Paper Account and the Line of Credit Notes Account) are granted to the Registered Owners of the Senior Lien Bonds Outstanding from time to time, subject to amounts in the various Accounts being deposited, credited and expended as provided in the Ordinances, and with amounts in various Subaccounts of the Senior Lien Debt Service Reserve Account securing only the series or set of series of Senior Lien Bonds to which such Subaccounts relate. Nothing in the Ordinances shall prevent the City from commingling money in the Water Fund (other than the Senior Lien Principal and Interest Account, Senior Lien Debt Service Reserve Account, Senior Lien Rebate Accounts, Second Lien Bonds Account, Subordinate Lien Obligations Account, Commercial Paper Account and Line of Credit Notes Account) with other money, funds and accounts of the City. Any advance by the City to the Water Fund from other funds of the City shall have a claim for reimbursement

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only from amounts in the Water Fund not required for deposit in the various Accounts specified in the previous sentence as provided in the Ordinances.

Application of Net Revenues Available for Bonds. There have been created and there exist and shall be maintained in the Water Fund, the following separate accounts: the Senior Lien Principal and Interest Account, the Senior Lien Debt Service Reserve Account and its various Subaccounts, the Water Rate Stabilization Account and the Senior Lien Rebate Accounts. There have also been created and shall be maintained in the Water Fund, (i) the Second Lien Bonds Account and its various Subaccounts for each series of Second Lien Bonds, (ii) the Subordinate Lien Obligations Account and its various Subaccounts for each series of Subordinate Lien Obligations, (iii) the Commercial Paper Account and its various Subaccounts and (iv) the Line of Credit Notes Account and its various Subaccounts. The Net Revenues Available for Bonds shall be transferred, without any further official action or direction, to the Senior Lien Principal and Interest Account, the Senior Lien Debt Service Reserve Account, the Senior Lien Rebate Accounts, the Second Lien Bonds Account, the Subordinate Lien Obligations Account, the Commercial Paper Account, the Line of Credit Notes Account and the Water Rate Stabilization Account in the order in which those accounts are listed below, for use in accordance with the provisions described below.

Senior Lien Principal and Interest Account. Not later than 10 days prior to each principal or interest payment date for the Senior Lien Bonds, there shall be transferred to the Senior Lien Principal and Interest Account sufficient funds to pay the amount of the principal, redemption premium, if any, and interest becoming due, whether upon maturity, redemption or otherwise, on such payment date on all Outstanding Senior Lien Bonds.

Funds in the Senior Lien Principal and Interest Account shall be used only for the purpose of paying principal of, redemption premium, if any, and interest on Outstanding Senior Lien Bonds as the same become due.

Senior Lien Debt Service Reserve Account.

1) There may be established by any ordinances authorizing the issuance of any series of Senior Lien Parity Bonds one or more Subaccounts in the Senior Lien Debt Service Reserve Account with respect to one or more series of Senior Lien Parity Bonds.

2) Whenever the balance in the various Subaccounts of the Senior Lien Debt Service Reserve Account is less than the Senior Lien Debt Service Reserve Requirement for the various series of Senior Lien Bonds, except as otherwise provided in the Senior Lien Bond Ordinances, there shall be transferred to the Senior Lien Debt Service Reserve Account within the next 12 months sufficient funds to maintain balances in the various Subaccounts of the Senior Lien Debt Service Reserve Account at least equal to the Senior Lien Debt Service Reserve Requirement for the various series of Senior Lien Bonds.

Funds in any Subaccount of the Senior Lien Debt Service Reserve Account and any Senior Lien Debt Service Reserve Account Credit Instruments in that Subaccount shall be used to pay principal of, redemption premium, if any, and interest on the Senior Lien Bonds of the series to which the Subaccount relates (or when series of Senior Lien Bonds are secured on a parity basis by Subaccounts relating to those various series, then funds in each such Subaccount shall be so used on a parity basis to pay principal of, redemption premium, if any, and interest on the Senior Lien Bonds to which those various Subaccounts relate) as the same become due at any time when there are insufficient funds available for such purpose in the Senior Lien Principal and Interest Account (after any available amounts in the Water Rate Stabilization Account have first been applied to that purpose).

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(3) All or any part of the Senior Lien Debt Service Reserve Requirement for any series of Senior Lien Bonds may be met by deposit with the City of one or more Senior Lien Debt Service Reserve Account Credit Instruments. A Senior Lien Debt Service Reserve Account Credit Instrument shall, for purposes of determining the value of the amounts on deposit in the Senior Lien Debt Service Reserve Account and the Subaccount or Subaccounts to which it relates, be valued at the Senior Lien Debt Service Reserve Account Credit Instrument Coverage for such Senior Lien Debt Service Reserve Account Credit Instrument except as provided in the next sentence. If a Senior Lien Debt Service Reserve Account Credit Instrument is to terminate (or is subject to termination) prior to the last principal payment date on any Outstanding Senior Lien Bond of the series of Senior Lien Bonds to which it relates, then the Senior Lien Debt Service Reserve Account Credit Instrument Coverage of that Senior Lien Debt Service Reserve Account Credit Instrument shall be reduced each year, beginning on the date which is four years prior to the first date on which the Senior Lien Debt Service Reserve Account Credit Instrument is to terminate (or is subject to termination), by 25 percent of the coverage in each of the years remaining prior to such date, provided that if by the terms of the Senior Lien Debt Service Reserve Account Credit Instrument and the terms of the related Senior Lien Bond ordinance, the City has the right and duty to draw upon such Senior Lien Debt Service Reserve Account Credit Instrument prior to its termination for deposit in the related Subaccount of the Senior Lien Debt Service Reserve Account (if and to the extent a substitute Senior Lien Debt Service Reserve Account Credit Instrument is not deposited in that related Subaccount) all or part of its Senior Lien Debt Service Reserve Account Credit Instrument Coverage, then the reduction shall be in an amount equal to the difference between (A) the Senior Lien Debt Service Reserve Requirement for that series of Senior Lien Bonds and (B) the sum of the amounts on deposit in the related Subaccount of the Senior Lien Debt Service Reserve Account and the amount which the City may draw under the Senior Lien Debt Service Reserve Account Credit Instrument prior to its termination for deposit in the related Subaccount of the Senior Lien Debt Service Reserve Account. Any amounts in any Subaccount of the Senior Lien Debt Service Reserve Account which are not required to be transferred to the Senior Lien Principal and Interest Account may, from time to time, be used to pay costs of acquiring a Senior Lien Debt Service Reserve Account Credit Instrument for that Subaccount or to make payments due under a Senior Lien Bond Reimbursement Agreement with respect to such Senior Lien Debt Service Reserve Account Credit Instrument, but only if after such payment, the value of the amounts on deposit in the Subaccount of the Senior Lien Debt Service Reserve Account shall not be less than the Senior Lien Debt Service Reserve Requirement for that series of Senior Lien Bonds. The City pledges and grants a lien on and security interest in the amounts on deposit in the Subaccounts of the Senior Lien Debt Service Reserve Account to any Senior Lien Bond Provider with respect to the particular Subaccount corresponding to such Senior Lien Bond Provider's Senior Lien Debt Service Reserve Account Credit Instrument, provided that the pledge, lien and security interest shall be junior to any claim for the benefit of the registered owners of Senior Lien Bonds of that series.

After the deposit of a Senior Lien Debt Service Reserve Account Credit Instrument into any Subaccount of the Senior Lien Debt Service Reserve Account and after the City has received notice of the value of the amounts on deposit in the Subaccount of the Senior Lien Debt Service Reserve Account after such deposit, the Chief Financial Officer may then direct the transfer from the Subaccount of the Senior Lien Debt Service Reserve Account to any account of the Water Fund of any amounts in the Subaccount of the Senior Lien Debt Service Reserve Account in excess of the Senior Lien Debt Service Reserve Requirement for that series of Senior Lien Bonds for use in accordance with the Senior Lien Ordinances.

Senior Lien Rebate Accounts. There shall be transferred from the Water Fund from Net Revenues Available for Bonds and deposited to the credit of the various Senior Lien Rebate Accounts the amounts as shall be required to be held available for rebate to the United States of America with respect to each series of Water Revenue Bonds as required by the Senior Lien Bond Ordinances. Each such Senior Lien Rebate Account shall be deposited in a separate bank account in a bank or banks designated by the Chief Financial Officer pursuant to a depository agreement. The amount so to be held available shall be determined from time to time by the



City pursuant to the Senior Lien Bond Ordinances.

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Amounts in such Senior Lien Rebate Accounts shall be used at the direction of the City to make rebate payments to the United States of America and to the extent not needed for such purpose shall be transferred to the Water Fund, provided that earnings on the investment of amounts on deposit in the Senior Lien Rebate Accounts shall not be Investment Earnings, shall not be considered Gross Revenues and shall be retained in the respective Senior Lien Rebate Accounts except to the extent no longer required for rebate purposes.

**Second Lien Bonds Account.** There is established in the Second Lien Bonds Account with respect to the Bonds a separate and segregated 2017-2 Second Lien Bonds Subaccount. There may be established by any ordinances or related indentures authorizing the issuance of any series of Second Lien Parity Bonds one or more other Subaccounts in the Second Lien Bonds Account with respect to such Second Lien Parity Bonds, including a debt service reserve account for such series of Second Lien Parity Bonds, and such ordinance or indenture may also authorize the establishment of a series reserve account requirement for such series of Second Line Parity Bonds and the purchase of a Qualified Reserve Account Credit Instrument for purposes of fulfilling such requirement. There shall be transferred to the Second Lien Bonds Account and to the Subaccounts in the Second Lien Bonds Account such amounts on such dates as are required to be so transferred by the Eleventh Supplemental Indenture and each other Supplemental Indenture without priority of one Subaccount over any other Subaccount. The moneys in the various Subaccounts of the Second Lien Bonds Account shall be transferred by the Chief Financial Officer on the date so deposited in such various Subaccounts to the appropriate paying agents or trustees for the related series of Second Lien Bonds for the purpose of paying such amounts as may be required to be paid by the ordinances and related Supplemental Indentures authorizing such Second Lien Bonds. See "- 2017-2 Second Lien Bonds Subaccount" below.

**Subordinate Lien Obligations Account.** There have been established and there shall exist and be maintained in the Subordinate Lien Obligations Account the following separate and segregated Subaccounts: the Subordinate Lien Principal and Interest Subaccount and the Subordinate Lien Debt Service Reserve Subaccount. There may be established by any ordinances authorizing the issuance of any series of Subordinate Lien Parity Obligations one or more Sub-subaccounts in the Subordinate Lien Principal and Interest Subaccount and Subordinate Lien Debt Service Reserve Subaccount with respect to such Subordinate Lien Parity Obligations. On the Business Day immediately preceding each May 1 and November 1, there shall be transferred to the Subordinate Lien Obligations Account, the amount required by any ordinance authorizing the issuance of Subordinate Lien Obligations to be deposited in the Subordinate Lien Obligations Account on such date without priority, one over the other, to any Subaccounts within the Subordinate Lien Obligations Account, the amount to be so deposited specified in a certificate of the Chief Financial Officer. The moneys in the various Subaccounts of the Subordinate Lien Obligations Account and Sub-subaccounts described in this paragraph shall be used to pay such amounts as may be required to be paid by the Ordinance and any ordinance authorizing Subordinate Lien Parity Obligations.

**Commercial Paper Account.** There has been established and there shall exist and be maintained in the Water Fund a separate and segregated Commercial Paper Account. There may be established by any ordinances or related indentures authorizing the issuance of any Commercial Paper Notes one or more other Subaccounts in the Commercial Paper Account with respect to such Commercial Paper Notes. There shall be transferred to the Commercial Paper Account and to the Subaccounts in the Commercial Paper Account such amounts on such dates as are required to be so transferred by the indenture pursuant to which the Commercial Paper Notes are issued. The moneys in the various Subaccounts of the Commercial Paper Account shall be transferred by the Chief Financial Officer on the date so deposited in such various Subaccounts to the appropriate paying agents or trustees for the related Commercial Paper Notes for the purpose of paying such amounts as may be required to be paid by the ordinances and related indentures authorizing such Commercial Paper Notes.

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**Line of Credit Notes Account.** There has been established in the Ordinance and there shall exist and be maintained in the

Water Fund a separate and segregated Line of Credit Notes Account. There may be established by any ordinances or related Water System Line of Credit Agreements authorizing the issuance of any Water System Line of Credit Notes one or more other Subaccounts in the Line of Credit Notes Account with respect to such Water System Line of Credit Notes. There shall be transferred to the Line of Credit Notes Account and to the Subaccounts in the Line of Credit Notes Account such amounts on such dates as are required to be so transferred by the Water System Line of Credit Agreements pursuant to which the Water System Line of Credit Notes are issued. The moneys in the various Subaccounts of the Line of Credit Notes Account shall be transferred by the Chief Financial Officer on the date so deposited in such various Subaccounts to the appropriate owners of or paying agents or trustees for the related Water System Line of Credit Notes for the purpose of paying such amounts as may be required to be paid by the ordinances and related Water System Line of Credit Agreements authorizing such Water System Line of Credit Notes.

Water Rate Stabilization Account. The City has caused amounts to be credited to the Water Rate Stabilization Account. In any year the City may withdraw any amounts from the Water Rate Stabilization Account and use those amounts for (i) paying any expenses or obligations of the Water System, including, without limitation, any Operation and Maintenance Costs, (ii) making deposits in the Senior Lien Principal and Interest Account, (iii) making deposits in the various Subaccounts of the Senior Lien Debt Service Reserve Account, (iv) making deposits when due in the Second Lien Bonds Account (but only if and to the extent no amounts are required to be deposited in the Senior Lien Principal and Interest Account and in the various Subaccounts of the Senior Lien Debt Service Reserve Account as provided in the immediately succeeding sentence), (v) making deposits when due in the Subordinate Lien Obligations Account (but only if and to the extent no amounts are required to be deposited in the Senior Lien Principal and Interest Account, the various Subaccounts of the Senior Lien Debt Service Reserve Account as provided in the immediately succeeding sentence or in the Second Lien Bonds Account), (vi) making deposits when due in the Commercial Paper Account (but only if and to the extent no amounts are required to be deposited in the Senior Lien Principal and Interest Account, the various Subaccounts of the Senior Lien Debt Service Reserve Account, in the Second Lien Bonds Account or the Subordinate Lien Obligations Account), (vii) making deposits when due in the Line of Credit Notes Account (but only if and to the extent no amounts are required to be deposited in the Senior Lien Principal and Interest Account, the various Subaccounts of the Senior Lien Debt Service Reserve Account, in the Second Lien Bond Accounts, in the Subordinate Lien Obligations Account or in the Commercial Paper Account), (viii) any cost of repairs, replacements, renewals, improvements, equipment or extensions to the Water System or (ix) any other cost or expense relating to the Water System or the financing or refinancing of the Water System. The Water Rate Stabilization Account shall be used to make all required deposits in the Senior Lien Principal and Interest Account and the various Subaccounts of the Senior Lien Debt Service Reserve Account when no other funds are available for that purpose. Any Net Revenues remaining in any period not required for transfer to the Senior Lien Principal and Interest Account, the various Subaccounts of the Senior Lien Debt Service Reserve Account, any Senior Lien Rebate Account, the Second Lien Bonds Account, the Subordinate Lien Obligations Account, the Commercial Paper Account or the Line of Credit Notes Account may be transferred to the Water Rate Stabilization Account at any time upon the direction of the Chief Financial Officer.

#### **2017-2 Second Lien Bonds Subaccount**

Moneys on deposit in the 2017-2 Second Lien Bonds Subaccount, and in each Account established in it as described below, shall be held in trust by the Trustee for the sole and exclusive benefit of the Registered Owners of the Bonds. In the Eleventh Supplemental Indenture, the City creates and establishes with the Trustee separate Accounts within the 2017-2 Second Lien Bonds Subaccount as follows:

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- i) the Program Fee Account; and
- ii) the Series 2017-2 Principal and Interest Account.

#### **Application of Bond Proceeds**

The aggregate proceeds received by the City from the sale of the Bonds (exclusive of underwriters' discount), shall be applied as follows:

i) the Trustee shall deposit into the Costs of Issuance Account an amount of the proceeds received by the City from the sale of the Bonds to be applied to pay Costs of Issuance; and

ii) the Trustee will deposit with the Escrow Agent an amount of the proceeds received by the City from the sale of the Bonds to be applied pursuant to the Escrow Agreement to refund the Refunded Bonds.

Deposits into 2017-2 Second Lien Bonds Subaccount and Accounts Therein. On each Deposit Date, there shall be deposited into the 2017-2 Second Lien Bonds Subaccount from amounts on deposit in the Second Lien Bonds Account (other than monies, instruments or securities or any other Qualified Account Credit Instrument on deposit in a Debt Service Reserve Account for any other series of Second Lien Bonds issued or to be issued) an amount equal to the aggregate of the following amounts, which amounts shall have been calculated by the Trustee and certified by the Chief Financial Officer and transferred by the City to the Trustee in accordance with the Ordinance on or before the Business Day next preceding each such Deposit Date, respectively (such aggregate amount with respect to any Deposit Date being referred to as the "Series 2017-2 Deposit Requirement"):

a) for deposit into the 2017-2 Principal and Interest Account, an amount equal to the 2017-2 Principal and Interest Account Requirement; and

b) for deposit into the Program Fee Account, the amount estimated by the City to be required as of the close of business on the related Deposit Date to pay all Program Fees payable from amounts in the Program Fee Account during the semi-annual period commencing on such related Deposit Date and, in the case of the initial Deposit Date, any Program Fees payable from the Date of Issuance to, but not including, such initial Deposit Date.

In addition to the Series 2017-2 Deposit Requirement, there shall be deposited into the 2017-2 Second Lien Bonds Subaccount any other moneys received by the Trustee under and pursuant to the Master Indenture or the Eleventh Supplemental Indenture, when accompanied by directions from the person depositing such moneys that such moneys are to be paid into the 2017-2 Second Lien Bonds Subaccount or to one or more accounts in that Subaccount.

Upon calculation by the Trustee of each Series 2017-2 Deposit Requirement, the Trustee shall notify the City of the Series 2017-2 Deposit Requirement and the Deposit Date to which it relates, and shall provide the City with such supporting documentation and calculations as the City may reasonably request.

#### *Use of Moneys in the Series 2017-2 Principal and Interest Account*

Moneys in the Series 2017-2 Principal and Interest Account shall be used solely for the payment of the principal of, premium, if any, and interest on the Bonds, for the redemption of the Bonds prior to their respective Maturity Dates and for the payment of Section 2.08 Obligations and Section 2.09

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Obligations. Funds for payment of principal of, premium, if any, and interest due on each Payment Date with respect to the Bonds (including the optional redemption of the Bonds pursuant to the Eleventh Supplemental Indenture and not otherwise provided for, and with respect to Section 2.08 Obligations and Section 2.09 Obligations), shall be derived from moneys held in the Series 2017-2 Principal and Interest Account, ratably, without preference or priority of any kind, except that termination and other non-scheduled payments with respect to Section 2.09 Obligations shall be paid on a subordinate basis.

Use of Moneys in Program Fee Account. Moneys deposited into the Program Fee Account shall be used solely for the payment of Program Fees payable by the City to third parties with respect to the Bonds as set forth in a certificate of the City filed with the Trustee.

#### **Deficiencies, Excess**

In the event of a deficiency in any Fiscal Year in the Senior Lien Principal and Interest Account, any Subaccount of the Senior Lien Debt Service Reserve Account, any Senior Lien Rebate Account, the Second Lien Bonds Account, the Subordinate Lien Obligations Account, the Commercial Paper Account or the Line of Credit Notes Account, the amount of such deficiency shall be

included in the amount to be transferred from the Water Fund and deposited into such Account or Subaccount during the next 12-month period or succeeding Fiscal Year, as required by the Ordinance.

Whenever the balance in any Subaccount of the Senior Lien Debt Service Reserve Account exceeds the amount required to be on deposit in that Account or Subaccount, such excess may be transferred to the Senior Lien Principal and Interest Account, and whenever the balance in any Subaccount of any Senior Lien Rebate Account exceeds the amount required to be on deposit in that Account or Subaccount, such excess may be transferred to the Water Fund, provided in each case that no such transfers shall be made when any debt service payments on outstanding obligations of the City that are payable by their terms from the revenues of the Water System are past due. Any funds which remain in the Water Fund at the end of any Fiscal Year shall be retained in the Water Fund and shall be available for appropriation for any proper purpose of the Water System.

#### **Additional Second Lien Bonds**

As long as there are any Outstanding Second Lien Bonds, the City may issue Second Lien Parity Bonds for any lawful purpose of the Water System, including to refund Outstanding Senior Lien Bonds, Second Lien Bonds, Subordinate Lien Obligations or obligations payable from revenues of the Water System on a basis subordinate to the Second Lien Bonds and Subordinate Lien Obligations, upon compliance with the following conditions:

i) the funds required to be transferred to the Second Lien Revenue Fund and its sub-funds, accounts and subaccounts shall have been transferred in full up to the date of delivery of such Second Lien Parity Bonds; and

ii) (1) Net Revenues Available for Bonds for the last completed Fiscal Year prior to the issuance of the Second Lien Parity Bonds (as shown by the audit of an independent certified public accountant), or Net Revenues Available for Bonds for such last completed Fiscal Year, adjusted as described below, shall equal at least 100 percent of the sum of the Aggregate Senior Lien Debt Service, the Aggregate Second Lien Bonds Requirement and the Aggregate Subordinate Lien Debt Service in each Fiscal Year following the issuance of the proposed Second Lien Parity Bonds, computed on a pro forma basis assuming (w) the issuance of the proposed Second Lien Parity Bonds and the application of the proceeds of any Second Lien Parity Bonds as provided in the ordinance or trust indenture authorizing their issuance, sale and delivery and (x) any projected withdrawal from or deposits into the Water Rate Stabilization Account of such

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amounts as shall be estimated by the Chief Financial Officer in the current or any future Fiscal Year. Net Revenues Available for Bonds may be adjusted as follows for purposes of this paragraph (ii):

A) if prior to the issuance of such Second Lien Parity Bonds, the City shall have enacted an increase in the rates of the Water System from the rates in effect for such last completed Fiscal Year, Net Revenues Available for Bonds may be adjusted to reflect the Net Revenues Available for Bonds for such last completed Fiscal Year as they would have been had the increased rates been in effect during all of that last completed Fiscal Year; and

B) if prior to the issuance of such Second Lien Parity Bonds, the City shall have enacted an increase in the rates of the Water System scheduled to take effect in a future Fiscal Year, such rate increase may be reflected in Net Revenues Available for Bonds for purposes of calculating debt service coverage for such last completed Fiscal Year;

Any such adjustment shall be evidenced by a certificate of the Chief Financial Officer.

(2) The conditions of paragraph (ii)(I), above, shall be deemed to have been satisfied if (A) Net Revenues Available for Bonds for the current or next succeeding Fiscal Year (as estimated by the Chief Financial Officer), adjusted as described in paragraph (ii)(I), shall equal at least 100 percent of the sum of the Aggregate Senior Lien Debt Service, the Aggregate Second Lien Bonds Requirement and the Aggregate Subordinate Lien Debt Service in each Fiscal Year following the issuance of the proposed Second Lien Parity Bonds, computed on a pro forma basis assuming (y) the issuance of the proposed Second Lien Parity Bonds and the application of the proceeds of any Second Lien Parity Bonds as provided in the ordinance or Supplemental Indenture authorizing their issuance, sale and delivery and (z) any projected withdrawal from or

deposits into the Water Rate Stabilization Account of such amounts as shall be estimated by the Chief Financial Officer in the current or any future Fiscal Year. In estimating Net Revenues Available for Bonds for the next succeeding Fiscal Year, the City shall engage the services of and be guided by a consultant of national reputation for advising municipalities with respect to setting rates and charges for water systems.

The City may issue Second Lien Parity Bonds without complying with the requirements stated above:

i) to pay, redeem or refund Outstanding Water Revenue Bonds if in the judgment of the City there will be insufficient money available to make payments of interest on or principal of those Outstanding Water Revenue Bonds (at maturity or on Sinking Fund Payments dates) as such amounts become due; or

ii) to pay, redeem or refund any Outstanding Water Revenue Bonds if (A) the sum of the Aggregate Senior Lien Debt Service, the Aggregate Second Lien Debt Service and the Aggregate Subordinate Lien Debt Service in each Fiscal Year in which there was to be any Aggregate Senior Lien Debt Service, Aggregate Second Lien Debt Service or Aggregate Subordinate Lien Debt Service on Outstanding Water Revenue Bonds after the issuance of the Second Lien Parity Bonds and the payment, redemption or refunding of such Outstanding Water Revenue Bonds will not be in excess of (B) the sum of the Aggregate Senior Lien Debt Service, Aggregate Second Lien Debt Service and Aggregate Subordinate Lien Debt Service prior to the issuance of the Second Lien Parity Bonds in each such Fiscal Year.

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For purposes of the above requirements, Net Revenues shall be substituted for Net Revenues Available for Bonds in each place the term Net Revenues Available for Bonds appears if in any Fiscal Year actual or estimated Net Revenues exceed Net Revenues Available for Bonds for that Fiscal Year.

Other obligations, including bonds, may be issued payable from Net Revenues Available for Bonds on a basis subordinate to the Second Lien Bonds.

#### **Covenant Against Pledge of Second Lien Bond Revenues**

The City has covenanted that it will not, other than in connection with the issuance of Second Lien Parity Bonds, issue any bonds, notes or other evidences of indebtedness secured by a pledge of Second Lien Bond Revenues or create or cause to be created any lien or charge on Net Revenues Available for Bonds, or on any other amounts pledged for the benefit of owners of the Second Lien Bonds under the Indenture; except that the City has the right to issue (i) Senior Lien Bonds, (ii) Subordinate Lien Obligations, (iii) bonds, notes or other evidences of indebtedness payable from or secured by a pledge of Net Revenues Available for Bonds to be derived on and after the discharge and satisfaction of the pledge related to all Second Lien Bonds and (iv) bonds, notes or other evidences of indebtedness payable from or secured by a pledge of amounts which may be withdrawn from the Second Lien Bonds Account held under the Ordinance so long as such pledge is expressly subordinate to the pledge securing the Second Lien Bonds.

#### **Other Covenants**

In addition to the covenants referred to above, the City covenants under the Indenture as follows:

a) The City will duly and punctually pay or cause to be paid the principal of, premium, if any, and interest on. all Second Lien Bonds, including, without limitation, Section 2.08 Obligations, in strict conformity with the terms of such Second Lien Bonds and of the Master Indenture, the Supplemental Indentures creating the Second Lien Bonds of each series and the instruments creating Section 2.08 Obligations or Section 2.09 Obligations, and that it will faithfully observe and perform all the conditions, covenants and requirements of the Indenture, each such Supplemental Indenture and instrument and of the Second Lien Bonds issued or incurred under such Supplemental Indenture.

b) The City will maintain the Water System in good repair and working order, will continuously operate it on a Fiscal Year basis, and will punctually perform all duties with respect to the Water System required by the Constitution and laws of the State.

c) So long as any Second Lien Bonds are Outstanding, the City will continue to operate the Water System as a revenue-producing system so as to produce Gross Revenues sufficient to satisfy the covenants of the indenture.

d) The City from time to time will make all necessary and proper repairs, replacements, additions and betterments to the Water System so that the Water System may at all times be operated efficiently, economically and properly. When any necessary equipment or facility shall have been worn out, destroyed or otherwise is insufficient for proper use, it shall be promptly replaced so that the value and efficiency of the Water System shall be at all times fully maintained.

e) The City will establish such rules and regulations for the control and operation of the Water System as are necessary for the safe, lawful, efficient and economical operation of the Water System.

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(0 The City will faithfully perform at all times to the extent applicable to the City any and all covenants, undertakings, stipulations and provisions contained in the Indenture, in any and every Second Lien Bond executed, authenticated and delivered under the Indenture, and in all proceedings pertaining to the Indenture.

(g) (i) The City will not direct or permit any action which (or fail to take any action the failure of which) would cause any Second Lien Bond to be an "arbitrage bond" within the meaning of the Code.

ii) The covenants and agreements of the City described in this paragraph (g) shall apply as long as any of the Second Lien Bonds continue to bear interest (whether or not they are Outstanding Water Revenue Bonds) and shall also apply after the Second Lien Bonds cease to bear interest but only within such subsequent period as shall be required for the City to comply with the covenants described in this paragraph (g).

iii) The City (A) will take all actions that are necessary to be taken (and avoid taking any action that it is necessary to avoid being taken) so that interest on tax-exempt Second Lien Bonds will not be or become subject to federal income taxation under present law, and (B) will take all actions reasonably within its power to take that are necessary to be taken (and avoid taking any actions that are reasonably within its power to avoid taking and that it is necessary to avoid) so that interest on tax-exempt Second Lien Bonds will not be or become includible in gross income for federal income tax purposes under the federal income tax laws as in effect from time to time.

iv) The City will, without limitation, (A) to the extent required by the Code, restrict the yield on investments of amounts received upon the sale of the Second Lien Bonds and other amounts, and (B) timely rebate to the United States of America certain amounts that may be received as interest or other investment earnings on accounts of the Water Fund, all as shall be necessary to comply with this paragraph (g). The City shall also make or cause to be made identifiable investments of amounts allocable to the Second Lien Bonds as shall be necessary or appropriate to be able to ascertain the amounts that may be required so to be rebated to the United States of America. The City shall from time to time determine the amounts in accounts of the Water Fund that shall be subject so to be rebated and those amounts from time to time shall be held by the City in the second lien rebate account established under the Indenture and shall be rebated to the United States of America in the amounts and at the times as required. Such amounts so subject from time to time so to be rebated shall not be available for the other purposes for which the Water Fund and its accounts and accounts and sub-accounts established by the Indenture may be applied, and, for purposes of computing the balance in the Water Fund and such various accounts shall be disregarded.

v) The City will not take any of the following actions without in each such event obtaining the Opinion of Bond Counsel (which may represent the City from time to time in other matters) that such action will not contravene any covenant of the Indenture and will not make compliance with those covenants impossible: (A) defease any Second Lien Bonds; (B) sell, lease or otherwise dispose of any material portion of the Water System; (C) enter into or amend any short-term or long-term contract for water service by the City other than pursuant to general rates charged to the general public; or (D) enter into or amend any contract or arrangement for persons other than its employees to manage the Water System.

vi) The provisions described in this paragraph (g) are not to be interpreted to impose upon the City any obligation to redeem or to purchase any Second Lien Bonds other than with proceeds or other amounts available under the Indenture.

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### Defaults and Remedies

Each of the following events constitutes an event of default under the Indenture:

- (a) payment of the principal or Redemption Price, if any, of any Second Lien Bond shall not be made when and as the same shall become due, whether at maturity or upon call for redemption or otherwise; or
- (b) payment of any installment of interest on any Second Lien Bond shall not be made when the same shall become due; or
- (c) the City shall fail or refuse to comply with the provisions of the Indenture, or shall default in the performance or observance of any of the covenants, agreements or conditions on its part contained therein or in the Second Lien Bonds, which materially affects the rights of the owners of the Second Lien Bonds, and such failure, refusal or default shall continue for a period of 45 days after written notice thereof by the Trustee or the owners of not less than 25 percent in principal amount of the Outstanding Second Lien Bonds; provided, however, that in the case of any such default which can be cured by due diligence but which cannot be cured within the 45-day period, the time to cure shall be extended for such period as may be necessary to remedy the default with all due diligence; or
- (d) an event of default shall occur and be continuing under the provisions of any Supplemental Indenture.

Upon the happening and continuance of any event of default specified in paragraph (a) or (b) above, the Trustee shall proceed, or upon the happening and continuance of any event of default specified in paragraph (c) or (d) above (and as specified in any Supplemental Indenture with respect to additional events of default described under such Supplemental Indenture), the Trustee may unless otherwise directed pursuant to the Indenture, proceed, and upon the written direction of the owners of not less than a

majority in principal amount of the Outstanding Second Lien Bonds given in accordance with the Indenture, shall proceed in its own name to protect and enforce its rights and the rights of the owners of the Second Lien Bonds by such of the following remedies or any additional remedies specified in one or more Supplemental Indentures with respect to a particular series as the Trustee, being advised by counsel, shall deem most effectual to protect and enforce such rights:

a) by mandamus or other suit, action or proceeding at law or in equity, to enforce all rights of the owners of the Second Lien Bonds, including the right to require the City to receive and collect Gross Revenues adequate to carry out the covenants and agreements as to such Gross Revenues and their pledge under the Indenture and to require the City to carry out any other covenant or agreement with the owners of the Second Lien Bonds and to perform its duties under the Indenture;

b) by bringing suit upon the Second Lien Bonds;

c) by action or suit in equity, require the City to account as if it were the trustee of an express trust for the owners of the Second Lien Bonds; or

d) by action or suit in equity, enjoin any acts or things which may be unlawful or in violation of the rights of the owners of the Second Lien Bonds.

In the enforcement of any rights and remedies under the Indenture, the Trustee shall be entitled to sue for, enforce payment on and receive any and all amounts then or during any default becoming, and at any time remaining, due from the City but only out of moneys pledged as security for the Second Lien Bonds for principal, Redemption Price, interest or otherwise, under any provision of the Indenture or any

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Supplemental Indenture or of the Second Lien Bonds, and unpaid, with interest on overdue payments at the rate or rates of interest specified in such Second Lien Bonds, together with any and all costs and expenses of collection and of all proceedings under the Indenture of the owners of the Second Lien Bonds, and to recover and enforce a judgment or decree against the City for any portion of such amounts remaining unpaid, with interest, costs and expenses, and to collect from any moneys available under the Indenture for such purpose, in any manner provided by law the moneys adjudged to be payable.

Under no circumstance may the Trustee declare the principal of or interest on the Bonds to be due and payable prior to the Maturity Date following the occurrence of an Event of Default under the Master Indenture or the Eleventh Supplemental Indenture.

In the event that upon the happening and continuance of any event of default, the moneys held by the Trustee shall be insufficient for the payment of principal or Redemption Price, if any, and interest then due on the Second Lien Bonds, such moneys (other than moneys held for the payment or redemption of particular Second Lien Bonds which have theretofore become due at maturity or by call for redemption) and any other moneys received or collected by the Trustee acting under the Master Indenture, after making provision for the payment of any expenses necessary in the opinion of the Trustee to protect the interests of the owners of the Second Lien Bonds and for the payment of the charges and expenses and liabilities incurred and advances made by the Trustee in the performance of its duties under the Master Indenture, shall, except as otherwise provided with respect to moneys held for the exclusive benefit of Second Lien Bonds of a particular series or particular Section 2.08 Obligations or Section 2.09 Obligations under the provisions of a Supplemental Indenture be applied as follows:

First: to the payment to the persons entitled to the following payment, of all installments of interest then due in the order of the maturity of such installments, and, if the amount available shall not be sufficient to pay in full any installment, then to the payment of such installment ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference; and

SECOND: to the payment to the persons entitled to the following payment, of the unpaid principal or Redemption Price of any Second Lien Bonds which shall have become due, whether at maturity or by call for redemption, in the order of their due dates with interest on such Second Lien Bonds from the respective dates upon which such principal or Redemption Price became due at the rate borne by the Second Lien Bonds and, if the amounts available shall not be sufficient to pay in full all the Second Lien Bonds due on any date, then to the payment of the Second Lien Bonds ratably, according to the amounts of principal or Redemption Price, if any, due on such date, to the persons entitled thereto, without any discrimination or preference.

Whenever moneys are to be applied by the Trustee pursuant to the provisions described above, such moneys shall be applied by the Trustee at such times, and from time to time, as the Trustee in its sole discretion shall determine, having due regard to the amount of such moneys available for application and the likelihood of additional moneys becoming available for such application in the future. The deposit of such moneys with the Trustee, or otherwise setting aside such moneys in trust for the proper purpose, shall constitute proper application by the Trustee and the Trustee shall incur no liability whatsoever to the City, to the owner of any Second Lien Bond or to any other person for any delay in applying



any such moneys, so long as the Trustee acts with reasonable diligence, having due regard for the circumstances, and ultimately applies the same in accordance with such provisions of the Master Indenture as may be applicable at the time of application by the Trustee. Whenever the Trustee shall exercise such discretion in applying such moneys, it shall fix the date (which shall be a Payment Date unless the Trustee shall deem another date more suitable) upon which such application is to be made and upon such date interest on the amounts of principal to be paid on such date shall cease to accrue. The Trustee shall give such notice as it may deem appropriate of the fixing of any such date. The Trustee shall not be required to

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make payment to the owner of any unpaid Second Lien Bond unless such Second Lien Bond shall be presented to the Trustee for appropriate endorsement or for cancellation if fully paid.

In case any proceedings taken by the Trustee on account of any event of default shall have been discontinued or abandoned for any reason, then in every such case the City, the Trustee and the owners of the Second Lien Bonds shall be restored to their former positions and rights under the Master Indenture, respectively, and all rights, remedies, powers and duties of the Trustee shall continue as though no such proceeding had been taken.

Except as otherwise described herein, the owners of the majority in principal amount of the Second Lien Bonds then Outstanding shall have the right, by an instrument or concurrent instruments in writing executed and delivered to the Trustee, to direct the method of conducting all remedial proceedings to be taken by the Trustee under the Master Indenture, except that such direction shall not be otherwise than in accordance with law or the provisions of the Master Indenture, and the Trustee shall have the right to decline to follow any such direction which in the opinion of the Trustee would be unjustly prejudicial to owners of the Second Lien Bonds not parties to such direction.

No owner of any Second Lien Bond shall have any right to institute any suit, action, mandamus or other proceeding in equity or at law under the Master Indenture, or for the protection or enforcement of any right or remedy under the Master Indenture or any right under law unless such owner shall have given to the Trustee written notice of the event of default or breach of duty on account of which such suit, action or proceeding is to be taken, and unless the owners of not less than 25 percent in principal amount of the Second Lien Bonds then Outstanding shall have made written request of the Trustee after the right to exercise such powers or right of action, as the case may be, shall have occurred, and shall have afforded the Trustee^ reasonable opportunity either to proceed to exercise the powers granted in the Master Indenture or granted under law to institute such action, suit or proceeding in its name and unless, also, there shall have been offered to the Trustee reasonable security and indemnity against the costs, expenses and liabilities to be incurred therein or thereby, and the Trustee shall have refused or neglected to comply with such request within a reasonable time; and such notification, request and offer of indemnity are declared in every such case (except with respect to the enforcement of credit enhancement devices securing Second Lien Bonds), at the option of the Trustee, to be conditions precedent to the execution of the powers under the Master Indenture or for any other remedy under the Master Indenture or under law.

AGM shall be deemed to be the sole holder of the Insured Bonds for the purpose of exercising any voting right or privilege or giving any consent or direction or taking any other action that the holders of the Insured Bonds are entitled to take pursuant to the Master Indenture pertaining to (i) defaults and remedies and (ii) the duties and obligations of the Trustee (with respect to the Insured Bonds). In furtherance thereof and as a term of the Tenth Supplemental Indenture and each Bond, each Insured Bondholder appoints AGM as its agent and attorney-in-fact and agrees that AGM may at any time during the continuation of any proceeding by or against the City under the United States Bankruptcy Code or any other applicable bankruptcy, insolvency, receivership, rehabilitation or similar law (an "insolvency Proceeding") direct all matters relating to such Insolvency Proceeding, including without limitation, (A) all matters relating to any claim or enforcement proceeding in connection with an Insolvency Proceeding (a "Claim"), (B) the direction of any appeal of any order relating to any Claim, (C) the posting of any surety, supersedeas or performance bond pending any such appeal, and (D) the right to vote to accept or reject any plan of adjustment. In addition, each Insured Bondholder delegates and assigns to AGM, to the fullest extent permitted by law, the rights of each Insured Bondholder in the conduct of any Insolvency Proceeding, including, without limitation, all rights of any party to an adversary proceeding or action with respect to any court order issued in connection with any such Insolvency Proceeding. The Trustee acknowledges such appointment, delegation and assignment by each Insured Bondholder for AGM's benefit, and agrees to cooperate with AGM in taking any action reasonably necessary or appropriate in

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connection with such appointment, delegation and assignment. Remedies granted to the Insured Bondholders shall expressly include mandamus, but these provisions shall not create any remedy not otherwise expressly granted by the Master Indenture.

#### **Supplemental Indentures without Consent of Owners**

A Supplemental Indenture may be authorized at any time by an ordinance of the City Council and shall be fully effective upon the execution thereof by the City and the Trustee and the filing with the Trustee of a copy of such ordinance certified by the City Clerk, for the following purposes:

a) to close the Master Indenture against, or provide limitations and restrictions in addition to the limitations and restrictions contained in the Master Indenture on, the issuance of Second Lien Bonds or other evidences of indebtedness;

b) to add to the covenants and agreements of the City in the Master Indenture other covenants and agreements to be observed by the City which are not contrary to or inconsistent with the Master Indenture as theretofore in effect;

c) to add to the limitations and restrictions in the Master Indenture other limitations and restrictions to be observed by the City which are not contrary to or inconsistent with the Master Indenture as theretofore in effect;

d) to surrender any right, power or privilege reserved to or conferred upon the City by the terms of the Master Indenture, but only if the surrender of such right, power or privilege is not contrary to or inconsistent with the covenants and agreements of the City contained in the Master Indenture;

e) to create a series of Second Lien Bonds and, in connection with such creation, to specify and determine the matters and things referred to in the Master Indenture and also any other matters and things relative to such Second Lien Bonds which are not contrary to or inconsistent with the Master Indenture as theretofore in effect, or to amend, modify or rescind any such authorization, specification or determination at any time prior to the first issuance of such Second Lien Bonds;

(f) to confirm, as further assurance, the pledge under the Master Indenture, and the subjection of, additional properties, Second Lien Bond Revenues or other collateral to any lien, claim or pledge created or to be created by, the Master Indenture; and

(g) to modify any of the provisions of the Master Indenture in any respect whatever, provided that such modification shall be, and be expressed to be, effective only after all Second Lien Bonds Outstanding at the date of the execution and delivery of such Supplemental Indenture shall cease to be Outstanding.

A Supplemental Indenture may be authorized at any time by an ordinance adopted by the City Council which, upon (i) filing with the Trustee of a copy of such ordinance certified by the City Clerk, (ii) the filing with the Trustee and the City of an instrument in writing made by the Trustee consenting thereto, and (iii) execution and delivery of such Supplemental Indenture, shall be fully effective to: (1) to cure any ambiguity, supply any omission, or cure or correct any defect or inconsistent provision in the Master Indenture; (2) to insert such provisions clarifying matters or questions arising under the Master Indenture as are necessary or desirable and are not contrary to or inconsistent with the Master Indenture; or (3) to provide additional duties of the Trustee under the Master Indenture as in effect.

Additionally, the Eleventh Supplemental Indenture may, without the consent of, or notice to, any of the Bondholders, be supplemented and amended, in such manner as shall not be inconsistent with the

terms and provisions of the Eleventh Supplemental Indenture, the Master Indenture or the Ordinance, for any one or more of the following purposes:

- a) to provide for certificated Bonds; and
- b) to secure or maintain ratings from any Rating Agency in the highest long-term debt rating category of such Rating Agency which are available for the Bonds, which changes will not restrict, limit or reduce the obligation of the City to pay the principal of, premium, if any, and interest on such Bonds as provided in the Indenture or otherwise adversely affect the Registered Owners of such Bonds under the Indenture.

#### **Supplemental Indenture with Consent of Owners**

Any modification or amendment of the Indenture or of any Supplemental Indenture or of the rights and obligations of the City and of the owners of the Second Lien Bonds, other than as described in the immediately preceding caption, may be made by a supplemental indenture authorized at any time by an ordinance of the City Council, with the written consent given as provided in the Indenture:

- a) of the registered owners of a majority in principal amount of the Second Lien Bonds Outstanding at the time such consent is given;
- b) in case less than all of the several series of then Outstanding Second Lien Bonds are affected by the modification or amendment, of the owners of a majority in principal amount of the then Outstanding Second Lien Bonds of each series so affected;
- c) in case any Section 2.08 Obligations are affected by the modification or amendment, of the party to whom Section 2.08 Obligations so affected are payable; and
- d) in case any swap provider is affected by the modification or amendment, of the swap provider so affected.

No such modification or amendment shall permit a change in the terms of redemption or maturity of the principal of any Outstanding Second Lien Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or a reduction in the rate of interest thereon, or in terms of purchase or the purchase price thereof, without the consent of the owner of such Second Lien Bond, or shall reduce the percentages or otherwise affect the classes of Second Lien Bonds the consent of the owners of which is required to effect any such modification or amendment, or shall change or modify any of the rights or obligations of the Trustee or any Paying Agent with respect to the Second Lien Bonds without its written assent thereto.

#### **Defeasance**

If the City shall pay or cause to be paid to the owners of all Second Lien Bonds, the principal and interest and Redemption Price, if any, to become due thereon, at the times and in the manner stipulated therein, in the Master Indenture, the Supplemental Indentures creating such Second Lien Bonds and in the instruments creating Section 2.08 Obligations and Section 2.09 Obligations, then the pledge of Second Lien Bond Revenues provided by the Master Indenture and all other rights granted thereby shall be discharged and satisfied.

Any Second Lien Bonds or interest installments appertaining to such Second Lien Bonds, whether at or prior to the maturity or the prior redemption date thereof shall be deemed to have been paid within the meaning of the preceding paragraph if:

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- a) in case any of said Second Lien Bonds are to be redeemed on any date prior to their maturity, the City shall have taken all action necessary to call such Second Lien Bonds for redemption and notice of such redemption shall have been duly given or provision satisfactory to the Trustee shall have been made for the giving of such notice;

b) there shall have been deposited with the Trustee for such purpose either moneys which are sufficient or Governmental Obligations (consisting of obligations described in clause (a) of the definition of Permitted Investments) maturing and bearing interest at times and in amounts sufficient (without reinvestment of such Governmental Obligations), together with the moneys on deposit with the Trustee for such purpose, to pay when due the principal or Redemption Price, if any, and interest due and to become due on said Second Lien Bonds on and prior to the redemption date or maturity date of such Second Lien Bonds, as the case may be; and

c) in the event said Second Lien Bonds are not by their terms subject to redemption within the next succeeding 45 days, the City shall have given the Trustee, in form satisfactory to it, irrevocable instructions to mail, as soon as practicable, a notice to the owners of such Second Lien Bonds that the deposit required by clause (b) above has been made with the Trustee and that said Second Lien Bonds are deemed to have been paid as described under this caption "- Defeasance" and stating such maturity or redemption date upon which moneys are to be available for the payment of the principal or Redemption Price, if any, of, and accrued interest on, said Second Lien Bonds.

No defeasance of a Second Lien Bond that is to be paid more than 90 days after the date of the deposit referred to in clause (b) above shall be effective until the Trustee shall have received a verification report signed by an independent certified public accountant that the Governmental Obligations (described in clause (a) of the definition of Permitted Investments) and moneys to be deposited for such purpose are sufficient to pay the principal and Redemption Price of, and interest on, all Second Lien Bonds with respect to which provision for payment is to be made pursuant to the process described under this caption "Defeasance" by virtue of the deposit of such Governmental Obligations and moneys.

The City has reserved the right to substitute in place of Governmental Obligations and moneys, other Governmental Obligations and moneys sufficient to pay when due the principal and interest or Redemption Price, if any, to become due on all Second Lien Bonds secured by such obligations; provided that prior to such substitution the City files with the Trustee: (i) a verification report signed by an independent certified public accountant stating that the substitute Governmental Obligations and moneys, as substituted, are sufficient to pay the principal and Redemption Price of, and interest on, all Second Lien Bonds for which provision of payment was made by the deposit of the initial Governmental Obligations and moneys, and (ii) an opinion of nationally recognized bond counsel to the effect that such substitution has been duly authorized in accordance with the Indenture and will not adversely affect the tax-exempt status of any Second Lien Bonds previously authenticated and delivered under the Indenture.

#### **Payment Provisions in the Event of Discontinuation of the Book-Entry System**

In the event the Book-Entry System described in this Official Statement under the caption "DESCRIPTION OF THE BONDS - Book-Entry System" is discontinued and certificates representing replacement Bonds are delivered to the Registered Owners, payment of principal of and interest on the Bonds will be made to the Registered Owners by check mailed to each Registered Owner at the address of such Registered Owner as it appears on the Bond Register or, at the option of any Registered Owner of not less than \$ 1,000,000 principal amount of Bonds, by wire transfer to any address in the United States of America on such Interest Payment Date to such Registered Owner as of such Record Date, if such Registered Owner provides the Trustee with written notice of such wire transfer address not later than the Record Date (which notice may provide that it will remain in effect with respect to subsequent Interest Payment Dates unless and until changed or revoked by subsequent notice). Principal and premium, if

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any, on the replacement Bonds are payable only upon presentation and surrender of such replacement Bond or Bonds at the principal corporate trust office of the Trustee.

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**APPENDIX C**

**CITY OF CHICAGO, ILLINOIS WATER FUND BASIC FINANCIAL STATEMENTS AS OF AND  
FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015, REQUIRED SUPPLEMENTARY  
INFORMATION, ADDITIONAL INFORMATION, AND INDEPENDENT AUDITORS' REPORT**

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# City of Chicago, Illinois Water Fund

Basic Financial Statements as of and for the Years Ended December 31, 2016 and 2015, Required Supplementary Information, Additional Supplementary Information, Statistical Data, and Independent Auditors' Report

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## 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, 2016 and 2015, 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.

### Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the basic 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, 2016 and 2015, 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, 2016 and 2015, 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, Schedule of Changes in the Net Pension Liability and Related Ratios, Schedule of Contributions, and 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 and other auditors 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 additional supplementary information and statistical section are presented for purposes of additional analysis and are not a required part of the basic financial statements.



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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 and other auditors. In our opinion, the procedures performed as described above, and the reports of the other auditors, the additional supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

June 30, 2017

The statistical section has 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 it.

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## CITY OF CHICAGO, ILLINOIS WATER FUND MANAGEMENT'S

### DISCUSSION AND ANALYSIS

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, 2016 and 2015. 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

#### 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 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.

#### 2015

- Gross operating revenues for 2015 increased by \$77.8 million compared to 2014 operating revenues. This increase is primarily due to a water rate increase of 15% offset by a decrease in consumption and the conversion in 2015 of 23,820 accounts from non-metered to metered.
- Operating expenses before depreciation and amortization for 2015 increased by \$439.1 million compared to 2014 mainly due to increases in pension costs resulting from the implementation of GASB 68, indirect costs, workmen's compensation costs, and salaries offset by decreases in overtime pay, utility costs and tort/non-tort judgment settlement payments.
- The Water Fund's net position at December 31, 2015, was \$951.5 million. This is a decrease of \$731.7 million over net position at December 31, 2014.
- Utility plant additions in 2015 were \$414.2 million due to the continuing capital improvement program.

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### 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.

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## FINANCIAL ANALYSIS

At December 31, 2016, the Water Fund's financial position continued to be strong with total assets and deferred outflows of \$5,556.3 million, total liabilities and deferred inflows of \$4,660.6 million, and net position of \$895.7 million. A comparative condensed summary of the Water Fund's net position at December 31, 2016, 2015, and 2014, is as follows:

| (In thousands) | 2016 | Net Position<br>20152014 |
|----------------|------|--------------------------|
|----------------|------|--------------------------|

|                                          |                     |                    |                    |
|------------------------------------------|---------------------|--------------------|--------------------|
| Current assets                           | \$ 907,109          | \$ 806,467         | \$ 542,748         |
| Restricted and other assets - Noncurrent | 44,323              | 145,667            | 390,988            |
| Utility plant-net                        | <u>4,131,632</u>    | <u>3,822,825</u>   | <u>3,482,199</u>   |
| Total assets                             | <u>5,083,064</u>    | <u>4,774,959</u>   | <u>4,415,935</u>   |
| Deferred outflows                        | <u>473,223</u>      | <u>751,081</u>     | <u>129,229</u>     |
| Total assets and deferred outflows       | <u>\$ 5,556,287</u> | <u>\$5,526,040</u> | <u>\$4,545,164</u> |
| Current liabilities                      | \$ 390,995          | \$ 383,371         | \$ 305,342         |
| Long-term liabilities                    | <u>4,194,609</u>    | <u>4,180,106</u>   | <u>2,556,616</u>   |
| Total liabilities                        | <u>4,585,604</u>    | <u>4,563,477</u>   | <u>2,861,958</u>   |
| Deferred inflows                         | 74,957              | 11,050             |                    |
| Total liabilities and deferred inflows   | \$ 4,660,561        | \$4,574,527        | \$2,861,958        |
| Net position:                            |                     |                    |                    |
| Net investment in capital assets         | \$ 1,621,976        | \$1,514,009        | \$1,393,968        |
| Restricted for capital projects          | 411                 | 677                | 599                |
| Unrestricted                             | <u>(726,661)</u>    | <u>(563,173)</u>   | <u>288,639</u>     |
| Total net position                       | <u>\$ 895,726</u>   | <u>\$ 951,513</u>  | <u>\$1,683,206</u> |

## 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.

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## 2015

Current assets of \$806.5 million at December 31, 2015, increased by \$263.7 million (48.6%) over 2014 as a result of increases in cash and cash equivalents of \$286.3, investments of \$21.7 million offset by a decrease in due from other City funds of \$57.6 million. Restricted and other assets decreased by \$245.3 million (62.7%) due to the issuance of long-term debt in 2014. In addition, utility plant-net, increased by \$340.6 million (9.8%) due to increased projects performed through the year ended December 31, 2015. The increase in deferred outflows of \$621.9 million (481.2%) during 2015 is mainly due to the implementation of GASB 68.

The increase in current liabilities of \$78.0 million (25.6%) during 2015 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 \$1,623.5 million (63.5%) mainly due to net pension liability of \$1,646.4 resulting from the implementation of GASB 68 offset by a decrease in long term debt payable of \$16.7 million.

Net position may serve as a useful indicator, over a period of time, of the Water Fund's basic financial position. At December 31, 2015, net position was \$951.5 million, a decrease of \$731.7 million (43.5%) over 2014.

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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, 2016, 2015, and 2014, is as follows:

(In thousands)

Revenues: Operating revenues: Water sales-net Other operating revenues

2016

2015

**Revenues, Expenses, and Changes in Net Position**

|         |        |
|---------|--------|
| 750,163 | 19,245 |
| 670,559 | 22,075 |

Total revenues

691,662

(128,236)

951,513 1,079,749 1,446,977

\$895,726 \$ 951,513 \$1,683,206

## 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.

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## 2015

Water sales and other operating revenues comprise the Water Fund's \$769.4 million operating revenues. The increase in 2015 operating revenues of \$76.8 million (11.1%) from 2014 was primarily due to a 15% water rate increase offset by the conversion of 23,820 non-metered accounts to metered.

In 2015, net nonoperating revenue of \$3.3 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, 2016, 2015, and 2014, is as follows:

## 2015

### Operating Expenses

#### 2014

Source of supply Power and pumping Purification

Transmission and distribution Customer accounting and collection Administrative and general Central services and General Fund

reimbursements Pension Expense

; 107 39,624 57,514 39,155 15,318 20,279

126,421 239,962

f 198 41,343 57,112 37,266 14,734 22,072

129,060 436,025

; 283 43,087 58,504 43,681 11,888 22,045

119,234

Operating expenses before depreciation and amortization

Depreciation and amortization

538,380 67,984

737,810 56,444

298,722 57,949

\$606,364 \$794,254 \$356,671

**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.

**2015**

Operating expenses before depreciation and amortization for the year ended 2015 increased by \$439.1 million (147.0%) from the year ended 2014 primarily due to an increase in pension expense of \$436.0 million resulting from the implementation of GASB 68. This was offset by a decrease in transmission and distribution of about \$6.4 million (14.7%) resulting from decreases in overtime pay and tort/non tort judgment settlement payments.

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A comparative summary of the Water Fund's cash flows for the years ended December 31, 2016, 2015, and 2014, is as follows:

**2016                      2015    2014**

**Cash Flows****(In thousands of dollars)**

|            |            |            |
|------------|------------|------------|
| \$ 437,776 | \$ 524,932 | \$ 325,346 |
| (440,790)  | (465,219)  | (27,902)   |
| (103,382)  | 226,625    | (297,828)  |

Cash from activities: Operating

Capital and related financing Investing

Net change in cash and cash equivalents

Cash and cash equivalents: Beginning of year

End of year

(106,396) 286,338 (384)

322,485 36,147 36,531

|            |            |           |
|------------|------------|-----------|
| \$ 216,089 | \$ 322,485 | \$ 36,147 |
|------------|------------|-----------|

**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.

## 2015

As of December 31, 2015, the Water Fund's cash and cash equivalents of \$322.5 million increased from December 31, 2014, by \$286.3 million mainly due to the cash provided of \$524.9 million from operating activities, and cash inflow of \$226.6 offset by cash outflow of \$465.2 mainly used in acquisition and construction of capital assets of \$358.1 million. Total cash and cash equivalents at December 31, 2015, are composed of unrestricted and restricted cash and cash equivalents of \$296.1 million and \$26.4 million, respectively.

## UTILITY PLANT AND DEBT ADMINISTRATION

## 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).

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## 2015

At the end of 2015 and 2014, the Water Fund had \$3,822.8 million and \$3,482.2 million, respectively, invested in utility plant, net of accumulated depreciation. During 2015, the Water Fund expended \$414.2 million on capital activities. This included \$1.8 million for land and land rights, \$3.0 million for structures and improvements, \$243.1 million for distribution plant, \$6.0 million for equipment, and \$160.3 million for construction in progress.

During 2015, net completed projects totaling \$366.3 million were transferred from construction in progress to applicable capital accounts. The major completed projects relate to installation and replacements of water mains (\$284.5 million), and meter save program (\$74.5 million).

The Water Fund's utility plant at December 31, 2016, 2015, and 2014, is summarized as follows:

| (In thousands)                             | <u>Net Utility Plant at Year-End</u> |                |                |
|--------------------------------------------|--------------------------------------|----------------|----------------|
|                                            | 2016                                 | 2015           | 2014           |
| Utility plant not depreciated:             |                                      |                |                |
| Land and land rights                       | \$ 6,858                             | \$ 6,858       | \$ 5,083       |
| <u>Construction in progress</u>            | <u>366,506</u>                       | <u>242,155</u> | <u>457,645</u> |
| <u>Total utility plant not depreciated</u> | <u>373,364</u>                       | <u>249,013</u> | <u>462,728</u> |
| Utility plant being depreciated:           |                                      |                |                |
| Structures and improvements                | 588,740                              | 586,046        | 579,534        |
| Distribution plant                         | 3,586,644                            | 3,348,185      | 2,755,650      |

|                                           |              |              |              |
|-------------------------------------------|--------------|--------------|--------------|
| Equipment                                 | 665,174      | 659,971      | 651,121      |
| Total utility plant being depreciated     | 4,840,558    | 4,594,202    | 3,986,305    |
| Less accumulated depreciation:            |              |              |              |
| Structures and improvements               | (221,605)    | (213,318)    | (205,279)    |
| Distribution plant                        | (483,112)    | (447,587)    | (420,433)    |
| Equipment                                 | (377,573)    | (359,485)    | (341,122)    |
| Total accumulated depreciation            | (1,082,290)  | (1,020,390)  | (966,834)    |
| Total utility plant being depreciated-net | 3,758,268    | 3,573,812    | 3,019,471    |
| Total utility plant-net                   | \$ 4,131,632 | \$ 3,822,825 | \$ 3,482,199 |

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.

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The Water Fund's long-term liabilities at December 31, 2016, 2015, and 2014, are summarized as follows:

**Long-Term Liabilities at Year-End**

(In thousands)

Revenue bonds and notes payable Add:

Accretion of capital appreciation bonds Bond discount/premium  
2016

\$2,468,397

26,345 161,189

2015

\$2,391,395

33,254 91,344

2014

\$2,381,771

39,093 97,175

Total revenue bonds/notes payable-net

Less current portion of accretion Less current bonds/notes payable

2,655,931

(10,252) (79,305)

2,515,993

(9,953) (65,758)

2,518,039

(9,571) (51,535)

Total long-term revenue bonds/ notes payable-net

Derivative instrument liability Long-term purchase obligations Water pipe extension certificates

2,440,282 91,806 1,577

\$2,567,951 \$2,533,665 \$2,556,616

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, 2016, have underlying credit ratings with each of the three major rating agencies as follows:

Senior Lien Water Revenue Bonds Second Lien Water Revenue Bonds

A+ A

**Standard & Moody's Poor's**

Baa1 Baa2

**Fitch Ratings**

AA+

AA

**Kroll**

NR AA

In April, 2016 S & P upgraded the ratings of the Water Fund senior lien revenue bonds from A to A+, and the Water Fund second lien revenue bonds from A- to A, each with a stable outlook.

Swaps-In May, 2016, the Water Fund terminated the swaps relating to its (1) Second Lien Water Revenue Bonds, Series 2000 for a termination payment of \$32.3 million and (2) Second Lien Water Revenue Refunding Bonds Series 2004 for

total termination payments of \$69.5 million.

Commercial Paper and Lines of Credit-In May, 2016, the Water Fund drew \$91.5 million under the water line of credit to fund the swap termination payments prior to the issuance of

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Second Lien Water Revenue Bonds, Series 2016A-1 (Tax Exempt) and Series 2016A-2 (Taxable). Proceeds from the bonds were used to repay the water line of credit in full. In July, 2016, the Water Fund terminated the line of credit.

At December 31, 2016, 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.

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## CITY OF CHICAGO, ILLINOIS WATER FUND

### STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015 (In thousands)

#### 2016

OPERATING REVENUES: Water sales: Water sales  
Less: provision for doubtful accounts

Water sales-net Other operating revenues

Total operating revenues

OPERATING EXPENSES: Source of supply Power and pumping Purification  
Transmission and distribution Customer accounting and collection Administrative and general  
Central services and General Fund reimbursements Pension expense (Note 6)

Total operating expenses before depreciation and amortization

OPERATING INCOME BEFORE DEPRECIATION AND AMORTIZATION

DEPRECIATION AND AMORTIZATION

OPERATING INCOME (LOSS)

NONOPERATING REVENUES (EXPENSES): Interest income Interest expense Swap termination fee Other

Total nonoperating expenses-net TRANSFERS OUT CHANGE IN NET POSITION TOTAL NET POSITION-Beginning of year

TOTAL NET POSITION-End of year  
773,756 (23,593)

750,163

CITY OF CHICAGO, ILLINOIS WATER FUND

## 2015

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Net cash provided by operating activities

\$ 764,497 (115,919) (84,493) (126,309)

437,776

\$ 752,908 (29,944) (76,860) (121,172)

524,932

CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES: Acquisition and construction of capital assets Interest paid  
Proceeds from issuance of bonds and IEPA loans Principal paid on bonds Payments of bonds issuance costs Swap  
termination fee Construction reimbursements

Net cash used in capital and related financing activities

(384,783) (100,722) 219,254 (70,281) (3,112) (101,751) 605

(440,790)

(358,083) (132,908) 78,364 (52,435) (348)

191 (465,219)

CASH FLOWS FROM INVESTING ACTIVITIES: Sales and purchases of investments-net Investment interest

Net cash (used in) provided by investing activities

NET CHANGE IN CASH AND CASH EQUIVALENTS

CASH AND CASH EQUIVALENTS-Beginning of year

CASH AND CASH EQUIVALENTS-End of year

RECONCILIATION OF CASH AND CASH EQUIVALENTS REPORTED IN THE STATEMENTS OF NET POSITION: Unrestricted  
Restricted

TOTAL  
223,420 3,205

226,625

286,338 36,147

(107,225) 3,843

(103,382)

(106,396) 322,485

\$ 296,084 26,401

\$ 216,089 \$ 322,485

\$ 141,931 74,158

\$ 216,089 \$ 322,485

(Continued)

## CITY OF CHICAGO, ILLINOIS WATER FUND

## STATEMENTS OF CASH FLOWS

FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

(In thousands)

|                                                                                  | 2016             | 2015             |
|----------------------------------------------------------------------------------|------------------|------------------|
| RECONCILIATION OF OPERATING INCOME TO NET CASH PROVIDED BY OPERATING ACTIVITIES: |                  |                  |
| Operating income (loss)                                                          | \$155,047        | \$(24,846)       |
| Adjustments to reconcile:                                                        |                  |                  |
| Depreciation and amortization                                                    | 67,984           | 56,444           |
| Pension expense other than contribution                                          | 227,639          | 423,345          |
| Provision for doubtful accounts                                                  | 24,757           | 23,593           |
| Changes in assets and liabilities:                                               |                  |                  |
| (Increase) decrease in accounts receivable                                       | (19,973)         | (37,538)         |
| Decrease (increase) in inventories                                               | (1,545)          | 501              |
| (Increase) decrease in due from other City funds                                 | (2,234)          | 56,927           |
| Increase (decrease) in unrestricted accounts payable                             | (3,023)          | (2,508)          |
| Increase (decrease) in due to other City funds                                   | (12,955)         | 1,907            |
| Increase (decrease) in accrued liabilities                                       | 3,777            | 29,662           |
| <u>Increase (decrease) in unearned revenue</u>                                   | <u>(1,698)</u>   | <u>(2,555)</u>   |
| <u>NET CASH PROVIDED BY OPERATING ACTIVITIES</u>                                 | <u>\$437,776</u> | <u>\$524,932</u> |

SUPPLEMENTAL DISCLOSURE OF NONCASH ITEMS-Property additions in 2016 and 2015 of \$69,532 and \$85,942, respectively, have outstanding accounts payable.

The accretion adjustments of Series 1997 and Series 2000 capital appreciation bonds for the year ended December 31, 2016 was \$3,004 respectively.

See notes to basic financial statements. (Concluded)

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## CITY OF CHICAGO, ILLINOIS WATER FUND

### NOTES TO BASIC FINANCIAL STATEMENTS

#### AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

#### 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.

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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 Allowance-Management has provided an allowance for amounts recorded at year-end, which 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.

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Deferred Outflows-Deferred outflows represent unamortized loss on bond refundings, the fair value of derivative instruments that are deemed to be effective hedges, 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.

**Derivatives-**The Water Fund enters into interest rate swap agreements to hedge interest rates and cash flows on outstanding variable interest rate debt. For existing swaps, the net interest expenditures resulting from these arrangements are recorded as interest expense. The fair value of derivative instruments that are deemed to be effective is accounted for as deferred outflows. Derivative instruments that are deemed not effective are adjusted to fair value with the change in fair value recorded to investment earnings. All interest rate swaps are approved by City Council.

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**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 2016 and 2015 totaled \$6.9 million and \$13.4 million, respectively.

**Revenue Recognition-**Revenue from water sales is recognized when the water is consumed by customers. Of the accounts receivable balances, \$78.3 million and \$79.1 million represent revenue recognized on water sales, which had not yet been billed to customers at December 31, 2016 and 2015, 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, 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. 72| Fair Value Measurement and Application ("GASB 72"), addressed accounting and financial reporting issues related to fair value measurements. The Water Fund adopted GASB 72 for the year ended December 31, 2016. This Statement provides guidance for determining a fair value measurement

for financial reporting purposes and the related disclosures. This Statement required a government to use valuation techniques that are appropriate under the circumstances and for which sufficient data are available to measure fair value. This Statement established a hierarchy of inputs to valuation techniques used to measure fair value. This Statement also required disclosures to be made about fair value measurements, the level of fair value hierarchy, and valuation techniques (see Note 2).

GASB Statement No. 76, The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments ("GASB 76"), supersedes Statement No. 55, The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments. The Water Fund adopted GASB 76 for the year ended December 31, 2016 and there was no impact on the Water Fund's financial statements.

GASB Statement No. 77, Tax Abatement Disclosures ("GASB 77"), required governments that enter into tax abatement agreements to disclose: (1) Brief descriptive information concerning the agreement; (2) The gross dollar amount of taxes abated during the period; and (3) Commitments made by government, other than to abate taxes, that are part of the tax abatement agreement. The Water Fund adopted GASB 77 for the year ended December 31, 2016 and there was no 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

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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. 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 will be effective for the Water Fund beginning with its year ending December 31, 2017.

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 will be effective for the Water Fund beginning with its year ending December 31, 2017.

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.

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

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

Less than 1  
\$ 17,605 17,971  
  
60,502 3,811 4,757  
More  
than 10 Fair Value  
  
\$ - \$ 28,543 17,971  
  
60,502 47,147 63,478

### Investment Maturities (in Years)

6-10

1-5

\$10,938  
U.S. agencies Commercial Paper Certificates of deposit and  
20,886  
22,450 58,721  
\$104,646 \$92,109 \$20,886 \$\_  
other short-term Corporate bonds Municipal bonds

Subtotal

Share in City's pooled funds

Total

Cash Equivalents and Investments-The Water Fund's cash equivalents and investments as of December 31, 2015, are as follows (in thousands):

### Investment Maturities (in Years)

U.S. agencies Certificates of deposit and  
other short-term Corporate bonds Municipal bonds

Subtotal

Share in City's pooled funds

Total

|          |               |               |               | Less More<br>than 1 | 1-5              | 6-10 | than 10 | Fair Value |
|----------|---------------|---------------|---------------|---------------------|------------------|------|---------|------------|
| \$91,233 | \$55,479      | \$115,557     | \$ 4,558      | \$ - \$175,594      |                  |      |         |            |
|          | \$205,587     | \$25,000      |               |                     |                  |      |         |            |
|          | <u>26,952</u> | <u>26,952</u> |               |                     |                  |      |         |            |
|          | <u>2,999</u>  | <u>35,748</u> | <u>20,442</u> | <u>59,189</u>       |                  |      |         |            |
|          | <u>5,803</u>  | <u>54,282</u> |               |                     | <u>60,085</u>    |      |         |            |
| 321,820  |               |               |               |                     |                  |      |         |            |
|          |               |               |               |                     | <u>211,163</u>   |      |         |            |
|          |               |               |               |                     | <u>\$532,983</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

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Level 3-Unobservable Inputs

The recurring fair value measurements of investments for as of December 31, 2016 and 2015 are as follows (dollars in thousands).

| Investments<br>by Fair Value<br>Level | Level 1 | 2016<br>Level 2 | Level 3 | Level 1     | 2015<br>Level 2  | Level 3    |
|---------------------------------------|---------|-----------------|---------|-------------|------------------|------------|
| U.S. agencies                         | \$-     | \$28,543        | \$-     | \$-         | \$167,705        | \$-        |
| Corporate bonds                       |         | 47,147          | 57,688  |             |                  |            |
| Municipal bonds                       |         | 60,694          |         |             | 60,085           |            |
|                                       |         |                 |         | <u>\$-;</u> | <u>\$285,478</u> | <u>\$j</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 \$81.3 million and \$36.3 million as of December 31, 2016 and 2015, respectively.

The Water Fund's share in the City's pooled fund of \$368.2 million and \$211.1 million as of December 31, 2016 and 2015, 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;

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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;

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;

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;

Tax-exempt securities exempt from federal arbitrage provisions applicable to investments of proceeds of the City's tax-exempt debt obligations;

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;

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;

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;

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;

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;

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;

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- 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, 2016 and 2015, is as follows (in thousands):

| Quality Rating   | 2016             | 2015             |
|------------------|------------------|------------------|
| Aaa/AAA          | \$ 13,470        | \$ 26,200        |
| Aa/AA            | 102,585          | 228,552          |
| A/A              | 34,763           | 26,950           |
| Pl/A1            | 7,978            |                  |
| M1G1/SP-1+       | 2,784            |                  |
| <u>Not rated</u> | <u>56,061</u>    | <u>40,118</u>    |
| <u>Total</u>     | <u>\$217,641</u> | <u>\$321,820</u> |

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,

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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 \$514.1 million. 84.7 percent of the bank balance was either insured or collateralized with securities held by City agents in the City's name. \$78.7 million was uncollateralized at December 31, 2016, and thus was subject to custodial credit risk.

Investments reported in the basic financial statements as of December 31, 2016 and 2015, are summarized as follows (in thousands):

**2016 2015**

Per Note 2:

|                                               |                  |                  |
|-----------------------------------------------|------------------|------------------|
| Investments-Water Fund                        | \$217,641        | \$321,820        |
| <u>Investments-City Treasurer Pooled Fund</u> | <u>368,262</u>   | <u>211,163</u>   |
|                                               | <u>\$585,903</u> | <u>\$532,983</u> |

Per financial statements:

|                                                   |                  |                  |
|---------------------------------------------------|------------------|------------------|
| Restricted investments-current                    | \$102,254        | \$153,863        |
| Restricted investments-noncurrent                 | 39,898           | 141,005          |
| Unrestricted investments                          | 361,553          | 101,612          |
| Investments included as cash and cash equivalents |                  |                  |
| <u>on the statements of net position</u>          | <u>82,198</u>    | <u>136,503</u>   |
|                                                   | <u>\$585,903</u> | <u>\$532,983</u> |

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### 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 2001, 2000, 1997, and Refunding Bonds Series 1993 ("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, 2006A, 2008, 2010A, 2010B, 2010C, 2012, 2014, and Refunding Bonds, Series 2004 and 2001 ("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.

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For accounts established by ordinances with balances, the amounts at December 31, 2016 and 2015, are as follows (in thousands):

|                           | 2016             | 2015             |
|---------------------------|------------------|------------------|
| Second Lien Revenue Bonds | \$ 4,596         | \$ 15,749        |
| Water rate stabilization  | 91,197           | 91,197           |
| Construction              | <u>120,517</u>   | <u>214,323</u>   |
| <u>Total</u>              | <u>\$216,310</u> | <u>\$321,269</u> |

At December 31, 2016 and 2015, management is not aware of any instances of noncompliance with the funding requirements and restrictions on assets as stated in the ordinances.

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**4. LONG-TERM DEBT****Long-term debt as of December 31, 2016 and 2015, consisted of the following (in thousands):**

\$49,880 Series 1993 Water Revenue Refunding Bonds, issued

October 1, 1993, due through 2016; interest at 4.125% to 6.5% \$277,911 Series 1997 Water Revenue Bonds, issued September 1, 1997,

due through 2019, interest at 3.9% to 5.25% \$100,000 Series 2000 Second Lien Water Revenue Bonds, issued

December 22, 1999, due 2030, variable floating interest rate;

interest at 0.058% as of December 31, 2015 \$156,819 Series 2000 Senior Lien Water Revenue Bonds, issued

May 2, 2000, due 2030; interest at 4.375% to 5.875% \$81,500 Series 2001 Second Lien Water Revenue Refunding Bonds,

issued December 13, 2001, due 2030; interest at 3.0% to 5.75% \$2,292 Illinois Environmental Protection Agency Loan Agreement,

signed June 30, 2003, due 2025; interest at 2.57% \$3,605 Illinois Environmental Protection Agency Loan Agreement,

signed October 16, 2003, due 2022; interest at 2.905% \$500,000 Series 2004 Second Lien Water Revenue Refunding Bonds,

issued August 5, 2004, due through 2031, variable floating interest rate;

interest at 0.059% as of December 31, 2015 \$215,400 Series 2006A Second Lien Water Revenue Bonds, issued

July 26, 2006, due through 2036; interest at 4.5% to 5.0% \$549,915 Series 2008 Second Lien Water Revenue Bonds, issued

April 2, 2008, due through 2038; interest at 4.0% to 5.25% \$313,580 Series 2010A-C Second Lien Water Revenue Bonds, issued

November 10, 2010, due through 2040; interest at 2.0% to 6.742% \$6,000 Illinois Environmental Protection Agency Loan Agreement,

signed January 21, 2011, due 2031; interest at 2.57% \$9,077 Illinois Environmental Protection Agency Loan Agreement,

issued February 2, 2010, due 2031; noninterest bearing \$399,445 Series 2012 Second Lien Water Revenue Bonds, issued

May 17, 2012, due through 2042; interest at 4.0% to 5.0% \$1,527 Illinois Environmental Protection Agency Loan Agreement,

issued July 8, 2010, due 2032; interest at 1.25% \$1,502 Illinois Environmental Protection Agency Loan Agreement,

issued September 15, 2013, due 2032; interest at 1.25% \$6,092 Illinois Environmental Protection Agency Loan Agreement,

issued October 25, 2013, due 2032; interest at 1.25% \$6,542 Illinois Environmental Protection Agency Loan Agreement,

signed May 27, 2014, due 2034; interest at 2.2950% \$39,421 Illinois Environmental Protection Agency Loan Agreement,

signed August 5, 2013, due 2034; interest at 1.93% \$15,000 Illinois Environmental Protection Agency Loan Agreement,

signed September 19, 2013, due 2034; interest at 1.93% \$47,000 Illinois Environmental Protection Agency Loan Agreement,

signed March 3, 2014, due 2034; interest at 1.99% \$15,058 Illinois Environmental Protection Agency Loan Agreement,

signed October, 15, 2014, due 2035; interest at 1.99% \$367,925 Series 2014 Second Lien Water Revenue Bonds, issued

September 17, 2014, due 2044; interest at 3.0% to 5.0% \$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% \$22,120 Series 2016A-2 Taxable Second Lien Water Revenue Bonds, issued

May 23, 2016, due 2017; interest at 1.68.0% to 2.0% \$55,615 Illinois Environmental Protection Agency Loan Agreement,

signed May 18, 2016, due 2036; interest at 2.21%

Total

Add accretion of capital appreciation bonds

Less current portion of accretion

Less current portion of long-term debt

Add unamortized bond discount/premium-net

Long term portion-net

**2015**

5,565 7,876

100,000 12,766 80,800 1,536 1,528

344,575 179,635 453,540 300,355 4,917 7,294 399,445 1,352 1,330 5,391 6,149 37,849 14,428 46,101 15,058 363,905

**2016**

f

5,089

100,000 9,871 80,745 1,400 1,328

2,391,395

33,254 (9,953) (65,758) 91,344

344,575 174,605 436,215 300,355 4,637 6,839 391,745 1,280 1,259 5,105 5,878 36,187 13,796 44,149 14,420 357,610

59 595 16 395 55 319 2 468 397

26,345 (10,252) (79,305) 161,189  
\$2,566,374 \$2,440,282

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Long-term debt changed during the years ended December 31, 2016 and 2015, as follows (in thousands):

Revenue bonds/notes payable Accretion of capital appreciation bonds  
 Unamortized bond discount/ premium-net

| Total                            |                  | Balance           | Due within December 31, One Year |                         |
|----------------------------------|------------------|-------------------|----------------------------------|-------------------------|
|                                  |                  |                   |                                  | \$79,305 10,252         |
| <b>Additions Reductions 2016</b> |                  |                   |                                  |                         |
| \$137,330                        |                  | \$(60,328)        | \$2,468,397                      |                         |
|                                  |                  |                   | 3,044                            | (9,953) 26,345          |
|                                  |                  |                   | <u>81,924</u>                    | <u>(12,079)</u> 161,189 |
| <u>\$2,515,993</u>               | <u>\$222,298</u> | <u>\$(82,360)</u> | <u>\$2,655,931</u>               | <u>\$89,557</u>         |

Revenue bonds/notes payable Accretion of capital appreciation bonds  
 Unamortized bond discount/ premium-net

| Total              |                 | Balance           |                    | Balance         |
|--------------------|-----------------|-------------------|--------------------|-----------------|
| January 1,         |                 | December 31,      |                    | 2015            |
|                    |                 | 2015              | Additions          | Reductions      |
| \$2,381,771        | \$62,059        | \$(52,435)        | \$2,391,395        |                 |
| 39,093             | 3,732           | (9,571)           | 33,254             |                 |
| <u>97,175</u>      |                 | <u>(5,831)</u>    | <u>91,344</u>      |                 |
| <u>\$2,518,039</u> | <u>\$65,791</u> | <u>\$(67,837)</u> | <u>\$2,515,993</u> | <u>\$75,711</u> |

Interest expense includes amortization of the deferred loss on bond refunding for 2016 and 2015 of \$2.5 million and \$2.5 million, respectively; net of amortization of bond premium of \$12.1 million and \$5.8 million, respectively; and accretion of Series 1997 and Series 2000 capital appreciation bonds of \$3.0 million and \$3.7 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, and that City management maintain all covenant reserve account balances at specified amounts. The above requirements were met in 2016 and 2015.

Rate Increase-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. The water rate effective January 1, 2016, was \$28.52 per 1,000 cubic feet.

Issuance of Debt-On May 18, 2016, a 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. In 2016, the Water Fund drew \$55.3 million from this loan agreement. The loan agreement has an interest rate of 2.21 percent with maturity dates from July 31, 2016 to January 31, 2036.

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Second Lien Water Revenue Bonds, Series 2016 A-1 (59.6 million) were sold at premium in May 2016. The bonds have interest rates ranging from 4.00 percent to 5.00 percent and maturity dates from November 1, 2023 to November 1, 2031. The net proceeds of \$69.5 million were used to refund the Line of Credit Notes used for the swap termination.

Second Lien Water Revenue Bonds, Series 2016 A-2 (22.1 million) were sold at premium in May 2016. The bonds have interest rates ranging from 1.68 percent to 2.00 percent and maturity dates from November 1, 2016 to November 1, 2017. The net proceeds of \$22.0 million were used to refund the Line of Credit Notes used for the swap termination.

In May 2016, the City converted \$100.0 million outstanding of the Series 2000 Second Lien Water Revenue Bonds to fixed rate at premium. The bonds have an interest rate at 5.0 percent and maturity dates ranging from November 1, 2028 to November 1, 2030. The net proceeds of \$17.3 million will be used to finance certain capital projects.

In May 2016, the City converted \$344.6 million outstanding of the Series 2004 Second Lien Water Revenue Bonds to fixed rate at premium. The bonds have interest rates ranging from 2.0 percent to 5.0 percent and maturity date ranging from November 1, 2017 to November 1, 2027. The net proceeds of \$51.8 million will be used to finance certain capital projects.

A schedule of bond and note debt service requirements to maturity at December 31, 2016, is as follows (in thousands):

| <b>Years Ending<br/>December 31</b> | <b>Total Debt</b>  |                         |                    |
|-------------------------------------|--------------------|-------------------------|--------------------|
|                                     | <b>Principal</b>   | <b>Interest Service</b> |                    |
| 2017                                | \$ 79,305          | \$ 130,090              | \$ 209,395         |
| 2018                                | 84,018             | 127,950                 | 211,968            |
| 2019                                | 87,835             | 119,168                 | 207,003            |
| 2020                                | 91,783             | 115,519                 | 207,302            |
| 2021                                | 93,703             | 106,057                 | 199,760            |
| 2021                                | 2022-2026          | 534,881                 | 460,700            |
| 2021                                | 2027-2031          | 574,854                 | 323,293            |
| 2021                                | 2032-2036          | 454,822                 | 197,595            |
| 2021                                | 2037-2041          | 377,230                 | 80,635             |
| 2021                                | 2042-2044          | 489,966                 | 7,845              |
|                                     |                    |                         | 597,811            |
| <b>Total</b>                        | <b>\$2,468,397</b> | <b>\$ 1,668,852</b>     | <b>\$4,137,249</b> |

In July, 2016, the Water Fund terminated the line of credit. At December 31, 2016, the Water Fund did not have



commercial paper or line of credit outstanding.

During 2016, the Water Fund terminated the swaps associated with the 2000 2nd Lien Water Revenue Refunding Bonds in the amount of \$32.3 million and the Series 2004 Water Variable Rate Revenue Refunding Bonds in the amount of \$69.5 million. Swap termination payments were recorded as Swap Termination Fees.

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## UTILITY PLANT

Utility plant changed during the years ended December 31, 2016 and 2015, as follows (in thousands):

|                                                                                           | Balance-January 1, 2016               |
|-------------------------------------------------------------------------------------------|---------------------------------------|
| Disposals, Balance-Adjustments December 31, Additions and Transfers 2016                  |                                       |
| Utility plant not depreciated: Land and land rights Construction in progress              |                                       |
| Total utility plant not depreciated                                                       |                                       |
| Utility plant being depreciated: Structures and improvements Distribution plant Equipment |                                       |
|                                                                                           | Total utility plant being depreciated |
| Less accumulated depreciation: Structures and improvements Distribution plant Equipment   |                                       |
| Total accumulated depreciation                                                            |                                       |
| Utility plant being depreciated-net                                                       |                                       |
| Utility plant-net                                                                         |                                       |
| 180,539                                                                                   |                                       |
| <u>180,539</u>                                                                            | 922 28,931 1,694                      |
| 31,547                                                                                    |                                       |
|                                                                                           | <u>1,772 209,528 3,509</u>            |
| <u>214,809</u>                                                                            |                                       |
|                                                                                           | <u>588,740 3,586,644 665,174</u>      |
| <u>4,840,558</u>                                                                          |                                       |
|                                                                                           |                                       |
| (56,188) (56,188)                                                                         |                                       |
|                                                                                           |                                       |
| (213,318) (447,587) (359,485)                                                             | <u>586,046 3,348,185 659,971</u>      |
| (1,020,390)                                                                               |                                       |
| 3,573,812                                                                                 |                                       |
| <u>(8,287) (37,489) (18,557)</u>                                                          |                                       |
| (64,333)                                                                                  |                                       |
| <u>150,476</u>                                                                            |                                       |
| 4,594,202                                                                                 |                                       |
| <u>1,964 469</u>                                                                          |                                       |
| 7 433                                                                                     |                                       |

2,722

33,980

(221,605) (483,112) (377,573)

(1,082,290)

3,758,268

\$ 3,822,825 \$331,015 \$ (22,208) \$ 4,131,632

Balance-January 1, 2015

Disposals  
and Transfers

Balance-December 31, 2015

Utility plant not depreciated: Land and land rights Construction in progress

Total utility plant not depreciated

Utility plant being depreciated: Structures and improvements Distribution plant Equipment

Total utility plant being depreciated

Less accumulated depreciation: Structures and improvements Distribution plant Equipment

Total accumulated depreciation

Utility plant being depreciated-net

Utility plant-net

6,858 242,155

5,083 457,645

462,728

\$ 1,775 150,811

152,586

\$ -(366,301)

(366,301)

579,534 2,755,650 651,121

3,986,305

3,876 356,780 3,027

363,683

2,636 235,755 5,823

244,214

249,013

586,046 3,348,185 659,971

(205,279) (420,433) (341,122)

(966,834)

3,019,471

(8,039) (29,376) (18,676)

(56,091)

188,123

4,594,202

2,222 313

2,535

366 218

200,410

(213,318) (447,587) (359,485)

(1,020,390)

3,573,812

\$ 3,482,199    \$340,709    \$    (83)    \$ 3,822,825

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## 6. PENSION PLANS

**Plan Description-**Eligible Water employees participate in one of two single-employer defined benefit pension plans (Plans). These Plans are: the Municipal Employees' Annuity and Benefit Fund of Chicago (Municipal); and the Laborers' and Retirement Board Employees' Annuity and Benefit Fund of Chicago (Laborers'). 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) <<http://www.meabf.org>>, and [www.labfchicago.org](http://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 requirement of age and service are different for employees who became members before January 1, 2011, and those who became members on or after January 1, 2011. 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 became members before January 1, 2011 and any eight consecutive years within the last 10 years of credited service for participants who became members on or after January 1, 2011.

Benefit terms provide for annual adjustments to each employee's retirement allowance subsequent to the employees' retirement date. For participants who became members before January 1, 2011, the annual adjustments for Municipal and Laborers are 3.0 percent, compounded, for annuitants born before 1955 and 1.5 percent, simple, born in 1955 or later. For participants that first became members on or after January 1, 2011, the annual adjustments are equal to the lesser of 3.0 percent and 50 percent of CPI-U of the original benefit.

**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 was calculated based on the total amount of contributions by employees to the Plan made in the calendar year two years prior, multiplied by 1.25 for the Municipal, and 1.00 for the Laborers'. 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 2016.

The contribution to the two pension plans from the Water Fund was \$12.3 million and \$12.7 million for the years ended December 31, 2016 and 2015, respectively.

**Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions-**At December 31, 2016 and 2015, the Water Fund recorded a liability of \$1,626.7 million and \$1,646.7 million, respectively, for its proportionate share of the net pension liability. The net pension liability

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was measured as of December 31, 2016 and 2015, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of those dates. 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 2016. At December 31, 2016 and 2015, the Water Fund's proportion was 6.7 percent and 6.8 percent of the Municipal plan, respectively, and 14.7 percent and 15.6 percent, respectively, of the Laborer's plan.

For the years ended December 31, 2016 and 2015, the Water Fund recognized pension expense of \$240.0 million and \$436.0 million, respectively.

At December 31, 2016 and 2015, the Water Fund reported total deferred outflows of resources of \$447.2 million and \$630.7 million, respectively, and deferred inflows of resources of \$54.6 million and \$11.1 million, respectively, related to pensions from the following sources:

Municipal (dollars in thousands):

| 2016                                                                             | Deferred Outflows of Resources |
|----------------------------------------------------------------------------------|--------------------------------|
| 2015                                                                             | Deferred Outflows of Resources |
|                                                                                  | Deferred Inflows of Resources  |
| Differences between expected and actual experience \$                            | Changes of assumptions 347,987 |
| Net difference between projected and actual earnings on pension plan investments | 12,392                         |

\$11,158 30,833

\$485,349

Amounts reported as deferred outflows of resources and deferred inflows of resources related to Municipal pensions will be recognized in pension expense as follows:

Year Ended December 31

| 2017      | 2018    | 2019    | 2020    |
|-----------|---------|---------|---------|
| \$109,056 | 109,056 | 109,056 | (8,780) |
| \$318,388 |         |         |         |

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Laborers' (dollars in thousands):

|                                                                                  | 2016                              |                                  | 2015                              |                                  |
|----------------------------------------------------------------------------------|-----------------------------------|----------------------------------|-----------------------------------|----------------------------------|
|                                                                                  | Deferred Outflows<br>of Resources | Deferred Inflows<br>of Resources | Deferred Outflows<br>of Resources | Deferred Inflows<br>of Resources |
| Differences between expected and actual experience                               | \$ -                              | \$ 6,029                         | \$ -                              | \$ 5,101                         |
| Changes of assumptions                                                           | 72,507                            | 6,589                            | 130,150                           |                                  |
| Net difference between projected and actual earnings on pension plan investments | 14,288                            | 15,189                           |                                   |                                  |
| <b>Total</b>                                                                     |                                   | <b>\$86,795</b>                  | <b>\$12,618</b>                   | <b>\$145,339 \$5,101</b>         |

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

**Year Ended December 31**

|      |                        |
|------|------------------------|
| 2017 | <b>\$48,751</b>        |
| 2018 | <b>21,954</b>          |
| 2019 | <b>2,585</b>           |
| 2020 | <b>887</b>             |
|      | <b><u>\$74,177</u></b> |

Deferred inflows related to changes in proportionate share of contributions - For the year ended December 31, 2016, the Water Fund reported a pension benefit of \$6.3 million and deferred inflows of \$20.3 million related to changes in its proportionate share of contributions. This deferred amount will be recognized as a pension benefit over a period of three years.

Actuarial Assumptions-The total pension liability in the December 31, 2016 and 2015 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

**Municipal Laborers'**

|                           |                |            |
|---------------------------|----------------|------------|
| Inflation                 | 3.00 %         | 3.00 %     |
| Salary increases          | 4.5%-8.25% (a) | 3.75 % (b) |
| Investment rate of return | 7.50 % (c)     | 7.50 % (d) |

- (a) Varying by years of service
- (b) Plus a service-based increase in the first 15 years
- (c) Net of investment expense
- (d) Net of investment expense, including inflation

Mortality rates were based on the RP-2000 Health Annuity Mortality Table for Males or Females, as appropriate. The actuarial assumptions used in the December 31, 2016 valuation were adjusted based on the results of actuarial experience study for the period:

Municipal-January 1, 2005-December 31, 2009

Laborers'- January 1, 2004-December 31, 2011

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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, 2016 and 2015, are summarized in the following tables:

**Long-Term Expected Real Rate of Return**

**Municipal Laborers'    Municipal Laborers'**

Asset class: Domestic equity Non U.S. equity Global equity International equity Fixed income Hedge funds Private equity  
Private markets GAA  
Real estate Risk Parity Private real estate

26.0 %

22.0 27.0 10.0 5.0

10.0  
%

12.0 18.0 20.0

16.0 8.0

7.0 7.0 8.0

4.0

4.8 %

5.0 0.5 2.8 8.6

5.2  
%

6.4 8.0 6.8

2.6 3.9

7.2 4.3 4.6

100.0 %    100.0 %

**Long-Term Expected Real Rate of Return**

**Municipal Laborers'    Municipal Laborers'**

Asset class: Domestic equity Non U.S. equity Global equity International equity Fixed income Hedge funds Private equity  
Private markets GAA  
Real estate Risk Parity

26.0 %

22.0 27.0 10.0 5.0

10.0

**22.0 %**

13.0

14.0

**16.0 8.0**

11.0 8.0 6.0 2.0

**4.9 %**

5.0 0.5 3.0 8.6

6.0

**5.9 %**

7.9

6.5

2.6 3.8

**6.9 4.7 4.4 5.0**

100.0 % 100.0 %

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### **Discount Rate**

Municipal-The discount rate used to measure the total pension liability as of December 31, 2016 and 2015 was 3.91 and 3.73 percent, respectively. This Single Discount Rate was based on an expected rate of return on pension plan investments of 7.5 percent for December 31, 2016 and 2015 and a municipal bond rate of 3.78 and 3.6 percent as of December 31, 2016 and 2015, respectively (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 member contributions will be made at the current contribution rate and that employer contributions will be made at the 1.25 multiple of member contributions from two years prior. 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 not projected to be available to make all projected future benefit payments of current plan members. The projected benefit payments through 2023 were discounted at the expected long-term rate of return. Starting in 2024, the projected benefit payments were discounted at the municipal bond rate. Therefore, a single equivalent blended discount rate of 3.91 percent and 3.73 percent as of December 31, 2016 and 2015; respectively, was calculated using the long-term expected rate of return and the municipal bond index.

Laborers'-A Single Discount Rate of 4.17 and 4.04 percent, as of December 31, 2016 and 2015, respectively, was used to measure the total pension liability. This Single Discount Rate was based on an expected rate of return on pension plan investments of

5 percent as of December 31, 2016 and 2015, and a municipal bond rate of 3.78 and

6 percent as of December 31, 2016 and 2015, respectively. 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 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 through the year 2027. As a result, the long-term expected rate of return on pension plan investments was applied to projected benefit payments through the year 2027, and the municipal bond rate was applied to all benefit payments after that date.

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

Municipal-The following presents the Water Fund's allocated share of the net pension liability as of December 31, 2016 and 2015, calculated using the discount rate of 3.91% and 3.73%, 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):

##### **2016 Current Discount Rate**

Net pension liability December 31, 2016: Municipal discount rate Municipal liability

2.91% \$1,488,017

3.91% \$ 1,255,259

4.91% \$ 1,064,112

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**Current**

**1% Decrease   Discount Rate   1% Increase**

Net pension liability December 31, 2015: Municipal discount rate Municipal liability

2.73% \$ 1,503,684

3.73% \$ 1,260,613

4.73% \$ 1,061,422

Laborers'- The following presents the Water Fund's allocated share of the net pension liability as of December 31, 2016 and 2015, calculated using the discount rate of 4.17% and 4.04%, 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):



### Current Discount Rate

Net pension liability December 31, 2016: Laborers' discount rate Laborers' liability

3.17 % \$449,108

4.17 % \$371,399

5.17 % \$307,509

### Current

1% Decrease Discount Rate 1% Increase

Net pension liability December 31, 2015: Laborers' discount rate Laborers' liability

3.04 % \$470,583

4.04 % \$385,827

5.04 % \$316,351

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 Funded Status and Funding Progress-State law authorized the two respective Pension Funds (Municipal 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 are authorized. The liabilities for the monthly dollar Pension Fund subsidies contributed on behalf of annuitants enrolled in the medical plan by their respective Pension Funds are included in the NPO actuarial valuation reports of the respective two Pension Funds under GASB 43.

Pursuant to the provisions contained in P.A. 98-0043, the City terminated health insurance supplement payments to eligible annuitants as of December 31, 2016, resulting in no OPEB liability at December 31, 2016.

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Other Post Employment Benefits-City Obligation-Up to June 30, 2013, the annuitants who retired prior to July 1, 2005 received a 55 percent subsidy from the City and the annuitants who retired on or after July 1, 2005 received a 50, 45, 40 and zero percent subsidy from the City based on the annuitant's length of actual employment with the City for the gross cost of retiree health care under a court approved settlement agreement, known as the "Settlement Plan." The pension funds contributed their subsidies of \$65 per month for each Medicare eligible annuitant and \$95 per month for each Non-Medicare eligible annuitant to their gross cost. The annuitants contributed a total of \$110.9 million in 2016 to the gross

cost of their retiree health care pursuant to premium amounts set by the City.

As described above, the City of Chicago subsidized a portion of the cost (based upon service) for hospital and medical coverage for eligible retired employees and their dependents based upon a settlement agreement entered in 2003 and which expired on June 30, 2013.

On May 15, 2013, the City announced plans to, among other things: (i) continue the then current plan for the remaining six months of 2013; then, as of January 1, 2014, (ii) provide a healthcare plan to, and for the lifetimes of, former employees who retired before August 23, 1989 with a contribution from the City of up to 55 percent of the cost of that plan to the annuitant; and (iii) provide employees who retired on or after August 23, 1989 with healthcare benefits in a new Retiree Health Plan (Health Plan), but with significant changes to the terms including increases in premiums and deductibles, reduced benefits and the phase-out of the Health Plan for such employees by December 31, 2016.

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. In 2016, the net expense to the City for providing these benefits to approximately 22,195 annuitants plus their dependents was approximately \$45.7 million.

Plan Description Summary-The City of Chicago was party to a written legal settlement agreement outlining the provisions of the Settlement Plans, which ended June 30, 2013, but the City voluntarily continued those Settlement Plans until the end of 2013. As of January 1, 2014, the Health Plan provided for annual modifications to the City's level of subsidy during the three-year phase out. The Health Plan, along with any further City subsidy expired as of by December 31, 2016, for all but the group of former employees (the Korshak class of members) who retired before August 23, 1989, who shall have lifetime benefits. 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.

The provisions of the Health Plan provide, in general, that the City pay a percentage of the cost (based upon an employee's service) for hospital, medical, and drug coverage to eligible retired employees and their dependents for the specified period, ending December 31, 2016. During the three-year phase out of the Health Plan, the percentage subsidies were revised to reduce by approximately 25 percent of 2013 subsidy levels in 2014, 50 percent of 2013 subsidy levels in 2015, and 75 percent of 2013 subsidy levels in 2016.

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 of the employer (ARC). The ARC (Annual Required Contribution) represents a level of funding

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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 often years.

The following table shows the components of the City's annual OPEB costs for the year for the Plans, the amount actually contributed to the Plans, and changes in the City's net OPEB obligation to the retiree Health Plan. The AVer 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 2016 is the Annual OPEB Cost (expense).

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

**2016 Health Plan**

**2015 Health Plan**

Contribution rates: City

Plan members

Annual required contribution Interest on net OPEB obligation Adjustment to annual required contribution

Pay As You Go N/A \$ 98,517 5,185 (19,673)

Pay As You Go N/A \$106,723 5,326 (20,209)

Annual OPEB cost Contributions made

84,029 89,671

91,840 96,551

Decrease in net OPEB obligation Net OPEB obligation-beginning of year

(5,642) 172,851

(4,711) 177,562

Net OPEB obligation-end of year

The City's annual OPEB cost, the percentage of annual OPEB cost contributed to the plan, and the net OPEB obligation for fiscal year 2016, 2015 and 2014 are as follows (dollars in thousands):

**Fiscal Year Ended**

**Schedule of Contributions, OPEB Costs and Net Obligations**

**Annual Percentage of Annual Net OPEB OPEB Cost OPEB Cost Contributec Obligation**

December 31, 2016 December 31, 2015 December 31, 2014

\$ 84,029 91,840 112,432

106.7 %

105.1

113.9

\$167,209 172,851 177,562

Funded Status and Funding Progress-As of January 1, 2016, the most recent actuarial valuation date, the actuarial accrued liability for benefits was \$715.5 million all of which was unfunded. The covered payroll (annual payroll of active employees covered by the plan) was approximately \$2,536.6 million and the ratio of the unfunded actuarial liability to the covered payroll was 27.9%.

- 41 -

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, supplementary information following the notes to the financial statements (dollars in thousands, unaudited).

Actuarial Valuation Date

Actuarial Actuarial Value of Accrued Assets Liability (AAL)

Unfunded Actuarial Accrued Liability (UAAL)

Funded Ratio

Covered Payroll

UAAL as a Percentage of Covered Payroll

December 31, 2015 December 31, 2014

5715,522 780,637

\$715,522 780,637

\$2,563,649 2,487,787

27.9 % 31.4 %

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 (not provided by the Pension Funds), 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 2027. 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 the provisions under the new Health Plan, which will be completely phased-out by December 31, 2016, except for the Korshak category, which is entitled to lifetime benefits.

## Summary of Assumptions and Methods

2015

### Health Plan

2016

Actuarial valuation date

Actuarial cost method

Amortization method

Remaining amortization period

Asset valuation method

Actuarial assumptions: Investment rate of return Projected salary increases Healthcare inflation rate

December 31, 2015 Entry Age Normal Level Dollar, open 10 years Market Value

3.0 % 2.5 %

December 31, 2014 Entry Age Normal Level Dollar, open 10 years Market Value

3.0 % 2.5 %

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

- 42 -

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 \$100.7 million and \$89.4 million in 2016 and 2015, 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, 2016 and 2015, are as follows (in thousands):

|                                                     | 2016             | 2015             |
|-----------------------------------------------------|------------------|------------------|
| Balance-January 1                                   | \$ 53,545        | \$ 36,707        |
| Claims incurred on current and prior-year events    | 32,874           | 54,088           |
| <u>Claims paid on current and prior-year events</u> | <u>(36,188)</u>  | <u>(37,250)</u>  |
| <u>Balance-December 31</u>                          | <u>\$ 50,231</u> | <u>\$ 53,545</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, 2016 and 2015, the Water Fund entered into contracts with outstanding commitments of approximately \$805.9 million and \$121.3 million, respectively, for construction projects.

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## 10. DEFERRED OUTFLOWS/INFLOWS OR RESOURCES

(Dollars in thousands)

2016 2015

Deferred outflows of resources: Deferred outflows from pension activities Accumulated decrease in fair value of hedging derivatives

Unamortized deferred bond refunding costs

\$630,689

91,806 28,586

Total deferred outflows of resources

Deferred inflows of resources: Deferred inflows from pension activities

## 11. SUBSEQUENT EVENTS

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

Bonds-In June, 2017, the City sold Second Lien Water Revenue Refunding Bonds, Series 2017 (\$199.4 million). The 2017 bonds were issued at interest rates between 5.0% and 5.25% and maturity dates between November 1, 2017 and November 1, 2036. Proceeds will be used to refund a portion of certain outstanding water bonds and pay costs of issuance.

\*\*\* 5(e) \*

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## REQUIRED SUPPLEMENTARY INFORMATION

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### CITY OF CHICAGO, ILLINOIS WATER FUND

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

|                                                    | 2016              | 2015              |
|----------------------------------------------------|-------------------|-------------------|
| MUNICIPAL EMPLOYEES': Total pension liability:     |                   |                   |
| Service cost                                       | \$ 619,743        | \$ 226,816        |
| Interest                                           | 878,369           | 909,067           |
| Benefit changes                                    |                   | 2,140,009         |
| Differences between expected and actual experience | (127,119)         | (109,835)         |
| Assumption changes                                 | (578,920)         | 8,711,755         |
| Benefit payments including refunds                 | (859,672)         | (826,036)         |
| Pension plan administrative expense                |                   |                   |
| Net change in total pension liability              | (67,599)          | 11,051,776        |
| Total pension liability-beginning                  | <u>23,358,870</u> | <u>12,307,094</u> |
| Total pension liability-end                        | <u>23,291,271</u> | <u>33,358,870</u> |

|                                                                              |                      |                       |
|------------------------------------------------------------------------------|----------------------|-----------------------|
| Total pension liability-ending <sup>(a)</sup>                                | 23,291,271           | 23,358,870            |
| Plan fiduciary net position:                                                 |                      |                       |
| Contributions-employer                                                       | 149,718              | 149,225               |
| Contributions-employee                                                       | 130,391              | 131,428               |
| Net investment income                                                        | 281,419              | 114,025               |
| Benefit payments including refunds of employee contribution                  | (859,672)            | (826,036)             |
| <u>Administrative expenses</u>                                               | <u>(7,056)</u>       | <u>(6,701)</u>        |
| Net change in plan fiduciary net position                                    | (305,200)            | (438,059)             |
| <u>Plan fiduciary net position-beginning</u>                                 | <u>4,741,427</u>     | <u>5,179,486</u>      |
| <u>Plan fiduciary net position-ending <sup>(b)</sup></u>                     | <u>4,436,227</u>     | <u>4,741,427</u>      |
| <u>NET PENSION LIABILITY-ending <sup>(a)(b)</sup></u>                        | <u>\$ 18,855,044</u> | <u>\$ 18,617,443</u>  |
| PLAN FIDUCIARY NET POSITION AS A PERCENTAGE OF THE TOTAL PENSION LIABILITY   |                      | 19.05 % 20.30 %       |
| <u>COVERED-EMPLOYEE PAYROLL*</u>                                             | <u>\$ 1,646,939</u>  | <u>\$ 1,643,481</u>   |
| EMPLOYER'S NET PENSION LIABILITY AS A PERCENTAGE OF COVERED-EMPLOYEE PAYROLL |                      | 1,144.85 % 1,132.81 % |
| <u>ALLOCATED NET PENSION LIABILITY</u>                                       | <u>\$ 1,255,259</u>  | <u>\$ 1,260,613</u>   |
| ALLOCATION PERCENTAGE                                                        | 6.66 %               | 6.77 %                |

\* Covered-employee payroll is the amount in force as of the 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)

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## CITY OF CHICAGO, ILLINOIS WATER FUND

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

|                                                    | 2016             | 2015             |
|----------------------------------------------------|------------------|------------------|
| LABORERS': Total pension liability:                |                  |                  |
| Service cost <sup>(1)</sup>                        | \$ 82,960        | \$ 38,389        |
| Interest                                           | 150,166          | 153,812          |
| Benefit changes 384,033                            |                  |                  |
| Differences between expected and actual experience | (30,428)         | (46,085)         |
| Assumption changes                                 | (62,905)         | 1,175,935        |
| Benefit payments including refunds                 | (154,683)        | (152,530)        |
| <u>Pension plan administrative expense</u>         | <u>(4,080)</u>   | <u>(3,844)</u>   |
| Net change in total pension liability              | (18,970)         | 1,549,710        |
| <u>Total pension liability-beginning</u>           | <u>3,712,615</u> | <u>2,162,905</u> |
| Total pension liability-ending <sup>(2a)</sup>     | 3,693,645        | 3,712,615        |
| Plan fiduciary net position:                       |                  |                  |
| Contributions-employer                             | 12,603           | 12,412           |



|                                                             |                  |                     |                     |            |
|-------------------------------------------------------------|------------------|---------------------|---------------------|------------|
| Contributions-employee                                      | 17,246           | 16,844              |                     |            |
| Net investment income                                       | 57,997           | (22,318)            |                     |            |
| Benefit payments including refunds of employee contribution | (154,683)        | (152,530)           |                     |            |
| <u>Administrative expenses</u>                              | <u>(4,080)</u>   | <u>(3,844)</u>      |                     |            |
| Net change in plan fiduciary net position                   | (70,917)         | (149,436)           |                     |            |
| <u>Plan fiduciary net position-beginning</u>                | <u>1,238,657</u> | <u>1,388,093</u>    |                     |            |
| <u>Plan fiduciary net position-ending</u> <sup>voo</sup>    | <u>1,167,740</u> | <u>1,238,657</u>    |                     |            |
| <u>NET PENSION LIABILITY-Ending</u> <sup>(at)b</sup>        |                  | <u>\$ 2,525,905</u> | <u>\$ 2,473,958</u> |            |
| PLAN FIDUCIARY NET POSITION AS A PERCENTAGE OF THE TOTAL    |                  |                     |                     |            |
| PENSION LIABILITY                                           |                  |                     | 31.61 %             | 33.36 %    |
| <u>COVERED-EMPLOYEE PAYROLL</u> <sup>""</sup>               |                  | <u>\$ 208,155</u>   | <u>\$ 204,773</u>   |            |
| EMPLOYER'S NET PENSION LIABILITY AS A PERCENTAGE OF /       |                  |                     |                     |            |
| COVERED-EMPLOYEE PAYROLL                                    |                  |                     | 1,213.47 %          | 1,208.15 % |
| <u>ALLOCATED NET PENSION LIABILITY</u>                      |                  | <u>\$ 371,399</u>   | <u>\$ 385,827</u>   |            |
| ALLOCATED PERCENTAGE                                        |                  | 14.70 %             | 15.60 %             |            |

Includes pension plan administrative expense. <sup>""</sup> Covered-employee payroll is the amount in force as of the 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)

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## CITY OF CHICAGO, ILLINOIS

### SCHEDULE OF CONTRIBUTIONS

#### LAST TEN YEARS

(Dollars are in thousands)

Municipal Employees':

Years Ended December 31

2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

#### Actuarially Determined Contributions\*

\$343,123 360,387 413,509 483,948 611,756 690,823 820,023 839,039 677,200 961,770

#### Contributions in Relation to the Actuarially Determined Contribution

\$139,606 146,803 148,047 154,752 147,009 148,859 148,197 149,747 149,225 149,718

**Contribution Deficiency**

\$203,517 213,584 265,462 329,196 464,747 541,964 671,826 689,292 527,975 812,052

**Covered Employee Payroll\*\***

\$1,564,459 1,543,977 1,551,973 1,541,388 1,605,993 1,590,794 1,580,289 1,602,978 1,643,481 1,646,939

**Contributions as a Percentage of Covered Employee Payroll**

8.92 % 9.51 9.54 10.04 9.15 9.36 9.38 9.34 9.08 9.09

' 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-employee payroll is the amount in force as of the valuation date and likely differs from actual payroll paid during fiscal year.

**Laborers':**

Years Ended December 31

2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

**Actuarially Determined Contributions\***

\$

21,726 17,652 33,518 46,665 57,259 77,566 106,199 106,019 79,851 117,033

**Contributions in Relation to the Actuarially Determined Contribution**

\$ 13,256 15,233 14,627 15,352 12,779 11,853 11,583 12,161 12,412 12,603

**Contribution Deficiency**

\$ 8,470 2,419 18,891 31,313 44,480 65,713 94,616 93,858 67,439 104,430

**Covered Employee Payroll\*\***

; 192,847 216,744 208,626 199,863 195,238 198,790 200,352 202,673 204,773 208,155

**Contributions as a Percentage of Covered Employee Payroll**

6.87 %  
7.03  
7.01  
7.68  
6.55  
5.96  
5.78  
6.00  
6.06  
6.05

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-employee payroll is the amount in force as of the valuation date and likely differs from actual payroll paid during fiscal year

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

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# CITY OF CHICAGO, ILLINOIS SCHEDULE OF CONTRIBUTIONS

## Actuarial Methods and Assumptions

Actuarial valuation date Actuarial cost method Amortization method Remaining amortization period Asset valuation method

Actuarial assumptions Inflation

Salary increases Investment rate of return Retirement age Mortality

Other information

### Municipal Employees'

12/31/2016 Entry age normal Level dollar, open 30 years 5-yr Smoothed Market

3.0% 4.5%-8.25% 7.5%

(h)

(j)

(l)

### Laborers'

(a) 12/31/2016 (b) Entry age normal Level dollar, open (c) 30 years 5-yr Smoothed Market

(d) (0

(e)

(g)

3.0% 3.75% 7.5%

(i)

(k) (m)

<sup>(a)</sup> Actuarially determined contribution amount is determined as of December 31, with

appropriate interest to the middle of the year <sup>(b)</sup> 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. <sup>w</sup> The statutory contributions are based on a multiple of member contributions from the second

prior year. The statutory contribution multiple is 1.00. <sup>w</sup> Varying years of service.

<sup>(e)</sup> Plus a service-based increase in the first 15 years.

<sup>(f)</sup> Net of investment expense.

<sup>(g)</sup> Net of investment expense, including inflation.

<sup>(h)</sup> For employees first hired prior to January 1, 2011, rates of retirement are based on the recent experience

of the Fund (adopted December 31, 2010). For employees first hired on or after January 1, 2011,

rates of retirement for each age from 62 to 80 were used (adopted December 31, 2011). <sup>(l)</sup> Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the

December 31, 2012, valuation pursuant to an experience study of the

period January 1, 2004, through December 31, 2011. <sup>(o)</sup> Post-retirement mortality rates were based on the RP-2000 Health

Mortality Tables with mortality

improvements projected to 2010 using Scale AA. Pre-retirement mortality rates were based on the

post-retirement mortality assumption, multiplied by 85% for males and 70% for females. <sup>(k)</sup> RP2000 Combined Healthy

Mortality table, sex distinct, set forward one year for males

and set back two years for females. No adjustment is made for post-disabled mortality. (" Other assumptions: Same as those used in the December 31, 2016, actuarial funding valuations. (m> There were no benefit changes during the year. (Concluded)

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## CITY OF CHICAGO, ILLINOIS

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

City of Chicago: Settlement Plan

2014

2015

2016

Actuarial Actuarial Value of Valuation Assets Date (a)

12/31/2013 \$

12/31/2014

12/31/2015

Actuarial Accrued Liability

(AAL) Entry Age (b)

498,205 311,748 254,910

Unfunded Actuarial Accrued Liability (UAAL) (b-a)

498,205 311,748 254,910

Funded Ratio (a/b)

2014 2015 2016

% % %

Covered Payroll (c)

2,425,000 2,487,787 2,563,649

Unfunded (Surplus) AAL as a Percentage of Covered

Payroll ((b-a)/c)

20.54 % 12.53 9.94

CBA Special Benefits 2014 2015 2016

12/31/2013 12/31/2014 12/31/2015

466,421 468,889 460,612

466,421 468,889 460,612

1,400,269 1,438,428 1,499,552

33.31 %

32.60

30.72

- 50 -

## ADDITIONAL SUPPLEMENTARY INFORMATION

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## 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.

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

### **STATISTICAL DATA**

#### **CHANGES IN NET POSITION (UNAUDITED)**

**THREE YEARS ENDED DECEMBER 31, 2014-2016**

**(In millions)**

2016

OPERATING REVENUES: Water sales

Provision for doubtful accounts Other operating revenues

Total operating revenues

693.1 (22.5) 22.1

692.7

\$ 773.8 (23.6) 19.2

769.4

\$ 760.6 (24.8) 25.6

761.4

OPERATING EXPENSES: Source of supply Power and pumping Purification

Transmission and distribution Customer accounting and collection Administrative and general  
Central services and General Fund reimbursements Pension expense

Total operating expenses

0.3 43.1 58.5 43.7 11.9 22.0 119.2

298.7

0.2 41.3 57.1 37.3 14.7 22.1 129.1 436.0

737.8

0.1 39.6 57.5 39.2 15.3 20.3 126.4 240.0

538.4

OPERATING INCOME BEFORE DEPRECIATION AND AMORTIZATION

DEPRECIATION AND AMORTIZATION OPERATING INCOME

NONOPERATING REVENUES (EXPENSES): Interest income Interest expenses Swap Termination Fee Other operating revenues

Total nonoperating expenses-net

TRANSFERS OUT

CHANGE IN NET POSITION

TOTAL NET POSITION-Beginning of year, as restated TOTAL NET POSITION-End of year

394.0 58.0

336.0

(0.5) (98.8)

(0-5)

(99.8)

236.2 1,447.0 \$ 1,683.2

31.6 56.4

(24.8)

3.1 (106.1)

0.2

(102.8) (0-6)

(128.2) 1,079.7

\$ 951.5

223.0 68.0

155.0

0.6 (107.9) (101.7)

0.6

(208.4) (2.4)

(55.8) 951.5

895.7

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## CITY OF CHICAGO, ILLINOIS WATER FUND

### STATISTICAL DATA NET POSITION BY COMPONENTS (UNAUDITED) SEVEN YEARS ENDED DECEMBER 31, 2010-2016 (In millions)

| 2010           | 2011           | 2012           |      |      |           |
|----------------|----------------|----------------|------|------|-----------|
| (As Restated)* | (As Restated)* | (As Restated)* | 2013 | 2014 | 2015 2016 |

NET POSITION BY COMPONENTS

|                                 |             |             |              |              |              |                |                |
|---------------------------------|-------------|-------------|--------------|--------------|--------------|----------------|----------------|
| 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     |
| Restricted for                  |             |             |              |              |              |                |                |
| capital projects                | 0.4         | 0.2         | 1.3          | 0.7          | 0.6          | 0.7            | 0.4            |
| 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> |
| TOTAL NET POSITION              | \$ 1,050.7  | \$ 1,093.3  | \$ 1,251.4   | \$ 1,447.0   | \$ 1,683.2   | \$ 951.5       | \$ 895.7       |

\* Restatement due to the implementation of GASB 65 in 2013  
Water Fund intends to provide ten year information as it becomes available.

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CITY OF CHICAGO, ILLINOIS WATER FUND STATISTICAL DATA  
WATER SYSTEM ACCOUNTS (UNAUDITED) TEN YEARS ENDED  
DECEMBER 31, 2007-2016

| Years Ended<br>December 31 | Nonmetered |         | Metered | Total |
|----------------------------|------------|---------|---------|-------|
| 2007                       | 320,579    | 175,256 | 495,835 |       |
| 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 |       |

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## CITY OF CHICAGO, ILLINOIS WATER FUND

STATISTICAL DATA  
TEN LARGEST SUBURBAN CUSTOMERS (UNAUDITED)  
FOR THE YEAR ENDED DECEMBER 31, 2016  
(In thousands)

| Customer                                               | Amount<br>of Sales |
|--------------------------------------------------------|--------------------|
| Dupage Water Commision                                 | \$102,711          |
| Oak Lawn, Illinois                                     | 39,539             |
| Northwest Suburban Municipal Joint Action Water Agency | 38,086             |
| Bedford Park, Illinois                                 | 29,817             |
| Harvey, Illinois                                       | 12,033             |
| Cicero, Illinois                                       | 11,460             |
| Melrose Park, Illinois                                 | 11,053             |
| Niles, Illinois                                        | 8,227              |
| Alsip, Illinois                                        | 8,095              |
| <u>Village of McCook</u>                               | <u>7,361</u>       |
| <u>Total</u>                                           | <u>\$268,382</u>   |

Source: City of Chicago Department of Water Management.

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## CITY OF CHICAGO, ILLINOIS WATER FUND

### STATISTICAL DATA LONG-TERM DEBT (UNAUDITED) SEVEN YEARS ENDED DECEMBER 31, 2010-2016 (In millions)

|                                             | 2010    | 2011          | 2012          | 2013 | 2014    | 2015          | 2016          |                         |
|---------------------------------------------|---------|---------------|---------------|------|---------|---------------|---------------|-------------------------|
| Senior lien bonds \$                        | 83.4    | \$            | 68.9          | \$   | 60.7    | \$            | 49.0          | \$                      |
| 15.0                                        |         |               |               |      |         |               |               |                         |
| Second lien bonds                           |         | 1,614.3       | 1,586.9       |      |         | 1,951.1       | 1,921.6       | 2,258.6                 |
| Commercial paper                            |         | 51.5          | 46.5          |      |         |               |               | 2,222.3 2,261.8         |
| <u>Subordinate lien-IEPA loan</u>           |         | <u>4.6</u>    | <u>18.9</u>   |      |         | <u>18.4</u>   | <u>26.3</u>   | <u>85.7</u>             |
|                                             |         |               |               |      |         |               |               | <u>142.9 191.6</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 |
| Accretion of capital appreciation bonds     |         | 45.9          | 46.9          |      |         | 47.7          | 43.9          | 39.1 33.3 26.3          |
| Unamortized bond discount/premium-net       |         | 31.7          | 30.5          |      |         | 71.0          | 66.9          | 97.0 91.3 161.2         |
| Unamortized deferred loss on bond refunding |         | (41.2)        | (38.7)        |      |         | (36.2)        |               |                         |
| <u>Due within one year</u>                  |         | <u>(46.5)</u> | <u>(48.9)</u> |      |         | <u>(51.0)</u> | <u>(53.0)</u> | <u>(61.0)</u>           |
|                                             |         |               |               |      |         |               |               | <u>(75.7) (89.5)</u>    |
| Total \$                                    | 1,743.7 | \$            | 1,711.0       | \$   | 2,061.7 | \$            | 2,054.7       | \$                      |
| <u>2,566.4</u>                              |         |               |               |      |         |               |               | <u>2,456.9</u>          |
|                                             |         |               |               |      |         |               |               | <u>2,440.3</u>          |

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

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## CITY OF CHICAGO, ILLINOIS WATER FUND

### STATISTICAL DATA CAPITAL IMPROVEMENT PROGRAM (UNAUDITED) 2017-2021 (In thousands)

| Years        | Amount             |
|--------------|--------------------|
| 2017         | \$ 335,495         |
| 2018         | 393,103            |
| 2019         | 440,948            |
| 2020         | 458,449            |
| 2021         | <u>355,224</u>     |
| <u>Total</u> | <u>\$1,983,219</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.

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**CITY OF CHICAGO, ILLINOIS WATER FUND**

**STATISTICAL DATA  
WATER SYSTEM PUMPAGE AND CAPACITY (UNAUDITED)**

**TEN YEARS ENDED DECEMBER 31, 2007-2016**

Years

2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

**Total Pumpage (MGD)**

315,916 301,912 295,121 282,368 281,506 289,545 276,039 274,552 262,606 255,872

**Average**

**Daily Pumpage (MGD)**

866 827 809 773 771 793 756 752 719 701

**Maximum**

**Daily Pumpage (MGD)**

1,200 1,136 1,112 1,012 1,317 1,248 1,095 1,023

890

934

**System's**

**Rated Pumpage Capacity (MGD)**

2,160 2,160 2,160 2,160 2,160 2,160 2,160 2,160 2,160 2,160

**Maximum**

**Daily Pumpage as % of Capacity**

56 53 51 47 61 58 51 47 41 43

Note: Million Gallons Daily (MGD).

Source: City of Chicago Department of Water Management.

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## CITY OF CHICAGO, ILLINOIS WATER FUND

### MISCELLANEOUS STATISTICAL DATA (UNAUDITED) FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

|                                | 2016       | 2015       |
|--------------------------------|------------|------------|
| AREA SERVED (IN SQUARE MILES): |            |            |
| Chicago                        | 228        | 228        |
| <u>125 suburbs</u>             | <u>578</u> | <u>578</u> |

| <u>TOTAL AREA SERVED</u>                              | <u>806</u> | <u>806</u> |
|-------------------------------------------------------|------------|------------|
| WATER WORKS FACILITIES:                               |            |            |
| Filtration plants                                     | 22         |            |
| Continuous service capacity:                          |            |            |
| South Water Filtration Plant (MGD)                    | 720        | 720        |
| Jardine Water Purification Plant (MGD)                | 1,440      | 1,440      |
| Pumping stations-steam                                | 33         |            |
| Pumping stations-electric                             | 99         |            |
| Installed pumping capacity (MGD)                      | 3,661      | 3,661      |
| Crib intakes in service                               | 22         |            |
| Shore intakes (filtration plants)                     | 22         |            |
| Water supply tunnels (6 to 20 feet in diameter)-miles | 64         | 64         |
| DISTRIBUTION SYSTEM:                                  |            |            |
| Water mains (miles)                                   | 4,295      | 4,311      |
| Fire hydrants                                         | 48,190     | 48,543     |
| Valves                                                | 48,670     | 48,954     |

Note: Million Gallons Daily (MGD).

Source: City of Chicago Department of Water Management.

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**CITY OF CHICAGO, ILLINOIS WATER FUND STATISTICAL DATA**  
**OPERATING INFORMATION BY FUNCTION (UNAUDITED)**  
**SEVEN YEARS ENDED DECEMBER 31, 2010-2016**  
**(Number of employees)**

| Function            | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---------------------|------|------|------|------|------|------|------|
| Administration      | 65   | 63   | 62   | 61   | 62   | 61   | 61   |
| Agency management   | 37   | 39   | 37   | 37   | 34   | 36   | 36   |
| Safety and security | 19   | 17   | 16   | 16   | 26   | 27   | 27   |
| Capital design and  |      |      |      |      |      |      |      |

|                                     | construction services |              | 10           | 10           | 8            | 8            | 9            | 9 | 9 |
|-------------------------------------|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|---|---|
| Engineering services                | 4                     | 4            | 4            | 4            | 4            | 6            | 6            |   |   |
| Inspection services                 | 32                    | 32           | 30           | 29           | 29           | 27           | 27           |   |   |
| Water quality                       | 48                    | 48           | 48           | 47           | 47           | 47           | 47           |   |   |
| Water pumping                       | 233                   | 231          | 234          | 222          | 220          | 214          | 214          |   |   |
| Water treatment                     | 324                   | 326          | 323          | 336          | 334          | 344          | 344          |   |   |
| Systems installation                | 39                    | 39           | 34           | 75           | 76           | 75           | 75           |   |   |
| Systems maintenance                 | 582                   | 581          | 583          | 542          | 527          | 520          | 520          |   |   |
| Billings and customer service       | 65                    | 66           | 50           | 50           | 48           | 46           | 46           |   |   |
| Water meter installation and repair | 76                    | 78           | 82           | 84           | 88           | 93           | 93           |   |   |
| <u>Total</u>                        | <u>1,534</u>          | <u>1,534</u> | <u>1,511</u> | <u>1,511</u> | <u>1,504</u> | <u>1,505</u> | <u>1,505</u> |   |   |

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

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**CITY OF CHICAGO, ILLINOIS WATER FUND STATISTICAL DATA  
POPULATION OF SERVICE AREA (UNAUDITED) LAST FIVE CENSUS  
PERIODS**

| Years | Chicago   | Suburban<br>Customers | Total | Number of<br>Served | Suburbs   |
|-------|-----------|-----------------------|-------|---------------------|-----------|
| 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       |               |               |

U.S. Department of Commerce-Census Bureau.

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.

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**CITY OF CHICAGO, ILLINOIS WATER FUND STATISTICAL DATA  
PRINCIPAL EMPLOYERS (NONGOVERNMENT) (UNAUDITED)  
FOR THE YEAR ENDED DECEMBER 31, 2016, AND NINE YEARS AGO**

|                    | Number of |
|--------------------|-----------|
| Employer Employees |           |



Advocate Health Care 18,930 University of Chicago 16,374 Northwestern Memorial Healthcare 15,747 JP Morgan Chase & Co. (2) 15,229 United Continental Holdings Inc. 15,157 Walgreen Boots Alliance Inc. 12,685 Northwestern University 10,241 Presence Health 10,183 Abbott Laboratories 9,800 Jewel Food Stores, Inc. 9,660 Northern Trust Corporation Accenture LLP SBC/AT&T (3) American Airlines Ford Motor Company CVS Corporation Deloitte & Touche

1 2 3 4 5 6 7 8 9 10

**Percentage of  
Total City Employment**

1.48% 1.28 1.23 1.19 1.18 0.99 0.80 0.79 0.76 0.75

**Number of Employees**

9,114 6,102

5,424 4,787 4,283 4,002 3,645 3,367 3,120 2,988  
2007 <sup>(1)</sup>

**Rank**

3 4 5 6 7 8 9 10

**Percentage of  
Total City Employment**

0.73% 0.49

0.43 0.38 0.34 0.32 0.29 0.27 0.25 0.24

NOTES:

NOTES:

- 1) Source Reprinted with permission from the January 16, 2017's issue of Crain's Chicago Business. @2017 Crain Communication, Inc. All right reserved.
- 2) J.P. Morgan Chase formerly known as Banc One.
- 3) AT&T Inc. formerly known as SBC Ameritech. Number of employees is a state wide number.
- 4) Source: City of Chicago, Department of Revenue, Employee's Expense Tax Returns.

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## APPENDIX D

**PROPOSED FORM OF OPINIONS OF CO-BOND COUNSEL**

**APPENDIX D**

**PROPOSED FORM OF OPINIONS OF CO-BOND COUNSEL**

[Dated the Closing Date]

City of Chicago

The Bank of New York Mellon Trust Company  
N.A., as Trustee

Re: City of Chicago

Second Lien Water Revenue Refunding Bonds, Series 2017-2

Ladies and Gentlemen:

We have acted as co-bond counsel in connection with the issuance by the City of Chicago (the "City") of its \$ aggregate principal amount Second Lien Water Revenue Refunding Bonds, Series 2017-2 (the "Bonds"). The Bonds are limited obligations of the City issued pursuant to the authority of Article VII, Section 6(a) of the Illinois Constitution of 1970 and an ordinance adopted by the City Council of the City on November 8, 2017 authorizing the Bonds (the "Ordinance"). The Bonds are being executed and delivered under a Master Indenture of Trust Securing City of Chicago Second Lien Water Revenue Bonds, dated as of December 15, 1999, as heretofore supplemented and amended by Amendment No. 1 to Master Indenture dated as of August 1, 2004 (collectively, the "Master Indenture"), and as further supplemented by the Eleventh Supplemental Indenture Securing Second Lien Water Revenue Refunding Bonds, Series 2017-2, dated as of December 1, 2017 (the "Eleventh Supplemental Indenture," and together with the Master Indenture, the "Indenture") from the City to The Bank of New York Mellon Trust Company, N.A., (as successor to American National Bank and Trust Company of Chicago and J.P. Morgan Trust Company, National Association), as trustee (the "Trustee"). The Bonds are being issued as Second Lien Bonds under the Indenture. Capitalized terms used herein without definition shall have the meanings assigned to such terms in the Indenture or the Ordinance.

The proceeds from the sale of the Bonds will be used to (i) advance refund a portion of the City's outstanding Second Lien Water Revenue Project and Refunding Bonds, Series 2008 (the "Refunded Bonds"), and (ii) pay costs of issuance of the Bonds.

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The Bonds are issuable only as fully registered bonds without coupons in Authorized Denominations. The Bonds are dated the date hereof and are due on November 1 of each of the years and in the amounts and bear interest payable on May 1 and November 1 of each year, commencing May 1, 2018, at the rates per annum, as follows:

| <u>Maturity</u><br><u>(November 1)</u> | <u>Principal</u><br><u>Amount</u> | <u>Rate Per</u><br><u>Annum</u> | <u>Maturity</u><br><u>(November 1)</u> | <u>Principal</u><br><u>Amount</u> | <u>Rate Per</u><br><u>Annum</u> |
|----------------------------------------|-----------------------------------|---------------------------------|----------------------------------------|-----------------------------------|---------------------------------|
|----------------------------------------|-----------------------------------|---------------------------------|----------------------------------------|-----------------------------------|---------------------------------|

The Bonds are subject to optional redemption at the times, in the manner and upon the terms specified in the Eleventh Supplemental Indenture.

In connection with the issuance of the Bonds we have examined the following:

- a) The Constitution of the State of Illinois and such laws as we deemed pertinent to this opinion;
- b) Certified Copies of the Ordinance and the Master Indenture; and
- c) An executed counterpart of the Eleventh Supplemental Indenture; and
- d) Such other documents and related matters of law as we have deemed necessary in order to render this opinion.

Based upon our examination of the foregoing, we are of the opinion that:

1. The City is a municipal corporation duly existing under the laws of the State of Illinois and is a home rule unit of local government within the meaning of Section 6(a) of Article VII of the 1970 Illinois Constitution. The City has all requisite power and authority under the Constitution and the laws of the State of Illinois to adopt the Ordinance, and under the Master Indenture and the Ordinance to enter into the Eleventh Supplemental Indenture with the Trustee and to issue the Bonds thereunder.

2. The Ordinance is in full force and effect and is valid and binding upon the City in accordance with its terms. The Master Indenture and the Eleventh Supplemental Indenture have been duly authorized, executed, and delivered by the City, constitute valid and binding obligations of the City and are legally enforceable in accordance with their respective terms.

3. The Bonds have been duly authorized and issued, are the legal, valid, and binding limited obligations of the City, have received all required approvals for their issuance, are entitled to the benefits and security of the

Indenture, and are enforceable in accordance with their terms.

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4. The Bonds are payable solely from the Second Lien Revenues deposited in the Second Lien Bonds Account maintained by the Trustee under the Ordinance, except for any monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other series of Second Lien Bonds issued or to be issued, and from certain other amounts, as provided in the Master Indenture and the Eleventh Supplemental Indenture, and all other moneys and securities from time to time held by the Trustee under the terms of the Eleventh Supplemental Indenture. The Bonds and the interest thereon are limited obligations of the City and do not constitute an indebtedness of the City within the meaning of any state constitutional or statutory provision or limitation as to indebtedness. The Bonds do not have a claim for payment from any taxes of the City. Neither the faith and credit nor the taxing power of the State of Illinois, the City or any political subdivision of the State of Illinois is pledged to the payment of the principal of, premium, if any, or interest on the Bonds.

5. The Bond Ordinance, the Master Indenture and the Eleventh Supplemental Indenture create the valid and binding assignments and pledges which they purport to create of the amounts assigned and pledged to the Trustee under the Indenture, subject to the application thereof to the purposes and on the conditions permitted by the Indenture.

6. Subject to condition that the City comply with certain covenants made to satisfy pertinent requirements of the Internal Revenue Code 1986, as amended, under present law, in the opinion of Co-Bond Counsel, interest on the Bonds is excluded from the gross income of the owners thereof for federal income tax purposes, and is not included as an item of tax preference in computing the federal alternative minimum tax for individuals and corporations, but is taken into account in computing an adjustment used in determining the federal alternative minimum tax for certain corporations. Failure to comply with certain of such covenants could cause interest on the Bonds to be included in gross income retroactively to the date of issuance of the Bonds. Ownership of the Bonds may result in other federal tax consequences to certain taxpayers. We express no opinion regarding any such collateral consequences arising with respect to the Bonds. In rendering the foregoing opinion we have relied on certifications of the City with respect to certain material facts solely within its knowledge relating to the application of the proceeds of the Bonds, the application of the proceeds of the Refunded Bonds, and certain other matters pertaining to the tax-exempt status of the Bonds. We are also relying, without independent investigation on the verification report of Robert Thomas CPA, LLC, with respect to the mathematical computations of (i) the yield on the Bonds and the yield on certain investments and (ii) the sufficiency of amounts to be applied to the payment and redemption of the Refunded Bonds.

7. Interest on the Bonds is not exempt from present Illinois income taxes. Ownership of the Bonds may result in other state and local tax consequences to certain taxpayers, and we express no opinion regarding any such collateral consequences arising with respect to the Bonds.

In rendering this opinion, we advise you that the enforceability (but not the validity or binding effect) of the Bonds, the Ordinance, the Master Indenture and the Eleventh Supplemental Indenture (i) may be limited by any applicable bankruptcy, insolvency, reorganization, moratorium, and other similar laws reflecting the rights or remedies of creditors now or hereafter in effect and (ii) is subject to principles of equity in the event that equitable remedies are sought, either in an action at law or in equity.

We express no opinion with respect to the Bonds or other matters related to the Bonds other than those specifically rendered here. Our opinion represents our professional judgment regarding the legal issues expressly addressed herein, and is not a guarantee of a result. This opinion is given as of the date hereof and we assume no obligation to revise or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or any changes in law that may hereafter occur.

Respectfully submitted,

DM3N4889716.8

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**APPENDIX E**



# SPECIMEN MUNICIPAL BOND INSURANCE POLICY

## Assured guaranty'

MUNICIPAL

## MUNICIPAL BOND INSURANCE POLICY

ISSUER-

hereby lent (the mds) for stfbject only to mcipal of and Nonpayment by ASSURED GUARANTY MUNICIPAL CORP i'AGW UNCONDITIONALLY AND IRREVOCABLY agrees lo pay to the 'Paying Agent") (as set forth in the documentation providing for the Bonds, for the benefit ofthe Owners or, al the election of the terms of this Policy (which includes each endorsement interest on the Bonds that shall become Oue for Payment but si the issuer.

On the later of the day on which such Business Day next following the Business AGM wil disburse to or for the benefit of e, on the Bond that is (hen Due for Payment only upon receipt by AGM. in a form receive payment of the principal appropriate instruments of assigni principal or interest that is Due for deemed received on a .given Busi Business Day; otherwise, \* Nonpayment receiwd purposes of the pn Owner, as appropi respect of a Bond to receipt of p. Owner, including AGM herefflMgr. Pa the exjent theqf. disci

BONDS: \$ in aggregate principal amount of  
rge the

st bewses Due for Payment or the whiohJ?QWteiall rove' reSSCsd Notice of Nonpayment, er of yBpwnWBBWt amount of principal of and interest unpathby reaj&qtqof Nonpayment by the Issuer, but factory w^it. of (a) evidence of the Owner's right to for PStauNit and (b) evidence, including any II of InffULftoner's Jwhts with respect to payment of such shall o^ereupowto\* in AGM. A Notice of Nonpayment will be Day if it 15 recelveiMpYor to 1:00 p.m. (New York tome) on such [eemed. receiyqd on the next Business Day. If any Notice of deemed not to have been received by AGM for promptly so advise the Trustee, Paying Agent or ed Notice of Nonpayment. Upon disbursement in pwrvsr of the Bond, any appurtenant coupon to Che Bond or right t on the Bond and shall be fully subrogated to the rights of the payments under the Bond, to the extent of any payment by Trustee or Paying Agent for the benefit of the Owners shall, to of AGM und er th is Policy.

except td-TOi extent expressly modified by an endorsement hereto, the following terms shall have tFE meahhgs speorwkfor all purposes of this Policy. "Business Da/ means any day other than (a) a day ot-Suodav orfffl^May on which banking institutions in the State of New York or the Insurer's f^Mafcmj^lIp^t^hnriJSTni required by law or executive order to reman closed. "Due for Payment' means (a) when lewringfto the pncipal of a Bond, payable on the stated maturity date thereof or the date on which tile same Spall have been duly called for mandatory sink rig fund redemption and does not refer to any eartierMye oo^nich payment is due by reason of call for redemption (other than by mandatory sinking fund redemfwnSSacceleration or other advancement of maturity unless AGM shall elect, in its sole discretion, to pay such principal due upon such acceleration together with any accrued interest to the date of acceleration and (b).when referring so interest on a Bond! payable on the stated date for payment of interest. "Nonpayment" means, h respect of a Bond. the.failure of the issuer to have provided sufficient funds to the Trustee or. if there is no Trustee, to .the Paying Agent for payment In full of all principal and interest that is;bue for Payment oil such Bond. "Nonpayment" shall also include, in respect of a Bond, any payment of principal or interest that is Due for Payment made to an Owner by or on behalf of the Issuer which has been recovered from such Owner pursuant to the

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Page 2 of 2 Policy No. -N

Unfed States Bankruptcy Code by a trustee in bankruptcy h accordance with a final;nonappealable order of a .court having competent jurisdiction.. "Notice"<sup>1</sup> means telephonic or telecopied notice, subsequently confirmed in a signed writing, or written notice by registered or certified mail from an Owner, the Trustee or the Payiig Agent to AGM which notice shall, specify (3) the .person or entty making the.claim, (b) the Pqlcy Number, (c) the claimed amount and (dj the date suettcialmedamount becameDue for Payment. "Owner" means..in respect of a Bond, the person or entity who. at the time of Nonpayment, is entitled under the terms of such Bond to payment thereof, except that "Owner" shall not include the Issuer or any person or entity whose drect or indirect obligation consttutes the underlying security for the Bond s.,

AGM may appoint a fiscal agent (the "Insurer's Fiscal Agenf > for purposes oPtois Policy by giving written notice to the Trustee and the Paying Agent specifying the name and rwitce ao^fess^bf the Insurer's Fiscal Agent. From and after the date of receipt of such nonce bv int^^Brtafc arid in^pavino Agent, (a) copies of all notices required to be delivered to AGM pursuanttPSBBjoteawt^ be simultaneously delivered to the Insurer's Fiscal Agent and to AGM and sbpPhpt be dWRed raefteafifegtii received by both and (b) all payments required to be made by AGM urrfp this Policy ma^be made directly by AGM or by the Insurer's Fiscal Agent on behalf of AGM. Trie insuidKs Fiscal Jkoent is tr^agent of AGM only and the Insurer's Fiscal Agent shall in no event be liable to anyOwftc for an/feet of th eTnture/s Fiscal Agent or any failure of AGM to deposit or cause to be deposit\* sufficMLfuriOsaff make payments.due under this Policy. \*

To the fullest extent permitted by applicable law, AGljl only for the benefit of each Owner, all rights (whether by counts^ (including, without limitation, the defense of frauolfcwhether otherwise, to the extent that such rights and defertseyaEhbe avd obligations under this Policy in accordance whhjme expn not W^aert^nd hereby waives, itbfT or iKMnwise) and defenses ilreBlby subtppatibn. assignment or >ble toMGM to avoid payment of its jfhtsBBBlcy.

MUNICIPAL CORP. has caused this Policy to be

ASSURED GUARANTY MUNICIPAL CORP.

By.  
Authorized Officer

A subsidiary of Assured Guaranty Municipal Holdings Inc. 1633 Broadway. New York, N.Y. 10019 (212)974-0100

Form 500NY (5/OD)

E-2

CITY OF CHICAGO to  
THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.,  
as Trustee

**ELEVENTH SUPPLEMENTAL INDENTURE**  
**SECURING**  
**SECOND LIEN WATER REVENUE REFUNDING BONDS ,**  
**SERIES 2017-2**

**DATED AS OF DECEMBER 1, 2017**

Supplementing a Master Indenture of Trust Securing Second Lien Water Revenue Bonds, dated as of December 15, 1999, from the City of Chicago to The Bank of New York Mellon Trust Company, N.A., as successor Trustee, as amended by Amendment No. 1 To Master Indenture, dated as of August 1, 2004.

THIS ELEVENTH SUPPLEMENTAL INDENTURE is made and entered into as of December 1, 2017 (this "Eleventh Supplemental Indenture"), from the City of Chicago (the "City"), a municipal corporation and home rule unit of local government duly organized and existing under the Constitution and laws of the State of Illinois, to The Bank of New York Mellon Trust Company, N.A., a national banking association duly organized, existing and authorized to accept and execute trusts of the character set out in this Eleventh Supplemental Indenture under and by virtue of the laws of the United States of America, as Trustee (the "Trustee").

**WITNESSETH:**

WHEREAS, the City is a duly constituted and existing municipality within the meaning of Section 1 of Article VII of the 1970 Constitution of the State of Illinois, and is a "home rule unit" of local government under Section 6(a) of Article VII of the 1970 Constitution; and

WHEREAS, the City has constructed and is maintaining and operating the Water System (as defined in the Series 2017-2 Bond Ordinance described below) to meet the needs of the City's inhabitants and other users of the Water System; and

WHEREAS, the Water System is operated under the supervision and control of the Department of Water Management of the City; and

WHEREAS, the City has issued and has outstanding its Outstanding Senior Lien Bonds, Outstanding Second Lien Bonds and its Outstanding Subordinate Lien Obligations; and

WHEREAS, the City has determined that it is advisable and in the best interests of the City to authorize the issuance from time to time of its Second Lien Water Revenue Refunding Bonds, Series 2017-2 ("Series 2017-2 Second Lien Bonds"), subject to the authorization limits specified in the Series 2017-2 Bond Ordinance, for any one or more of the purposes of (1) refunding the Refunded Bonds, (2) paying Costs of Issuance of the Series 2017-2 Second Lien Bonds, and (3) providing for any discount on the Series 2017-2 Second Lien Bonds; and

WHEREAS, the aggregate estimated amount of uses for the Series 2017-2 Second Lien Bonds does not exceed \$400,000,000. The proceeds of the Series 2017-2 Second Lien Bonds incurred for the costs described in clause (1) - (3) of the immediately preceding paragraph (the "2017-2 Costs") will not exceed the amount required to pay such costs; and

WHEREAS, the City does not have available funds sufficient to pay the 2017-2 Costs;  
and

WHEREAS, pursuant to an ordinance duly adopted by the City Council on November 8, 2017 (the "Series 2017-2 Bond Ordinance"), the City has determined to authorize the issuance of the Series 2017-2 Second Lien Bonds in one or more series for any one or more of the purposes described therein; and

WHEREAS, the City has entered into a Master Indenture of Trust Securing City of Chicago Second Lien Water Revenue Bonds, dated as of December 15, 1999, as heretofore supplemented and as amended by Amendment No. 1 To Master Indenture, dated as of August 1,

2004 (said Master Indenture as heretofore and hereafter supplemented and amended, including by this Eleventh Supplemental Indenture, the "Indenture"), with the Trustee, which Indenture authorizes the issuance of Second Lien Parity Bonds in one or more series pursuant to one or more Supplemental Indentures and the incurrence by the City of Section 2.08 Obligations (as defined in the Indenture) and Section 2.09 Obligations (as defined in the Indenture); and

WHEREAS, pursuant to Section 2.01 of Part B of the Series 2017-2 Bond Ordinance, the City has authorized the issuance and sale of the Series 2017-2 Second Lien Bonds pursuant to the Indenture in one or more separate series that may be issued under or pursuant to the Series 2017-2 Bond Ordinance and the Indenture (provided that the total principal amount of any Series 2017-2 Bonds shall not exceed \$400,000,000, plus an amount equal to the amount of any original issue discount (not to exceed 15 percent of the aggregate principal amount of such series of Bonds) used in the marketing of such Series 2017-2 Second Lien Bonds); and

WHEREAS, pursuant to such authorization, in order to pay the 2017-2 Costs, the City has, pursuant to authorization granted in the Series 2017-2 Bond Ordinance, determined to issue and sell the Series 2017-2 Second Lien Bonds authorized as aforesaid; and

WHEREAS, such Series 2017-2 Second Lien Bonds shall be issued and sold in a single series as provided in this Eleventh Supplemental Indenture, being the aggregate principal amount of \$235,260,000 and designated as "Second Lien Water Revenue Refunding Bonds, Series 2017-2;" and

WHEREAS, the Series 2017-2 Second Lien Bonds, and the Trustee's Certificate of Authentication to be endorsed on such Bonds, shall be substantially in the forms attached to this Eleventh Supplemental Indenture as Exhibit A, with necessary and appropriate variations, omissions and insertions as permitted or required by the Series 2017-2 Bond Ordinance or the Indenture;

**NOW, THEREFORE, THIS ELEVENTH SUPPLEMENTAL INDENTURE WITNESSETH:**

#### **GRANTING CLAUSES**

*That the City, in consideration of the premises and the acceptance by the Trustee of the trusts created by this Eleventh Supplemental Indenture, and of the purchase and acceptance of the Series 2017-2 Second Lien Bonds by their Registered Owners, and of the sum of one dollar, lawful money of the United States of America, to it duly paid by the Trustee at or before the execution and delivery of these presents, and for other good and valuable consideration, the receipt and sufficiency of which are acknowledged, to secure the payment of the principal of, premium, if any, and interest on the Series 2017-2 Second Lien Bonds according to their tenor and*

*effect, and to secure the performance and observance by the City of all the covenants expressed or implied in this Eleventh Supplemental Indenture and in the Series 2017-2 Second Lien Bonds, assigns and grants a security interest in and to the following to the Trustee, and its successors in trust and assigns forever, for the securing of the performance of the obligations of the City set forth below (the "Trust Estate"):*

3

**GRANTING CLAUSE FIRST**

All right, title and interest of the City in and to Second Lien Bond Revenues and amounts on deposit in the Second Lien Bonds Account (other than monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other Series of Second Lien Bonds issued or to be issued), in each case to the extent pledged and assigned in the granting clauses of the Indenture, as supplemented by the Series 2017-2 Bond Ordinance;

**GRANTING CLAUSE SECOND**

All moneys and securities from time to time held by the Trustee under the terms of this Eleventh Supplemental Indenture; and

**GRANTING CLAUSE THIRD**

Any and all other property, rights and interests of every kind and nature from time to time hereafter by delivery or by writing of any kind granted, bargained, sold, alienated, demised, released, conveyed, assigned, transferred, mortgaged, pledged, hypothecated or otherwise subjected to this Eleventh Supplemental Indenture, as and for additional security under this Eleventh Supplemental Indenture by the City or by any other person on its behalf or with its written consent to the Trustee, and the Trustee is by this Eleventh Supplemental Indenture authorized to receive any and all such property at any and all times and to hold and apply the same subject to the terms of this Eleventh Supplemental Indenture;

TO HAVE AND TO HOLD all and singular the Trust Estate, whether now owned or hereafter acquired, unto the Trustee and its successors in said trust and assigns forever;

IN TRUST, NEVERTHELESS, upon the terms and trusts set forth in this Eleventh Supplemental Indenture for the equal and proportionate benefit, security and protection of all present and future Registered Owners of the Series 2017-2 Second Lien Bonds and all other Second Lien Bonds issued or secured from time to time under the provisions of the Indenture, without privilege, priority or distinction as to the lien or otherwise of any of the foregoing over any other of the foregoing, except to the extent otherwise specifically provided in the Indenture;

PROVIDED, HOWEVER, that if the City, its successors or assigns shall well and truly pay, or cause to be paid, the principal of, premium, if any, and interest on the Series 2017-2 Second Lien Bonds, and shall cause the payments to be made on such Series 2017-2 Second Lien Bonds as required in this Eleventh Supplemental Indenture, and shall well and truly cause to be kept, performed and observed all of its covenants and conditions pursuant to the terms of the Indenture and shall pay or cause to be paid to the Trustee all sums of money due or to become due to the Trustee in accordance with the terms and provisions of this Eleventh Supplemental Indenture, then upon the final payment of such sums this Eleventh Supplemental Indenture and the rights by this Eleventh Supplemental Indenture granted shall cease, determine and be void; otherwise this Eleventh Supplemental Indenture shall remain in full force and effect.

**THIS ELEVENTH SUPPLEMENTAL INDENTURE FURTHER WITNESSETH,**  
and it is expressly declared; that all Series 2017-2 Second Lien Bonds issued and secured under

this Eleventh Supplemental Indenture are to be issued, authenticated and delivered, and all said property, rights and interests and any other amounts assigned and pledged by this Eleventh Supplemental Indenture are to be dealt with and disposed of, under, upon and subject to the terms, conditions, stipulations, covenants, agreements, trusts, uses and purposes expressed in this Eleventh Supplemental Indenture, and the City has agreed and covenanted and by this Eleventh Supplemental Indenture agrees and covenants with the Trustee, the respective owners of the Series 2017-2 Second Lien Bonds as follows:

#### ARTICLE I DEFINITIONS

Section 1.01. Definitions. All capitalized terms used in this Eleventh Supplemental Indenture unless otherwise defined shall have the same meaning as used in Article I of the Indenture and in the Series 2017-2 Bond Ordinance. In addition to the terms defined in the preambles of this Eleventh Supplemental Indenture, the following words and phrases shall have the following meanings for purposes of this Eleventh Supplemental Indenture:

"Authorized Denomination" means, with respect to a particular Series 2017-2 Second Lien Bond, \$5,000 and any integral multiple of \$5,000.

"Bondholder," "holder," "owner of the Series 2017-2 Second Lien Bonds" or "Registered Owner" means the Registered Owner of any Series 2017-2 Second Lien Bond.

"Bond Insurance Policy" means the municipal bond insurance policy issued by the Bond Insurer insuring the scheduled payment of principal and interest on the Insured Bonds.

"Bond Insurer" means Assured Guaranty Municipal Corp. and its successors and assigns.

"Bond Register" means the registration books of the City kept by the Trustee (in its capacity as Bond Registrar) to evidence the registration and transfer of Series 2017-2 Second Lien Bonds.

"Bond Registrar" means the Trustee.

"Chief Financial Officer" means the Chief Financial Officer appointed by the Mayor of the City or, in the event no person is at the time then so appointed and acting, the City Comptroller of the City.

"City" means the City of Chicago, a municipal corporation and home rule unit of local government, organized and existing under the Constitution and laws of the State.

"Code" means the United States Internal Revenue Code of 1986, as amended. References to the Code and to Sections of the Code shall include relevant final, temporary or proposed regulations thereunder as in effect from time to time and as applicable to obligations issued on the Date of Issuance.

"Date of Issuance" means December 21, 2017, the date of original issuance and delivery of the Series 2017-2 Second Lien Bonds under this Eleventh Supplemental Indenture.

"DTC" means The Depository Trust Company, New York, New York, or its nominee, and its successors and assigns, or any other depository performing similar functions.

"Eleventh Supplemental Indenture " means this Eleventh Supplemental Indenture and any amendments and supplements to this Eleventh Supplemental Indenture.

"Indenture " means the Master Indenture of Trust Securing Second Lien Water Revenue Bonds, dated as of December 15, 1999, from the City to the Trustee, pursuant to which Second Lien Bonds are authorized to be issued, as heretofore supplemented and as amended by Amendment No. 1 To Master Indenture, dated as of August 1, 2004 and any additional amendments and supplements to it, including this Eleventh Supplemental Indenture. References to Articles and Sections of the Indenture shall be deemed to refer to Articles and Sections of the Master Indenture as amended and supplemented.

"Insured Bonds" means the Series 2017-2 Second Lien Bonds maturing on November 1 of the years 2028 and 2030 through 2038, inclusive, certain special provisions with respect to which are set forth on Exhibit B to this Eleventh Supplemental Indenture.

"Interest Payment Date" means each May 1 and November 1, commencing on May 1, 2018.

"Maturity Date" means, with respect to a particular Series 2017-2 Second Lien Bond, the maturity date for such Series 2017-2 Second Lien Bond set forth in Section 2.01(c) hereof.

"Opinion of Bond Counsel" means a written opinion of Bond Counsel in form and substance acceptable to the City and the Trustee, which opinion may be based on a ruling or rulings of the Internal Revenue Service.

"Participant," when used with respect to any Securities Depository, means any participant of such Securities Depository.

"Paying Agent" means the Trustee and any other bank, national banking association or trust company designated by the City or the Trustee pursuant to Section 8.03 hereof as a paying agent for the Series 2017-2 Second Lien Bonds, and any successor or successors appointed by the Chief Financial Officer or the Trustee under this Eleventh Supplemental Indenture.

"Permitted Investments " means any of the following to the extent permitted by law and by the Indenture (which definition of "Indenture," for purposes of this definition only, shall not include this Eleventh Supplemental Indenture) at the time of such investment:

a) direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America; and

b) shares of a money market fund registered under the Investment Company Act of 1940, whose shares are registered under the Securities Act of 1933, as amended, including those

for which the Trustee or an affiliate performs services for a fee, whether as custodian, transfer agent, investment advisor or otherwise.

"Principal and Interest Account" means the account designated the "Series 2017-2 Second Lien Bonds, Principal and Interest Account" established in the 2017-2 Second Lien

Bonds Subaccount as described in Section 4.02(b)(iii) and Section 4.05 hereof.

"Principal and Interest Account Requirement" means an amount, calculated as of each

' Deposit Date, equal to the total Principal Installments and interest due on the  
Series 2017-2  
Second Lien Bonds on such Deposit Date.

"Program Fee Account" means the account designated the "Series 2017-2 Second Lien  
Bonds, Program Fee Account" established in the 2017-2 Second Lien Bonds Subaccount as  
described in Section 4.02(b)(ii) and Section 4.06 hereof.

"Program Fees " means:

(a) the fees, expenses and other charges payable to each fiduciary, including  
the Trustee, the Trustee's Agent and any Paying Agent, pursuant to the provisions of  
J Section 8.05 of the Indenture; provided that if at any time there shall be any

Second Lien Bonds Outstanding under the Indenture other than the Series 2017-2 Second  
Lien Bonds, then "Program Fees" shall mean only such portion of such fees, expenses  
and other charges as shall be payable with respect to, or properly allocable to, the duties  
performed by each such fiduciary with respect to the Series 2017-2 Second Lien Bonds;

b) ongoing fees payable to any Rating Agency maintaining a rating on any  
Series 2017-2 Second Lien Bonds; and

c) any other fees, expenses and other charges of a similar nature payable by  
the City to any person under this Eleventh Supplemental Indenture or otherwise with  
respect to the Series 2017-2 Second Lien Bonds.

"Rating Agency" means any nationally recognized securities ratings service that shall  
have assigned ratings to any Series 2017-2 Second Lien Bond as requested by or on behalf of the  
City and which ratings are then currently in effect.

"Record Date" means April 15 and October 15 of each year (whether or not a Business  
Day).

"RefundedBonds" means the City's Second Lien Water Revenue Project and Refunding  
Bonds, Series 2008 maturing on November 1 of the years and in the amounts set forth below:



Principal Amount

|              |            |           |            |            |            |             |  |  |  |
|--------------|------------|-----------|------------|------------|------------|-------------|--|--|--|
| 2019         |            |           |            |            |            |             |  |  |  |
| 2020         |            |           |            |            |            |             |  |  |  |
| 2021         |            |           |            |            |            |             |  |  |  |
| 2022         |            |           |            |            |            |             |  |  |  |
| 2023         |            |           |            |            |            |             |  |  |  |
| 2024 *       |            |           |            |            |            |             |  |  |  |
| 2024 *       |            |           |            |            |            |             |  |  |  |
| 2025         |            |           |            |            |            |             |  |  |  |
| 2028         |            |           |            |            |            |             |  |  |  |
| 2033 **      |            |           |            |            |            |             |  |  |  |
| 2038         |            |           |            |            |            |             |  |  |  |
| \$16,075,000 | 16,880,000 | 9,870,000 | 10,365,000 | 10,885,000 | 1,910,000  | 9,515,000   |  |  |  |
| 995,000      |            |           |            |            |            |             |  |  |  |
|              |            |           |            | 13,885,000 | 66,385,000 | 104,570,000 |  |  |  |

\* Split maturity.

\*\* The redemption amount will be credited against portions of the mandatory sinking fund redemption payments for this maturity due on November 1 of 2030 and 2031, and all of the mandatory sinking fund redemption payments for this maturity due on November 1 of 2032 and 2033.

"Registered Owner " or "Owner " means the person or persons in whose name or names a Series 2017-2 Second Lien Bond shall be registered in the Bond Register.

"Securities Depository " means DTC and any other securities depository registered as a clearing agency with the Securities and Exchange Commission pursuant to Section 17A of the Securities Exchange Act of 1934, as amended, and appointed as the securities depository for the Series 2017-2 Second Lien Bonds.

"Series 2017-2 Second Lien Bonds" means the \$235,260,000 aggregate principal amount of Second Lien Water Revenue Refunding Bonds, Series 2017-2 authorized to be issued pursuant to Section 2.01 hereof.

"State" means the State of Illinois.

"Tax Regulatory Agreement" means the Tax Regulatory Agreement of the City relating to the Series 2017-2 Second Lien Bonds delivered by the City on the date of issuance of the Series 2017-2 Second Lien Bonds.

"Trust Estate" means the property conveyed to the Trustee pursuant to the Granting Clauses of this Eleventh Supplemental Indenture.

"Trustee" means The Bank of New York Mellon Trust Company, N.A., a national banking association duly organized and existing under the laws of the United States of America (as successor trustee), and its successors and any entity resulting from or surviving any

consolidation or merger to which it or its successors may be a party, and any successor Trustee at the time serving as successor trustee under this Eleventh Supplemental Indenture.

"Trustee's Agent" means any agent designated as Trustee's Agent by the Trustee and at the time serving in that capacity. Any agent so designated by the Trustee shall execute a written agreement with the Trustee assuming all obligations of the Trustee under this Eleventh Supplemental Indenture with respect to those duties of the Trustee which such agent agrees to perform on behalf of the Trustee.

"2017-2 Costs" has the meaning ascribed to it in the preambles to this Eleventh Supplemental Indenture.

"2017-2 Second Lien Bonds Subaccount" means the fund of that name established within the Second Lien Bonds Account created under Section 3.03(d) of Part B of the Series 2017-2 Bond Ordinance, as further described in Sections 4.02, 4.04, 4.05 and 4.06 hereof.

## ARTICLE II THE SERIES 2017-2 SECOND LIEN BONDS

Section 2.01. Authority for and Issuance of Series 2017-2 Second Lien Bonds, (a) No Series 2017-2 Second Lien Bonds may be issued under the provisions of this Eleventh Supplemental Indenture except in accordance with this Article. The Series 2017-2 Second Lien Bonds are being issued to provide funds to pay 2017-2 Costs.

b) Pursuant to the Series 2017-2 Bond Ordinance, the total principal amount of any Series 2017-2 Second Lien Bonds shall not exceed \$400,000,000, plus an amount equal to the amount of any original issue discount (not to exceed 15 percent of the aggregate principal amount of such series of Bonds (other than Series 2017-2 Second Lien Bonds issued in lieu of or in substitution for which other Series 2017-2 Second Lien Bonds have been authenticated and delivered pursuant to Sections 2.01(c), 2.03, 2.04, 2.06, 2.07 or 3.04(d) hereof). The Series 2017-2 Second Lien Bonds shall be issuable as fully registered bonds, without coupons, in Authorized Denominations, substantially in the form attached as Exhibit A. Unless the City shall otherwise direct, the Series 2017-2 Second Lien Bonds shall be lettered and numbered from R-1 and upwards, but need not be numbered consecutively.

c) The Series 2017-2 Second Lien Bonds shall be designated "City of Chicago Second Lien Water Revenue Refunding Bonds, Series 2017-2" and shall be issued in the aggregate principal amount of \$235,260,000. The Series 2017-2 Second Lien Bonds shall be dated the Date of Issuance, and shall mature on November 1 in each of the years and in the principal amounts and shall bear interest at the respective rates per annum set forth in the table below:

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Maturity (November 1)  
Principal Amount  
Rate Per Annum  
Maturity (November 1)  
Principal Amount  
Rate per Annum

| 2018         | 2019       | 2020       | 2021      | 2022      | 2023       | 2024       | 2028 | 2030 |
|--------------|------------|------------|-----------|-----------|------------|------------|------|------|
| \$ 3,000,000 | 16,950,000 | 12,640,000 | 5,415,000 | 5,690,000 | 5,975,000  | 6,270,000  |      |      |
|              |            |            |           |           | 13,585,000 | 15,030,000 |      |      |

|              |            |            |            |            |            |            |            |       |
|--------------|------------|------------|------------|------------|------------|------------|------------|-------|
| 5.00%        | 5.00%      | 5.00%      | 5.00%      | 5.00%      | 5.00%      | 5.00%      | 5.00%      | 5.00% |
| 2031         | 2032       | 2033       | 2034       | 2035       | 2036       | 2037       | 2038       |       |
| \$15,780,000 | 16,570,000 | 17,400,000 | 18,275,000 | 19,185,000 | 20,145,000 | 21,145,000 | 22,205,000 |       |
| 5.00%        | 5.00%      | 5.00%      | 5.00%      | 5.00%      | 5.00%      | 5.00%      | 5.00%      |       |

d) Each Series 2017-2 Second Lien Bond authenticated prior to the first Interest Payment Date for such Series 2017-2 Second Lien Bond shall bear interest from the Date of Issuance, and following the first Interest Payment Date interest shall accrue as set forth in the next paragraph except that if as shown by the records of the Trustee, interest on such Series 2017-2 Second Lien Bond shall be in default, any Series 2017-2 Second Lien Bond issued in exchange for or upon the registration of transfer of such Series 2017-2 Second Lien Bond shall bear interest from the date to which interest has been paid in full on such Series 2017-2 Second Lien Bond or, if no interest has been paid on such Series 2017-2 Second Lien Bond, the Date of Issuance. Each Series 2017-2 Second Lien Bond shall bear interest on overdue principal and, to the extent permitted by law, on overdue premium, if any, and interest at the rate borne by such Series 2017-2 Second Lien Bond on the date on which such principal, premium or interest came due and payable.

e) Interest on the Series 2017-2 Second Lien Bonds shall be payable on each Interest Payment Date, computed upon the basis of a 360-day year consisting of twelve 30-day months. No interest shall accrue on any Series 2017-2 Second Lien Bond after the Maturity Date thereof {provided, the payment at maturity is paid or provided for in accordance with the provisions of the Indenture).

f) The principal of and interest on the Series 2017-2 Second Lien Bonds shall be payable in any coin or currency of the United States of America which, at the respective dates of payment of such Series 2017-2 Second Lien Bonds, is legal tender for the payment of public and private debts.

g) The principal of the Series 2017-2 Second Lien Bonds shall be payable at the designated corporate trust office of the Trustee or, at the option of the Registered Owners, at the designated corporate trust office of any Paying Agent named in such Series 2017-2 Second Lien Bonds, upon presentation and surrender of such Series 2017-2 Second Lien Bonds.

h) Payment of interest on Series 2017-2 Second Lien Bonds shall be made by check mailed on the Interest Payment Date to the persons appearing on the Bond Register as the Registered Owners of such Series 2017-2 Second Lien Bonds as of the close of business of the

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Trustee on the Record Date at the addresses of such Registered Owners as they appear on the Bond Register, or at such other addresses as are furnished to the Trustee in writing by the Registered Owners not later than the Record Date. Payment of interest on any Series 2017-2 Second Lien Bond shall be made to the Registered Owner of \$1,000,000 or more in aggregate principal amount of Series 2017-2 Second Lien Bonds as of the close of business of the Trustee on the Record Date for a particular Interest Payment Date by wire transfer to such Registered Owner on such Interest Payment Date upon written notice from such Registered Owner containing the wire transfer address within the United States to which such Registered Owner wishes to have such wire directed, which written notice is received not later than the Business Day next preceding the Record Date.

(i) The Series 2017-2 Second Lien Bonds shall bear interest from and including the Date of Issuance, until payment of the principal or Redemption Price of such Series 2017-2 Second Lien Bonds shall have been made or provided for in accordance with the provisions of this Eleventh Supplemental Indenture, whether at the Maturity Date or otherwise.

Section 2.02. Execution; Limited Obligations. The Series 2017-2 Second Lien Bonds shall be executed on behalf of the City with the official manual or facsimile signature of the Mayor of the City and attested with the official manual or facsimile signature of its City Clerk or Deputy City Clerk, and shall have affixed, impressed, imprinted or otherwise reproduced on such Series 2017-2 Second Lien Bonds the corporate seal of the City or a facsimile of such seal. The Series 2017-2 Second Lien Bonds are issued pursuant to and in full compliance with the Constitution and laws of the State, and pursuant to the Series 2017-2 Bond Ordinance. The Series 2017-2 Second Lien Bonds, the Section 2.08 Obligations and the Section 2.09 Obligations are not general obligations of the City, but are limited obligations payable solely from the Trust Estate, including Second Lien Bond Revenues, amounts on deposit in the Second Lien Bonds Account, and shall be a valid claim of the respective Registered Owners of the Series 2017-2 Second Lien Bonds only against the Trust Estate, including amounts on deposit in the Second Lien Bonds Account (other than monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other Series of Second Lien Bonds issued or to be issued) and other moneys held by the Trustee or otherwise pledged therefor, which amounts are by this Eleventh Supplemental Indenture pledged, assigned and otherwise held as security for the equal and ratable payment of the Series 2017-2 Second Lien Bonds, the Section 2.08 Obligations and the Section 2.09 Obligations, and shall be used for no other purpose than to pay the principal of, premium, if any, and interest on the Series 2017-2 Second Lien Bonds, the Section 2.08 Obligations and the Section 2.09 Obligations, except as may be otherwise expressly authorized in the Indenture. Neither the Series 2017-2 Second Lien Bonds, the Section 2.08 Obligations nor the Section 2.09 Obligations shall constitute an indebtedness of the City or a loan of credit of the City within the meaning of any constitutional or statutory limitation, and neither the faith and credit nor the taxing power of the City, the State or any political subdivision of the State is pledged to the payment of the principal of premium, if any, or the interest on the Series 2017-2 Second Lien Bonds, the Section 2.08 Obligations or the Section 2.09 Obligations, or other costs incident to the Series 2017-2 Second Lien Bonds, the Section 2.08 Obligations or the Section 2.09 Obligations. In case any officer whose signature or a facsimile of whose signature shall appear on the Series 2017-2 Second Lien Bonds shall cease to be such officer before the delivery of such Series 2017-2 Second Lien Bonds, such signature

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or such facsimile shall nevertheless be valid and sufficient for all purposes, as if such officer had remained in office until delivery.

Section 2.03. Authentication. No Series 2017-2 Second Lien Bond shall be valid or obligatory for any purpose or be entitled to any security or benefit under this Eleventh Supplemental Indenture unless and until such certificate of authentication in substantially the form attached to this Eleventh Supplemental Indenture as part of Exhibit A shall have been duly executed by the Trustee, and such executed certificate of the Trustee upon any such Series 2017-2 Second Lien Bond shall be conclusive evidence that such Series 2017-2 Second Lien Bond has been authenticated and delivered under this Eleventh Supplemental Indenture. The Trustee's certificate of authentication on any Series 2017-2 Second Lien Bond shall be deemed to have been executed by it if (i) signed by an authorized signatory of the Trustee, but it shall not be necessary that the same signatory sign the certificates of authentication on all of the Series 2017-2 Second Lien Bonds issued under this Eleventh Supplemental Indenture and (ii) the date of authentication on such Series 2017-2 Second Lien Bond is inserted in the place provided for such date in the certificate of authentication.

Section 2.04. Form of Series 2017-2 Second Lien Bonds; Temporary Series 2017-2 Second Lien Bonds. The Series 2017-2 Second Lien Bonds issued under this Eleventh Supplemental Indenture shall be substantially in the form attached to this Eleventh Supplemental Indenture as Exhibit A, with such appropriate variations, omissions and insertions as are permitted or required by this Eleventh Supplemental Indenture.

Pending preparation of definitive Series 2017-2 Second Lien Bonds, or by agreement with the purchasers of such Series 2017-2 Second Lien Bonds, the City may issue and, upon its request, the Trustee shall

authenticate, in lieu of definitive Series 2017-2 Second Lien Bonds, one or more temporary printed or typewritten Bonds in Authorized Denominations of substantially the tenor recited above. Upon request of the City, the Trustee shall authenticate definitive Series 2017-2 Second Lien Bonds in exchange for and upon surrender of an equal principal amount of temporary Series 2017-2 Second Lien Bonds. Until so exchanged, temporary Series 2017-2 Second Lien Bonds shall have the same rights, remedies and security under this Eleventh Supplemental Indenture as definitive Series 2017-2 Second Lien Bonds.

Section 2.05. Delivery of Series 2017-2 Second Lien Bonds. Upon the execution and delivery of this Eleventh Supplemental Indenture, the City shall execute and deliver to the Trustee, and the Trustee shall authenticate, the Series 2017-2 Second Lien Bonds and deliver them to the purchasers as may be directed by the City as provided in this Section.

Prior to the delivery by the Trustee of the Series 2017-2 Second Lien Bonds there shall be filed with the Trustee:

- i) a copy, duly certified by the City Clerk or Deputy City Clerk of the City, of the Series 2017-2 Bond Ordinance;
- ii) original executed counterparts of the Indenture, including this Eleventh Supplemental Indenture;

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iii) a Counsel's Opinion or Opinions to the effect that: (A) the City had the right and power to adopt the Series 2017-2 Bond Ordinance; (B) the Series 2017-2 Bond Ordinance has been duly and lawfully adopted by the City Council, is in full force and effect and is valid and binding upon the City and enforceable in accordance with its terms (except as limited by any applicable bankruptcy liquidation, reorganization, insolvency or other similar laws and by general principles of equity in the event equitable remedies are sought); (C) the Indenture and this Eleventh Supplemental Indenture have been duly and lawfully authorized by all necessary action on the part of the City, have been duly and lawfully executed by authorized officers of the City, are in full force and effect and are valid and binding upon the City and enforceable in accordance with their terms (except as limited by any applicable bankruptcy, liquidation, reorganization, insolvency or other similar laws and by general principles of equity in the event equitable remedies are sought); (D) the Series 2017-2 Bond Ordinance, the Indenture and this Eleventh Supplemental Indenture create the valid pledge of the Trust Estate, including Second Lien Bond Revenues and moneys and securities held in the Second Lien Bonds Account (other than monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other Series of Second Lien Bonds issued or to be issued) under the Series 2017-2 Bond Ordinance, the Indenture and this Eleventh Supplemental Indenture for the benefit and security of the Series 2017-2 Second Lien Bonds; subject to application of such moneys and securities in the manner provided in the Indenture and this Eleventh Supplemental Indenture; (E) upon the execution, authentication and delivery of the Indenture and this Eleventh Supplemental Indenture, the Series 2017-2 Second Lien Bonds will have been, duly and validly authorized and issued in accordance with the Constitution and laws of the State, the Series 2017-2 Bond Ordinance, the Indenture and this Eleventh Supplemental Indenture and (F) any required approval for the issuance of the Series 2017-2 Second Lien Bonds has been obtained;

iv) a written order as to the delivery of the Series 2017-2 Second Lien Bonds, signed by the Chief Financial Officer and stating (A) the identity of the purchasers, the aggregate purchase price and the date and place of delivery; and (B) that no Event of Default has occurred and is continuing under the Indenture or this

Eleventh Supplemental Indenture; and

v) a Certificate of the Chief Financial Officer stating that the conditions of Section 2.06 of the Indenture have been met.

Section 2.06. Mutilated, Lost, Stolen or Destroyed Series 2017-2 Second Lien Bonds. In the event a Series 2017-2 Second Lien Bond is mutilated, lost, stolen or destroyed, the City may execute and the Trustee may authenticate a new Series 2017-2 Second Lien Bond of like date, maturity, interest rate and denomination as the Series 2017-2 Second Lien Bond mutilated, lost, stolen or destroyed; provided that, in the case of any mutilated Series 2017-2 Second Lien Bond, such mutilated Series 2017-2 Second Lien Bond shall first be surrendered to the Trustee, and in the case of any lost, stolen or destroyed Series 2017-2 Second Lien Bond, there shall be first furnished to the City and the Trustee evidence of such loss, theft or destruction satisfactory to the City and the Trustee, together with indemnity satisfactory to them. In the event any such Series 2017-2 Second Lien Bond has matured, instead of issuing a substitute

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Series 2017-2 Second Lien Bond the City may pay the same without surrender of such Series 2017-2 Second Lien Bond. The City and the Trustee may charge the Registered Owner of such Series 2017-2 Second Lien Bond with their reasonable fees and expenses in this connection. All Series 2017-2 Second Lien Bonds so surrendered to the Trustee shall be canceled and destroyed, and evidence of such destruction shall be given to the City. Upon the date of final maturity or redemption of all of the Series 2017-2 Second Lien Bonds, the Trustee shall destroy any inventory of unissued certificates.

All duplicate Series 2017-2 Second Lien Bonds issued and authenticated pursuant to this Section shall constitute original, contractual obligations of the City (whether or not, in the case of the first paragraph of this Section, lost, stolen or destroyed Series 2017-2 Second Lien Bonds be at any time found by anyone), and shall be entitled to equal and proportionate rights and benefits under this Eleventh Supplemental Indenture as all other Outstanding Series 2017-2 Second Lien Bonds issued under this Eleventh Supplemental Indenture.

All Series 2017-2 Second Lien Bonds shall be owned upon the express condition that the foregoing provisions, to the extent permitted by law, are exclusive with respect to the replacement or payment of mutilated, destroyed, lost, stolen or purchased Series 2017-2 Second Lien Bonds, and shall preclude any and all other rights or remedies.

Section 2.07. Transfer and Exchange of Series 2017-2 Second Lien Bonds; Persons Treated as Owners, (a) Subject to the limitations contained in subsection (c) of this Section, upon surrender for registration of transfer of any Series 2017-2 Second Lien Bond at the principal corporate trust office of the Trustee, duly endorsed by, or accompanied by a written instrument or instruments of transfer in form satisfactory to the Trustee and duly executed by the Bondholder or such Bondholder's attorney duly authorized in writing, the City shall execute, and the Trustee shall authenticate and deliver, in the name of the transferee or transferees a new Series 2017-2 Second Lien Bond or Bonds of like date and tenor in Authorized Denominations of the same Maturity Date and interest rate for the aggregate principal amount which the Registered Owner is entitled to receive bearing numbers not contemporaneously Outstanding. Subject to the limitations contained in subsection (c) of this Section, Series 2017-2 Second Lien Bonds may be exchanged at such times at such designated corporate trust office of the Trustee upon surrender of such Series 2017-2 Second Lien Bonds together with an assignment duly executed by the Registered Owner of such Series 2017-2 Bonds or such Registered Owner's attorney in such form and with guarantee of signature as shall be satisfactory to the Trustee for an equal aggregate principal amount of Series 2017-2 Second Lien Bonds of like date and tenor of any Authorized Denomination as the Series 2017-2 Second Lien Bonds surrendered for exchange bearing numbers not contemporaneously Outstanding. The execution by the City of any Series 2017-2 Second Lien Bond of any Authorized Denomination shall constitute full and due authorization of such Authorized Denomination, and the Trustee shall thereby be authorized to authenticate and deliver such registered Series 2017-2 Second Lien Bond.

(b) No service charge shall be imposed upon the Registered Owners for any exchange or transfer of Series 2017-2 Second Lien Bonds. The City and the Trustee may, however, require payment by the person requesting an exchange or transfer of Series 2017-2 Second Lien Bonds of a sum sufficient to cover any tax, fee or other governmental charge that may be imposed in relation to such exchange or transfer, except in the case of the issuance of one or

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more Series 2017-2 Second Lien Bonds for the unredeemed portion of a Series 2017-2 Second Lien Bond surrendered for redemption in part.

c) The Trustee shall not be required to transfer or exchange any Series 2017-2 Second Lien Bond during the period commencing on the Record Date next preceding any Interest Payment Date for such Series 2017-2 Second Lien Bond and ending on such Interest Payment Date, or to transfer or exchange such Series 2017-2 Second Lien Bond after the mailing of notice calling such Series 2017-2 Second Lien Bond for redemption has been made as provided in this Eleventh Supplemental Indenture or during the period of 15 days next preceding the giving of notice of redemption of Series 2017-2 Second Lien Bonds of the same Maturity Date and interest rate.

d) Series 2017-2 Second Lien Bonds delivered upon any registration of transfer or exchange as provided in this Section 2.07 or as provided in Section 2.08 hereof shall be valid limited obligations of the City, evidencing the same debt as the Series 2017-2 Second Lien Bonds surrendered, shall be secured by the Indenture and shall be entitled to all of the security and benefits of this Eleventh Supplemental Indenture to the same extent as the Series 2017-2 Second Lien Bonds surrendered.

e) The City, the Trustee and any Paying Agent may treat the Registered Owner of any Series 2017-2 Second Lien Bond as the absolute owner of such Series 2017-2 Second Lien Bond for all purposes, whether or not such Series 2017-2 Second Lien Bond shall be overdue, and shall not be bound by any notice to the contrary. All payments of or on account of the principal of, premium, if any, and interest on any such Series 2017-2 Second Lien Bond as provided in this Eleventh Supplemental Indenture shall be made only to or upon the written order of the Registered Owner of such Series 2017-2 Second Lien Bond or such Registered Owner's legal representative, but such registration may be changed as provided in this Eleventh Supplemental Indenture. All such payments shall be valid and effectual to satisfy and discharge the liability upon such Series 2017-2 Second Lien Bond to the extent of the sum or sums so paid.

Section 2.08. Cancellation. Any Series 2017-2 Second Lien Bond surrendered for the purpose of payment or retirement, or for exchange, transfer or replacement, shall be canceled upon surrender of such Series 2017-2 Second Lien Bond to the Trustee or any Paying Agent. If the City shall acquire any of the Series 2017-2 Second Lien Bonds, the City shall deliver such Series 2017-2 Second Lien Bonds to the Trustee for cancellation and the Trustee shall cancel the same. Any such Series 2017-2 Second Lien Bonds canceled by any Paying Agent other than the Trustee shall be promptly transmitted by such Paying Agent to the Trustee. Certification of Series 2017-2 Second Lien Bonds canceled by the Trustee and Series 2017-2 Second Lien Bonds canceled by a Paying Agent other than the Trustee which are transmitted to the Trustee shall be made to the City. Canceled Series 2017-2 Second Lien Bonds may be destroyed by the Trustee unless instructions to the contrary are received from the City. Upon the date of final maturity or redemption of all Series 2017-2 Second Lien Bonds, the Trustee shall destroy any inventory of unissued certificates.

Section 2.09. Book-Entry Provisions. The provisions of this Section shall apply as long as the Series 2017-2 Second Lien Bonds are maintained in book-entry form with DTC or

another Securities Depository, any provisions of this Eleventh Supplemental Indenture to the contrary notwithstanding.

a) Payments of the principal of and interest on the Series 2017-2 Second Lien Bonds shall be made to the Securities Depository, or its nominee, as the Registered Owner of the Series 2017-2 Second Lien Bonds, in same day funds on each date on which the principal of, premium; if any, and interest on the Series 2017-2 Second Lien Bonds is due as set forth in this Eleventh Supplemental Indenture and the Series 2017-2 Second Lien Bonds. Such payments shall be made to the offices of the Securities Depository specified by the Securities Depository to the City and the Trustee in writing. Without notice to or the consent of the beneficial owners of the Series 2017-2 Second Lien Bonds, the City and the Securities Depository may agree in writing to make payments of principal and interest in a manner different from that set forth herein. If such different manner of payment is agreed upon, the City shall give the Trustee written notice thereof, and the Trustee shall make payments with respect to the Series 2017-2 Second Lien Bonds in the manner specified in such notice as set forth herein. Neither the City nor the Trustee shall have any obligation with respect to the transfer or crediting of the principal of, premium, if any, and interest on the Series 2017-2 Second Lien Bonds to Participants or the beneficial owners of the Series 2017-2 Second Lien Bonds or their nominees.

b) The Registered Owners of the Series 2017-2 Second Lien Bonds have no right to the appointment or retention of a Securities Depository for the Series 2017-2 Second Lien Bonds. If (i) the City determines, or (ii) the City receives notice that the Securities Depository has received notice from its Participants having interests in at least 50 percent in principal amount of the Series 2017-2 Second Lien Bonds that the Securities Depository or its successor is incapable of discharging its responsibilities as a securities depository, or that it is in the best interests of the beneficial owners that they obtain certificated Series 2017-2 Second Lien Bonds, the City may (or, in the case of clause (ii) above, the City shall) cause the Trustee to authenticate and deliver Series 2017-2 Second Lien Bond certificates. The City shall have no obligation to make any investigation to determine the occurrence of any events that would permit the City to make any determination described in this paragraph.

c) If, following a determination or event specified in paragraph (b) above, the City discontinues the maintenance of the Series 2017-2 Second Lien Bonds in book-entry form with the then current Securities Depository, the City will issue replacement Series 2017-2 Second Lien Bonds to the replacement Securities Depository, if any, or, if no replacement Securities Depository is selected for the Series 2017-2 Second Lien Bonds, directly to the Participants as shown on the records of the former Securities Depository or, to the extent requested by any Participant, to the beneficial owners of the Series 2017-2 Second Lien Bonds shown on the records of such Participant. Replacement Series 2017-2 Second Lien Bonds shall be in fully registered form and in Authorized Denominations, be payable as to interest on the Interest Payment Dates of such Series 2017-2 Second Lien Bonds by check mailed to each Registered Owner at the address of such Registered Owner as it appears on the Bond Register or, at the option of any Registered Owner of not less than \$1,000,000 principal amount of Series 2017-2 Second Lien Bonds, by wire transfer to any address in the United States of America on such Interest Payment Date to such Registered Owner as of such Record Date, if such Registered Owner provides the Trustee with written notice of such wire transfer address not later than the Record Date (which notice may provide that it will remain in effect with respect to subsequent

Interest Payment Dates unless and until changed or revoked by subsequent notice). Principal and premium, if any, on the replacement Series 2017-2 Second Lien Bonds are payable only upon presentation and surrender of such replacement Series 2017-2 Bond or Second Lien Bonds at the principal corporate trust office of the Trustee.

d) The Securities Depository and its Participants, and the beneficial owners of the Series 2017-2 Second Lien Bonds, by their acceptance of the Series 2017-2 Second Lien Bonds, agree that the City and the Trustee shall not have liability for the failure of such Securities Depository to perform its obligations to the Participants and the beneficial



owners of the Series 2017-2 Second Lien Bonds, nor shall the City or the Trustee be liable for the failure of any Participant or other nominee of the beneficial owners to perform any obligation of the Participant to a beneficial owner of the Series 2017-2 Second Lien Bonds.

e) As long as Cede & Co. is the Registered Owner of the Series 2017-2 Second Lien Bonds, as nominee of DTC, references herein to the Registered Owners of the Series 2017-2 Second Lien Bonds shall mean Cede & Co. and shall not mean the beneficial owners of the Series 2017-2 Second Lien Bonds.

(f) As long as Cede & Co. is the Registered Owner of the Series 2017-2 Second Lien Bonds:

i) selection of Series 2017-2 Second Lien Bonds to be redeemed upon partial redemption or presentation of such Series 2017-2 Second Lien Bonds to the Trustee upon partial redemption shall be deemed made when the right to exercise ownership rights in such Series 2017-2 Second Lien Bonds through DTC or DTC's Participants is transferred by DTC on its books; and

ii) DTC may present notices, approvals, waivers or other communications required or permitted to be made by Registered Owners under this Eleventh Supplemental Indenture on a fractionalized basis on behalf of some or all of those persons entitled to exercise ownership rights in the Series 2017-2 Second Lien Bonds through DTC or its Participants.

### **ARTICLE III**

#### **REDEMPTION OF SERIES 2017-2 SECOND LIEN BONDS**

Section 3.01. Optional Redemption. The Series 2017-2 Second Lien Bonds maturing on or after November 1, 2028 are subject to redemption prior to maturity at the option of the City, in whole or in part, on any date on or after November 1, 2027, and if in part, in such order of maturity as the City shall determine and within any maturity and interest rate by lot, at a Redemption Price equal to the outstanding principal amount of such Series 2017-2 Second Lien Bond, together with accrued interest to the date fixed for redemption.

**Section 3.02. Reserved.**

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**Section 3.03. Reserved.**

**Section 3.04. Redemption Terms; Notice of Redemption.**

a) Series 2017-2 Second Lien Bonds may be called for redemption by the Trustee pursuant to Section 3.01 hereof upon receipt by the Trustee at least 45 days prior to the redemption date (or such shorter period as shall be acceptable to the Trustee) of a written request of the City requesting such redemption.

b) Unless waived by any owner of Series 2017-2 Second Lien Bonds to be redeemed, notice of the call for any optional or mandatory redemption pursuant to Section 3.01 or Section 3.02 shall be given by the Trustee on behalf of the City by mailing the redemption notice by first class mail at least 30 days and not more than 45 days prior to the date fixed for redemption to the Registered Owner of the Series 2017-2 Second Lien Bond or Bonds to be redeemed at the address shown on the Bond Register or at such other address as is furnished in writing by such Registered Owner to the

Trustee, but the failure to mail any such notice or any defect therein as to any Series 2017-2 Second Lien Bond to be redeemed shall not affect the validity of the proceedings for the redemption of any other Series 2017-2 Second Lien Bond to be redeemed. Any notice of redemption mailed as provided in this Section shall be conclusively presumed to have been given whether or not actually received by the addressee.

c) All notices of redemption shall specify, at a minimum: (i) the series name and designation and certificate numbers of Series 2017-2 Second Lien Bonds being redeemed, (ii) the CUSIP numbers of the Series 2017-2 Second Lien Bonds being redeemed, (iii) the principal amount of Series 2017-2 Second Lien Bonds being redeemed and the redeemed amount for each certificate (for partial calls), (iv) the redemption date, (v) the Redemption Price, (vi) the Date of Issuance of the Series 2017-2 Second Lien Bonds being redeemed, (vii) the interest rate and Maturity Date of the Series 2017-2 Second Lien Bonds being redeemed, (viii) the date of mailing of notices to Registered Owners and information services (if required), and (ix) the name of the employee of the Trustee which may be contacted with regard to such notice. Such notice may state that said redemption is conditioned upon the receipt by the Trustee on or prior to the date fixed for redemption of moneys sufficient to pay the Redemption Price of the Series 2017-2 Second Lien Bonds being redeemed. If such moneys are not so received, such redemption notice shall be of no force and effect, the City shall not redeem such Series 2017-2 Second Lien Bonds and the Trustee shall give notice, in the same manner in which the notice of redemption was given, that such moneys were not so received and that such Series 2017-2 Second Lien Bonds will not be redeemed. Unless the notice of redemption shall be made conditional as provided above, on or prior to any redemption date for Series 2017-2 Second Lien Bonds, the City shall deposit with the Trustee an amount of money sufficient to pay the Redemption Price of all Series 2017-2 Second Lien Bonds or portions thereof which are to be redeemed on that date.

d) Notice of redemption having been given as aforesaid, the Series 2017-2 Second Lien Bonds, or portions thereof, so to be redeemed shall, on the redemption date (unless the redemption has been canceled as described in Section 3.04(c) hereof), become due and payable at the Redemption Price therein specified, and from and after such date (unless the City shall default in the payment of the Redemption Price) such Series 2017-2 Second Lien Bonds, or portions thereof, shall cease to bear interest. Upon surrender of such Series 2017-2 Second Lien

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Bonds for redemption in accordance with said notice, such Series 2017-2 Second Lien Bonds shall be paid by the Trustee at the Redemption Price. Installments of interest due on or prior to the redemption date shall be payable as herein provided for payment of interest. Upon surrender for any partial redemption of any Series 2017-2 Second Lien Bond, there shall be prepared for the Registered Owner a new Series 2017-2 Second Lien Bond or Bonds of the same interest rate and maturity in the amount of the unpaid principal. If any Series 2017-2 Second Lien Bond, or portion thereof, called for redemption shall not be so paid upon surrender thereof for redemption, the principal shall, until paid, bear interest from the redemption date at the rate borne by such Bond, or portion thereof, so called for redemption.

Section 3.05. Selection of Series 2017-2 Second Lien Bonds for Redemption. In the event of the redemption of fewer than all the Series 2017-2 Second Lien Bonds of the same interest rate and maturity, the aggregate principal amount thereof to be redeemed shall be in an Authorized Denomination, and the Trustee shall assign to each Series 2017-2 Second Lien Bond of such interest rate and maturity a distinctive number for each minimum Authorized Denomination of such Bond and shall select by lot from the numbers so assigned as many numbers as, at such minimum Authorized Denomination for each number, shall equal the principal amount of such Series 2017-2 Second Lien Bonds to be redeemed. The Series 2017-2 Second Lien Bonds to be redeemed shall be those to which were assigned numbers so selected; provided that only so much of the principal amount of each Series 2017-2 Second Lien Bond shall be redeemed as shall equal such minimum Authorized Denomination for each number assigned to it and so selected. For purposes of any redemption of fewer than all of the outstanding Series 2017-2 Second Lien Bonds of a single interest rate and maturity, the particular Series 2017-2 Second Lien Bonds or portions thereof to be redeemed shall be selected not more than 60 days prior to the redemption date by the Trustee.

## ARTICLE IV REVENUES AND FUNDS

Section 4.01. Source of Payment of Series 2017-2 Second Lien Bonds. The Series 2017-2 Second Lien Bonds, the Section 2.08 Obligations and the Section 2.09 Obligations are not general obligations of the City but are limited obligations as described in Section 2.02 hereof and as provided in the Indenture.

Section 4.02. Creation of Accounts and Subaccounts in 2017-2 Second Lien Bonds Subaccount, (a) Moneys on deposit in the 2017-2 Second Lien Bonds Subaccount, and in each Account established in it as provided below, shall be held in trust by the Trustee for the sole and exclusive benefit of the Registered Owners of the Series 2017-2 Second Lien Bonds.

(b) There are by this Eleventh Supplemental Indenture created by the City and ordered established with the Trustee separate Accounts within the 2017-2 Second Lien Bonds Subaccount, designated as follows:

(i) *Costs of Issuance Account: an Account to be designated the "Series 2017-2 Bonds, Costs of Issuance Account" (the "Costs of Issuance Account");*

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ii) Program Fee Account: an Account to be designated the "Series 2017-2 Second Lien Bonds, Program Fee Account" (the "Program Fee Account"); and

iii) *Principal and Interest Account: an Account to be designated the "Series 2017-2 Second Lien Bonds, Principal and Interest Account" (the "Principal and Interest Account").*

Section 4.03. Application of Series 2017-2 Second Lien Bond Proceeds. The proceeds received by the City from the sale of the Series 2017-2 Second Lien Bonds in the amount of \$272,730,363.95 (consisting of the aggregate principal amount of the Series 2017-2 Second Lien Bonds, plus net premium of \$38,668,270.25 and less the Underwriters' discount of \$1,197,906.30, shall be applied as follows:

i) Proceeds of the Series 2017-2 Second Lien Bonds in the amount of \$1,086,055.48 will be paid to the Bond Insurer for the Bond Insurance.

ii) Proceeds of the Series 2017-2 Second Lien Bonds in the amount of \$674,962.72 will be deposited in the Costs of Issuance Account to pay Costs of Issuance for the Series 2017-2 Second Lien Bonds.

iii) Proceeds of the Series 2017-2 Second Lien Bonds in the amount of \$270,969,345.75 will be deposited in the Escrow Account established pursuant to that certain Escrow Deposit Agreement dated as of December 21, 2017, between the City and The Bank of New York Mellon Trust Company, N.A., and together with other funds deposited in the Escrow Account, will be used to refund the Refunded Bonds.

### **Section 4.04. Deposits into 2017-2 Second Lien Bonds Subaccount and Accounts.**

*On May 1 and November 1 of each year, commencing May 1, 2018 (each such date referred to in this Eleventh Supplemental Indenture as the "Deposit Date"), there shall be deposited into the 2017-2 Second Lien Bonds Subaccount from amounts on deposit in the Second Lien Bonds Account (other than monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other Series of Second Lien Bonds issued or to be issued) an amount equal to the aggregate of the following amounts, which amounts shall have been calculated by the Trustee and certified by the Chief Financial Officer and transferred by the City to the Trustee in accordance with Section 3.03(d) of Part B of the Series 2017-2 Bond Ordinance on or before the Business Day*

*next preceding each such May 1 or November 1, respectively (such aggregate amount with respect to any Deposit Date being referred to in this Eleventh Supplemental Indenture as the "Series 2017-2 Deposit Requirement"):*

a) for deposit into the Principal and Interest Account, an amount equal to the Principal and Interest Account Requirement; and

b) for deposit into the Program Fee Account, the amount estimated by the City to be required as of the close of business on the related Deposit Date to pay all Program Fees payable from amounts in the Program Fee Account during the semi-annual period commencing on such related Deposit Date and, in the case of the initial Deposit

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Date, any Program Fees payable from the Date of Issuance to, but not including, such initial Deposit Date.

In addition to the Series 2017-2 Deposit Requirement, there shall be deposited into the 2017-2 Second Lien Bonds Subaccount any other moneys received by the Trustee under and pursuant to the Indenture or this Eleventh Supplemental Indenture, when accompanied by directions from the person depositing such moneys that such moneys are to be paid into the 2017-2 Second Lien Bonds Subaccount or to one or more Accounts in that Subaccount.

Upon calculation by the Trustee of each Series 2017-2 Deposit Requirement under this Section, the Trustee shall notify the City of the Series 2017-2 Deposit Requirement and the Deposit Date to which it relates; and shall provide the City with such supporting documentation and calculations as the City may reasonably request.

Section 4.05. Use of Moneys in the Principal and Interest Account. Moneys in the Principal and Interest Account shall be used for the payment of the principal of, premium, if any, and interest on the Series 2017-2 Second Lien Bonds, for the redemption of Series 2017-2 Second Lien Bonds prior to their respective Maturity Dates and for the payment of Section 2.08 Obligations and Section 2.09 Obligations. Funds for payment of principal of, premium, if any, and interest due on each Payment Date with respect to the Series 2017-2 Second Lien Bonds (including the optional redemption of Series 2017-2 Second Lien Bonds pursuant to Section 3.01 hereof and not otherwise provided for; and with respect to payments made pursuant to Section 2.08 Obligations and Section 2.09 Obligations), shall be derived from moneys held in the Principal and Interest Account, ratably, without preference or priority of any kind, except that net payments required to be made by the City from Gross Revenues to a swap provider pursuant to a swap agreement authorized under the Indenture that does not satisfy the requirements for qualification as a Qualified Second Lien Swap Agreement shall be made only from amounts available after the payment of all Second Lien Bonds and termination and other non-scheduled payments made with respect to Section 2.09 Obligations shall be paid on a subordinate basis.

Section 4.06. Use of Moneys in the Program Fee Account. Moneys deposited into the Program Fee Account pursuant to Section 4.04(b) shall be used for the payment of Program Fees payable by the City to third parties with respect to the Series 2017-2 Second Lien Bonds as set forth in a certificate of the City filed with the Trustee.

### **Section 4.07. Reserved.**

Section 4.08. Use of Moneys in the Costs of Issuance Account. Money deposited into the Costs of Issuance Account pursuant to Section 4.03 shall be used for the payment of Costs of Issuance, as directed in a certificate of the City filed with the Trustee. If after the earliest to occur of (i) payment of all other expenses incurred in connection with issuance of the Series 2017-2 Second Lien Bonds and the refunding of the Refunded Bonds, as specified in a certificate of the City filed with the Trustee and (ii) June 21, 2018, there shall be any balance remaining in the Cost of Issuance Account, such balance shall be transferred to the Principal and Interest Account.

Section 4.09. Tax Covenants. The City covenants to take any action required by the provisions of the Code and within its power to take in order to preserve the exclusion of interest on the Series 2017-2 Second Lien Bonds from gross income for federal income tax purposes, including, but not limited to, the provisions of Section 148 of the Code relating to "arbitrage bonds."

The City further covenants to comply with the provisions of the Tax Regulatory Agreement, including, but not limited to, those provisions relating to the status of the Series 2017-2 Second Lien Bonds as "private activity bonds" under Section 141 of the Code.

Section 4.10. Non-presentment of Bonds. In the event any Series 2017-2 Second Lien Bond shall not be presented for payment when the principal of such Series 2017-2 Second Lien Bond becomes due, whether at maturity, at the date fixed for redemption or otherwise, if moneys sufficient to pay such Series 2017-2 Second Lien Bond shall have been made available to the Trustee for the benefit of the Registered Owner of such Series 2017-2 Second Lien Bond, subject to the provisions of the immediately following paragraph, all liability of the City to the Registered Owner of such Series 2017-2 Second Lien Bond for the payment of such Series 2017-2 Second Lien Bond shall immediately cease; determine and be completely discharged, and thereupon it shall be the duty of the Trustee to hold such moneys, without for interest on such monies; for the benefit of the Registered Owner of such 2017-2 Second Lien Bond who shall thereafter be restricted exclusively to such moneys, for any claim of whatever nature on his or her part under the Indenture or on, or with respect to, such Series 2017-2 Second Lien Bond.

Any moneys so deposited with and held by the Trustee not so applied to the payment of Series 2017-2 Second Lien Bonds within two years after the date on which the same shall have become due shall be repaid by the Trustee to the City upon the City's written request, and thereafter the Registered Owners of such Series 2017-2 Second Lien Bonds shall be entitled to look only to the City for payment, and then only to the extent of the amount so repaid, and all liability of the Trustee with respect to such moneys shall thereupon cease, and the City shall not be liable for any interest on such monies and shall not be regarded as a trustee of such moneys. The obligation of the Trustee under this Section to pay any such funds to the City shall be subject, however, to any provisions of law applicable to the Trustee or to such funds providing other requirements for disposition of unclaimed properly.

Section 4.11. Moneys Held in Trust. All moneys required to be deposited with or paid to the Trustee for the account of any Fund or Account referred to in any provision of this Eleventh Supplemental Indenture shall be held by the Trustee in trust as provided in Section 8.03 of the Indenture, and shall, while held by the Trustee, constitute part of the Trust Estate and be subject to the lien or security interest created by this Eleventh Supplemental Indenture.

## ARTICLE V

### INVESTMENT OF MONEYS

Section 5.01. Investment of Moneys. Moneys held in the funds, accounts and subaccounts established under this Eleventh Supplemental Indenture, including moneys held for payment of Series 2017-2 Second Lien Bonds not presented for payment as described in

Section 4.10 hereof, shall be invested and reinvested in Permitted Investments in accordance with the provisions governing investments contained in the Indenture; provided, however, that moneys in the Principal and Interest Account representing principal of or interest on the Series 2017-2 Second Lien Bonds shall only be invested in Governmental Obligations scheduled to mature on the earlier of (i) (A) 30 days from the date of investment (in the case of amounts representing principal of the Series 2017-2 Second Lien Bonds) or (B) six months from the date of investment (in the case of amounts representing interest payable on the Series 2017-2 Second Lien Bonds) or (ii) the date upon which such moneys will be required to be used in accordance with this Eleventh Supplemental Indenture. All such investments shall be held by or under the control of the Trustee and shall be deemed at all times part of the fund, account or subaccount for which they were made.

## **ARTICLE VI DISCHARGE OF LIEN**

Section 6.01. Defeasance. If the City shall pay to the Registered Owners of the Series 2017-2 Second Lien Bonds, or provide for the payment of, the principal, premium, if any, and interest to become due on the Series 2017-2 Second Lien Bonds, then this Eleventh Supplemental Indenture shall be fully discharged and satisfied upon the satisfaction and discharge of this Eleventh Supplemental Indenture, the Trustee shall, upon the request of the City, execute and deliver to the City all such instruments as may be desirable to evidence such discharge and satisfaction, and all fiduciaries shall pay over or deliver to the City all funds, accounts and other moneys or securities held by them pursuant to this Eleventh Supplemental Indenture which are not required for the payment or redemption of the Series 2017-2 Second Lien Bonds.

If the City shall pay and discharge a portion of the Series 2017-2 Second Lien Bonds as provided above, including any Series in full, such portion shall cease to be entitled to any lien, benefit or security under the Indenture. The liability of the City with respect to such Series 2017-2 Second Lien Bonds shall continue, but the Registered Owners of the Series 2017-2 Second Lien Bonds so defeased shall thereafter be entitled to payment (to the exclusion of all other Bondholders) only out of the moneys or Governmental Obligations described in clause (a) of the definition of such term deposited with the Trustee under Article IX of the Indenture.

The provisions of this Section 6.01 are subject in all respects to the provisions of Sections 9.01 and 9.02 of the Indenture.

## **ARTICLE VII REMEDIES**

The provisions of Article VII of the Indenture shall be applicable to any Event of Default which shall have occurred and be continuing under this Eleventh Supplemental Indenture.

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Under no circumstance may the Trustee declare the principal of or interest on the Series 2017-2 Second Lien Bonds to be due and payable prior to the Maturity Date following the occurrence of an Event of Default under the Indenture or this Eleventh Supplemental Indenture.

## **ARTICLE VIII**

### **TRUSTEE AND PAYING AGENT**

### **Section 8.01. Acceptance of Trusts.**

a) The Trustee accepts the trusts imposed upon it by this Eleventh Supplemental Indenture, and agrees to perform said trusts, but only upon and subject to the express terms and conditions set forth in this Eleventh Supplemental Indenture and in the Indenture. Except as otherwise expressly set forth in this Eleventh Supplemental Indenture, the Trustee assumes no duties, responsibilities or liabilities by reason of its execution of this Eleventh Supplemental Indenture other than as set forth in the Indenture and this Eleventh Supplemental Indenture, and this Eleventh Supplemental Indenture is executed and accepted by the Trustee subject to all the terms and conditions of its acceptance of the trust under the Indenture, as fully as if said terms and conditions were set forth at length in this Eleventh Supplemental Indenture. Notwithstanding the provisions of Section 8.04 or 8.05 of the Indenture, the Trustee shall have no lien or security interest in and to amounts in the Principal and Interest Account for the purpose of paying the fees or expenses of the Trustee or any Paying Agent. Notwithstanding any provision of the Indenture to the contrary, the Trustee may not resign or be removed until a successor Trustee shall have been appointed as provided in the Indenture.

b) The Trustee may appoint a Trustee's Agent with power to act on its behalf and subject to its direction in the authentication, registration and delivery of Series 2017-2 Second Lien Bonds of any Series in connection with transfers and exchanges hereunder, as fully to all intents and purposes as though such Trustee's Agent had been expressly authorized by this Eleventh Supplemental Indenture to authenticate, register and deliver such Series 2017-2 Second Lien Bonds. The foregoing notwithstanding, the Trustee need not appoint a Trustee's Agent for as long as the Trustee shall have an office in New York, New York capable of handling the duties of Trustee's Agent hereunder. Any Trustee's Agent appointed pursuant to this Section shall evidence its acceptance by a certificate filed with the Trustee and the City. For all purposes of this Eleventh Supplemental Indenture, the authentication, registration and delivery of Series 2017-2 Second Lien Bonds by the Trustee or any Trustee's Agent pursuant to this Section shall be deemed to be the authentication, registration and delivery of such Series 2017-2 Second Lien Bonds "by or to the Trustee." Such Trustee's Agent shall at all times be a commercial bank having an office in New York, New York, and shall at all times be a corporation organized and doing business under the laws of the United States or of any state with combined capital and surplus of at least \$15,000,000 and authorized under such laws to exercise corporate trust powers and subject to supervision or examination by Federal or state authority. If such corporation publishes reports of condition at least annually pursuant to law or the requirements of such authority, then for the purposes of this Section the combined capital and surplus of such corporation shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. Any Trustee's Agent appointed hereunder shall also be a Paying Agent for purposes of this Eleventh Supplemental Indenture.

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Section 8.02. Dealing in Series 2017-2 Second Lien Bonds. The Trustee, in its individual capacity, may buy, sell, own, hold and deal in the Series 2017-2 Second Lien Bonds, and may join in any action which the Registered Owner of any Series 2017-2 Second Lien Bond may be entitled to take with like effect as if it did not act in any capacity under this Eleventh Supplemental Indenture. The Trustee, in its individual capacity, either as principal or agent, may also engage in or be interested in any financial or other transaction with the City, and may act as depositary, trustee or agent for any committee or body of the Registered Owners of the Series 2017-2 Second Lien Bonds secured by this Eleventh Supplemental Indenture or other obligations of the City as freely as if it did not act in any capacity under this Eleventh Supplemental Indenture.

### **Section 8.03. Paying Agent.**

a) The Trustee is hereby appointed Paying Agent for the Series 2017-2 Second Lien Bonds. The City may at any time or from time to time appoint one or more other Paying Agents having the qualifications set forth in subsection (c) below for a successor Paying Agent.

b) The Trustee hereby accepts the duties and obligations imposed upon it as Paying Agent by this Eleventh Supplemental Indenture. Each other Paying Agent shall signify its acceptance of the duties and obligations imposed upon it by this Eleventh Supplemental Indenture by executing and delivering to the City and to the Trustee a written acceptance thereof.

c) Any Paying Agent may at any time resign and be discharged of the duties and obligations imposed upon it by this Eleventh Supplemental Indenture by giving at least 60 days' written notice to the City and the Trustee, and such resignation shall take effect upon the day specified in such notice but only if a successor shall have been appointed as provided herein. Any Paying Agent appointed by the City may be removed at any time by an instrument signed by the Chief Financial Officer and filed with such Paying Agent and the Trustee. The Trustee may at any time terminate the agency of any Paying Agent appointed by it by giving written notice of such termination to such Paying Agent and the City. Upon receiving such a notice of resignation or upon such a termination, or in case at any time such Paying Agent shall cease to be eligible under this Section, the Trustee shall promptly appoint a successor Paying Agent shall give written notice of such appointment to the City and shall mail notice of such appointment to all Owners of Series 2017-2 Second Lien Bonds. Any successor Paying Agent shall be appointed by the City and shall be a bank or trust company organized under the laws of any state of the United States or a national banking association; having capital stock and surplus aggregating at least \$15,000,000, or shall be a wholly-owned subsidiary of such an entity, willing and able to accept the office on reasonable and customary terms and authorized by law to perform all the duties imposed upon it by this Eleventh Supplemental Indenture.

d) In the event of the resignation or removal of any Paying Agent, such Paying Agent shall pay over, assign and deliver any moneys held by it as Paying Agent to its successor, or if there be no successor, to the Trustee and shall be subject to audit of all of its books, records and accounts with respect to the Bonds.

## ARTICLE IX SUPPLEMENTAL INDENTURES

Section 9.01. Supplemental Indentures. This Eleventh Supplemental Indenture may be supplemented and amended in the manner set forth in Articles V and VI, respectively, of the Indenture.

Additionally, this Eleventh Supplemental Indenture may, without the consent of, or notice to, any of the Bondholders, be supplemented and amended, in such manner as shall not be inconsistent with the terms and provisions of this Eleventh Supplemental Indenture, the Indenture or the Series 2017-2 Bond Ordinance, for any one or more of the following purposes:

- a) to provide for certificated Series 2017-2 Second Lien Bonds; and
- b) to secure or maintain ratings from any Rating Agency in the highest long-term debt rating category of such Rating Agency which are available for the Series 2017-2 Second Lien Bonds, which changes will not restrict, limit or reduce the obligation of the City to pay the principal of, premium, if any, and interest on such Series 2017-2 Second Lien Bonds as provided in the Indenture or otherwise adversely affect the Registered Owners of such Series 2017-2 Second Lien Bonds under the Indenture.

## ARTICLE X MISCELLANEOUS

Section 10.01. Eleventh Supplemental Indenture as Part of Indenture. This Eleventh Supplemental Indenture shall



Section 10.01. Eleventh Supplemental Indenture as Part of Indenture. This Eleventh Supplemental Indenture shall be construed in connection with, and as a part of, the Indenture, and all terms, conditions and covenants contained in the Indenture, except as provided in the Indenture or as modified or supplemented in this Eleventh Supplemental Indenture or the Series 2017-2 Bond Ordinance and shall apply and be deemed to be for the equal benefit, security and protection of the Bondholders.

Section 10.02. Severability. If any provision of this Eleventh Supplemental Indenture shall be held or deemed to be, or shall, in fact, be, illegal, inoperative or unenforceable, the same shall not affect any other provision or provisions contained in this Eleventh Supplemental Indenture or render the same invalid, inoperative or unenforceable to any extent whatever.

Section 10.03. Payments Due on Saturdays, Sundays and Holidays. If the date for making any payment, or the last date for the performance of any act or the exercise of any right, as provided in this Eleventh Supplemental Indenture, shall not be a Business Day, such payment may be made, act performed or right exercised on the next Business Day with the same force and effect as if done on the nominal date provided in this Eleventh Supplemental Indenture, and no interest shall accrue for the period after such nominal date.

Section 10.04. Counterparts. This Eleventh Supplemental Indenture may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

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Section 10.05. Rules of Interpretation. Unless expressly indicated otherwise, references to Sections or Articles are to be construed as references to Sections or Articles of this instrument as originally executed.

Section 10.06. Captions. The captions and headings in this Eleventh Supplemental Indenture are for convenience only and in no way define, limit or describe the scope or intent of any provisions or Sections of this Eleventh Supplemental Indenture.

**[Signature Page Follows]**

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IN WITNESS WHEREOF, City has caused these presents to be executed in its name and with its official seal affixed with this Eleventh Supplemental Indenture and attested by its duly authorized officials; and to evidence its acceptance of the trusts created by this Eleventh Supplemental Indenture, the Trustee has caused these presents to be executed in its corporate name and with its corporate seal affixed with this Eleventh Supplemental Indenture and attested by its duly authorized officers, as of the date first above written.

Carole L. Brown Chief Financial Officer

Andrea M. Valencia  
City Clerk

THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.,  
as Trustee

By:  
Authorized Signatory

Eleventh Supplemental Indenture

IN WITNESS WHEREOF, City has caused these presents to be executed in its name and with its official seal affixed with this Eleventh Supplemental Indenture and attested by its duly authorized officials; and to evidence its acceptance of the trusts created by this Eleventh Supplemental Indenture, the Trustee has caused these presents to be executed in its corporate name and with its corporate seal affixed with this Eleventh Supplemental Indenture and attested by its duly authorized officers, as of the date first above written.

**CITY OF CHICAGO**

[SEAL] Attest:

Carole L. Brown Chief Financial Officer

By:

Andrea M. Valencia City Clerk

THE BANK OF NEW YORK MELLON TRUST

COMPANY, N.A., as Trustee

—

Authorized Signatory

Eleventh Supplemental Indenture

*Exhibit A*  
*Form of Series 2017-2 Second Lien Bond*

[Assured Guaranty Municipal Corp. ("AGM"), New York, New York, has delivered its municipal bond insurance policy (the "Policy") with respect to the scheduled payments due of principal of and interest on the Bonds maturing on November 1 of the years 2028 and 2030 through 2038, inclusive (the "Insured Bonds"), to The Bank of New York Mellon Trust Company, N.A., Chicago, Illinois, or its successor, as paying agent for the Insured Bonds (the "Paying Agent"). Said Policy is on file and available for inspection at the principal office of the Paying Agent and a copy thereof may be obtained from AGM or the Paying Agent. All payments required to be made under the Policy shall be made in accordance with the provisions thereof. The owner of this Bond acknowledges and consents to the subrogation and other rights of AGM as more fully set forth in the Policy and the Eleventh Supplemental Indenture.] [For Insured Bonds Only]

**United States of America State of Illinois City of Chicago Second Lien**  
**Water Revenue Refunding Bonds Series 2017-2**

Number Im-

| maturity Date    | Interest Rate | Original Issue Date | CUSIP  |
|------------------|---------------|---------------------|--------|
| November 1, 20__ | %             | December 21, 2017   | 167736 |

Registered Owner: Cede & Co.

Principal Amount: Dollars

The City of Chicago (the "City"), a municipal corporation and home rule unit of local government duly organized and existing under the laws of the State of Illinois, for value received, hereby promises to pay (but only out of the sources provided below) to the Registered Owner identified above, or registered assigns, on the Maturity Date specified above upon presentation and surrender of this Series 2017-2 Second Lien Bond, the Principal Amount specified above, and to pay (but only out of the sources provided below) interest on the balance of said Principal Amount from time to time remaining unpaid from and including the original issue date specified above, or from and including the most recent Interest Payment Date (as defined in the Eleventh Supplemental Indenture, as such term is defined below) with respect to

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which interest has been paid or duly provided for, until payment of said Principal Amount has been made or duly provided for.

*The Series 2017-2 Second Lien Bonds are limited obligations of the City and shall not constitute an indebtedness of the City or a loan of credit thereof within the meaning of any Constitutional or statutory provision or limitation as to indebtedness. The Series 2017-2 Second Lien Bonds do not have a claim for payment from any taxes of the City. Neither the faith and credit nor the taxing power of the City, the State of Illinois or any political subdivision of the State of*

*Illinois is pledged to the payment of the principal of the Series 2017-2 Second Lien Bonds, or the interest or any premium on the Series 2017-2 Second Lien Bonds. The Series 2017-2 Second Lien Bonds are payable solely from the Trust Estate (as defined in the Eleventh Supplemental Indenture) pledged to such payment under the Indenture and certain other monies held by or on behalf of the Trustee.*

The principal of and premium, if any, on this Series 2017-2 Second Lien Bond shall be payable at the designated corporate trust office of the Trustee or upon presentation and surrender of this Series 2017-2 Second Lien Bond.

Interest on this Series 2017-2 Second Lien Bond shall be paid by check mailed on the Interest Payment Date to the person appearing on the Bond Register as the Registered Owner of this Series 2017-2 Second Lien Bond as of the close of business of the Trustee on the Record Date at the address of such Registered Owners as it appears on the Bond Register or at such other address as is furnished to the Trustee in writing by such Registered Owner not later than the Record Date. Payment of interest on this Series 2017-2 Second Lien Bond shall be made to a Registered Owner of One Million Dollars (\$1,000,000) or more in aggregate principal amount of Series 2017-2 Second Lien Bonds as of the close of business of the Trustee on the Record Date for a particular Interest Payment Date by wire transfer to such Registered Owner on such Interest Payment Date upon written notice from such Registered Owner containing the wire transfer address within the United States to which such Registered Owner wishes to have such wire directed, which written notice is received not later than the Business Day next preceding the Record Date.

Interest accrued on this Series 2017-2 Second Lien Bond shall be paid in arrears on each Interest Payment Date. Interest on this Series 2017-2 Second Lien Bond shall be computed upon the basis of a three hundred sixty (360) day year consisting of twelve (12) thirty (30) day months.

General. This Series 2017-2 Second Lien Bond is one of an authorized series of bonds limited in aggregate principal amount to \$235,260,000 (the "Series 2017-2 Second Lien Bonds") issued pursuant to, under authority of and in full compliance with the Constitution and laws of the State of Illinois, particularly Article VII, Section 6(a) of the 1970 Constitution of the State of Illinois and an ordinance of the City Council of the City, and executed under a Master Indenture of Trust Securing Second Lien Water Revenue Bonds, dated as of December 15, 1999, as heretofore supplemented and as amended by Amendment Number 1 to Master Indenture, dated as of August 1, 2004 (the "Master Indenture"), and as supplemented by a Eleventh Supplemental Indenture, dated as of December 1, 2017 (the "Eleventh Supplemental Indenture" and, together with the Master Indenture, the "Indenture"), from the City to The Bank of New York Mellon Trust Company, N.A., as successor trustee (the "Trustee"), for any one or more of the purposes

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of (1) refunding the Refunded Bonds, (2) paying Costs of Issuance of the Series 2017-2 Second Lien Bonds, and (3) providing for any discount on the Series 2017-2 Second Lien Bonds.

The Series 2017-2 Second Lien Bonds and the interest on them are payable from Second Lien Bond Revenues (as defined in the Indenture) deposited into the 2017r2 Second Lien Second Lien Bonds Subaccount and pledged to the payment of the Series 2017-2 Second Lien Bonds under the Indenture and certain other monies held by or on behalf of the Trustee and from any other monies held by the Trustee under the Indenture for such purpose.

As provided in the Indenture, additional bonds may be issued from time to time pursuant to supplemental indentures in one or more series, in various principal amounts, may mature at different times, may bear interest at different rates and may otherwise vary as provided in the Master Indenture. The aggregate principal amount of bonds that may be issued pursuant to the Indenture is not limited, except as provided in the Indenture and ordinances authorizing those additional bonds, and all bonds issued and to be issued pursuant to the Indenture, including the Series 2017-2 Second Lien Bonds, are and will be equally secured by the pledges and covenants made in the Series 2017-2 Second Lien Bonds, except as otherwise provided or permitted in the Master Indenture.

Copies of the Indenture are on file at the principal corporate trust office of the Trustee, and reference to the Indenture and any and all supplements to it and modifications and amendments of it is made for a description of the pledge and covenants securing the Series 2017-2 Second Lien Bonds, the nature, extent and manner of enforcement of such pledge, the rights and remedies of the Registered Owners of the Series 2017-2 Second Lien Bonds and the limitations on such rights and remedies.

The Series 2017-2 Second Lien Bonds are subject to optional redemption prior to maturity as provided in the Eleventh Supplemental Indenture.

Limited Obligation. The Series 2017-2 Second Lien Bonds are issued pursuant to an ordinance adopted by the City Council of the City, which ordinance authorizes the execution and delivery of the Eleventh Supplemental Indenture. The Series 2017-2 Second Lien Bonds are limited obligations of the City payable solely from the Trust Estate pledged therefor under the Indenture.

No recourse shall be had for the payment of the principal of premium, if any, or interest on any of the Series 2017-2 Second Lien Bonds or for any claim based on the Series 2017-2 Second Lien Bonds or upon any obligation, covenant or agreement in the Indenture contained, against any past, present or future officer, employee or agent, or member of the City Council, of the City, or any successor to the City, as such, either directly or through the City, or any successor to the City, under any rule of law or equity, statute or constitution or by the enforcement of any assessment or penalty or otherwise, and all such liability of any such officer, employee or agent, or member of the City Council, as such, is hereby expressly waived and released as a condition of and in consideration for the execution of the Indenture and the issuance of any of the Series 2017-2 Second Lien Bonds.

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Registration. This Series 2017-2 Second Lien Bond is transferable by the Registered Owner of this Series 2017-2 Second Lien Bond in person or by such Registered Owner's attorney duly authorized in writing at the designated corporate trust office of the Trustee, but only in the manner and subject to the limitations provided in the Indenture.

Defeasance. Provision for payment of all or any portion of the Series 2017-2 Second Lien Bonds may be made, and the Eleventh Supplemental Indenture may be discharged, prior to payment of the Series 2017-2 Second Lien Bonds in the manner provided in the Indenture.

Miscellaneous. The Registered Owner of this Series 2017-2 Second Lien Bond shall have no right to enforce the provisions of the Indenture or to institute action to enforce the covenants, the Indenture, or to take any action with respect to any event of default under the Indenture, or to institute, appear in or defend any suit or other proceedings with respect to the Indenture, except as provided in the Indenture.

It is Certified, Recited and Declared that all acts and conditions required to be performed precedent to and in the execution and delivery of the Indenture and the issuance of this Series 2017-2 Second Lien Bond have been performed in due time, form and manner as required by law, and that the issuance of this Series 2017-2 Second Lien Bond and the series of which it forms a part does not exceed or violate any constitutional or statutory limitation.

This Series 2017-2 Second Lien Bond shall not be valid or become obligatory for any purpose or be entitled to any security or benefit under the Indenture unless and until the certificate of authentication hereon

shall have been duly executed by the Trustee.

In Witness Whereof, the City of Chicago has caused this Series 2017-2 Second Lien Bond to be executed in its name by the manual or facsimile signature of its Mayor and the manual or facsimile of its corporate seal to be printed on this Series 2017-2 Second Lien Bond and attested by the manual or facsimile signature of its City Clerk.

City of Chicago

By:

Mayor

Attest:

City Clerk

Certificate of Authentication

This Series 2017-2 Second Lien Bond is one of the Series 2017-2 Second Lien Bonds described in the within-mentioned Indenture.

Authentication Date:

THE BANK OF NEW YORK MELLON TRUST  
COMPANY, N.A., as Trustee

By:

Authorized Signatory

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EXHIBIT B

Assignment

The following abbreviations, when used in the inscription on the face of this certificate, shall be construed as though they were written out in full according to applicable laws or regulations:

Ten. Com. - as tenants in common Ten. Ent. -- as tenants

by the entireties

Jt. Ten. - as joint tenants with right of survivorship and not as tenants in  
common

Unif. Gift Min. Act

(Cust.) (Minor)

Custodian

under Uniform Gifts to Minors Act

(State)

Additional abbreviations may also be used, though not in the above list. For Value Received, The

undersigned sells, assigns and transfers unto

(Name and Address of Assignee)

this Series 2017-2 Second Lien Bond of the City of Chicago and does hereby irrevocably  
constitute and appoint \_\_\_, attorney to transfer said



Series 2017-2 Second Lien Bond on the books kept for registration thereof, with full power of substitution in the premises.

Dated:

Signature:

Signature Guaranteed:

Notice: The signature to this assignment must correspond with the name as it appears upon the face of this Series 2017-2 Second Lien Bond in every particular, without alteration or enlargement or any change whatever.

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*Exhibit B*  
*Provisions Applicable to Insured Bonds*

Notwithstanding anything to the contrary set forth in this Eleventh Supplemental Indenture, the following provisions shall apply to the Insured Bonds for so long as the Insured Bonds are "Outstanding" within the meaning established by (i) below, subject, however, to the provisions of the last paragraph of this Exhibit B.

- a) The Bond Insurer shall be deemed to be the sole holder of the Insured Bonds for the purpose of exercising any voting right or privilege or giving any consent or direction or taking any other action that the holders of the Insured Bonds are entitled to take pursuant to the Master Indenture pertaining to (i) defaults and remedies and (ii) the duties and obligations of the Trustee (with respect to the Insured Bonds). In furtherance thereof and as a term of the Eleventh Supplemental Indenture and each Insured Bond, each Insured Bondholder appoints the Bond Insurer as its agent and attorney-in-fact and agrees that the Bond Insurer may at any time during the continuation of any proceeding by or against the City under the United States Bankruptcy Code or any other applicable bankruptcy, insolvency, receivership, rehabilitation or similar law (an "Insolvency Proceeding") direct all matters relating to such Insolvency Proceeding, including without limitation (A) all matters relating to any claim or enforcement proceeding in connection with an Insolvency Proceeding (a "Claim"), (B) the direction of any appeal of any order relating to any Claim, (C) the posting of any surety, supersedeas or performance bond pending any such appeal, and (D) the right to vote to accept or reject any plan of adjustment. In addition, each Insured Bondholder delegates and assigns to the Bond Insurer, to the fullest extent permitted by law, the rights of each Insured Bondholder in the conduct of any Insolvency Proceeding, including, without limitation, all rights of any party to an adversary proceeding or action with respect to any court order issued in connection with any such Insolvency Proceeding. The Trustee acknowledges such appointment, delegation and assignment by each Insured Bondholder for the Bond Insurer's benefit, and agrees to cooperate with the Bond Insurer in taking any action reasonably necessary or appropriate in connection with such appointment, delegation and assignment. Remedies granted to the Insured Bondholders shall expressly include mandamus, but these provisions shall not create any remedy not otherwise expressly granted by the Master Indenture.
- b) The maturity of Insured Bonds shall not be accelerated without the consent of the Bond Insurer and in the event the maturity of the Insured Bonds is accelerated, the Bond Insurer may elect, in its sole discretion, to pay accelerated principal and interest accrued, on such principal to the date of acceleration (to the extent unpaid by the City) and the Trustee shall be required to accept such amounts. Upon payment of such accelerated principal and interest accrued to the acceleration date as provided above, the Bond Insurer's obligations under the Bond Insurance Policy with respect to such Insured Bonds shall be fully discharged.

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- c) No grace period for a covenant default shall exceed 30 days or be extended for more than 60 days, without the prior written consent of the Bond Insurer. No grace period shall be permitted for payment defaults.
- d) The Bond Insurer is a third party beneficiary to the Eleventh Supplemental Indenture.
- e) The exercise of any provision of the Eleventh Supplemental Indenture which permits the purchase of Insured Bonds in lieu of redemption shall require the prior written approval of the Bond Insurer if any Insured Bond so purchased is not cancelled upon purchase.
- f) Any amendment, supplement, modification to, or waiver of, the Eleventh Supplemental Indenture that requires the consent of Insured Bondowners or adversely affects the rights and interests of the Bond Insurer shall be subject to the prior written consent of the Bond Insurer.
- g) Unless the Bond Insurer otherwise directs, upon the occurrence and continuance of an Event of Default or an event which with notice or lapse of time would constitute an Event of Default, amounts on deposit in the 2017 Construction Account (as applicable) shall not be disbursed, but shall instead be applied to the payment of debt service or redemption price of the Bonds.
- (h) The rights granted to the Bond Insurer under the Eleventh Supplemental Indenture to request, consent to or direct any action are rights granted to the Bond Insurer in consideration of its issuance of the Bond Insurance Policy. Any exercise by the Bond Insurer of such rights is merely an exercise of the Bond Insurer's contractual rights and shall not be construed or deemed to be taken for the benefit, or on behalf, of the Insured Bondholders and such action does not evidence any position of the Bond Insurer, affirmative or negative, as to whether the consent of the Insured Bondowners or any other person is required in addition to the consent of the Bond Insurer.
- (i) Only (1) cash, (2) non-callable direct obligations of the United States of America ("Treasuries"), (3) evidences of ownership of proportionate interests in future interest and principal payments on Treasuries held by a bank or trust company as custodian, under which the owner of the investment is the real party in interest and has the right to proceed directly and individually against the obligor and the underlying Treasuries are not available to any person claiming through the custodian or to whom the custodian may be obligated, (4) subject to the prior written consent of the Bond Insurer, pre-refunded municipal obligations rated "AAA" and "Aaa" by S&P and Moody's, respectively, or (5) subject to the prior written consent of the Bond Insurer, securities eligible for "AAA" defeasance under then existing criteria of S & P or any combination thereof, shall be used to effect defeasance of the Insured Bonds unless the Bond Insurer otherwise approves.

To accomplish defeasance, the City shall cause to be delivered (i) a report of an independent firm of

nationally recognized certified public accountants or such other accountant as shall be acceptable to the Bond Insurer ("Accountant") verifying the sufficiency of the escrow established to pay the Insured Bonds in full on the maturity or

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redemption date ("Verification"), (ii) an Escrow Deposit Agreement (which shall be acceptable in form and substance to the Bond Insurer), (iii) an opinion of nationally recognized bond counsel to the effect that the Insured Bonds are no longer "Outstanding" under the Eleventh Supplemental Indenture and (iv) a certificate of discharge of the Trustee with respect to the Insured Bonds; each Verification and defeasance opinion shall be acceptable in form and substance, and addressed, to the City, the Trustee and the Bond Insurer. The Bond Insurer shall be provided with final drafts of the above-referenced documentation not less than five business days prior to the funding of the escrow.

Insured Bonds shall be deemed "Outstanding" under the Eleventh Supplemental Indenture, and the rights granted to the Bond Insurer shall remain in effect (subject to the last paragraph of this Exhibit B) unless and until the City has paid the Bond Insurer in full for any payment of principal of or interest on the Insured Bonds made by the Bond Insurer, and there are no other amounts due or owing to the Bond Insurer.

Amounts paid by the Bond Insurer under the Bond Insurance Policy shall not be deemed paid for purposes of the Eleventh Supplemental Indenture and the Insured Bonds relating to such payments shall remain Outstanding and continue to be due and owing until paid by the City in accordance with the Eleventh Supplemental Indenture. The Eleventh Supplemental Indenture shall not be discharged unless all amounts due or to become due to the Bond Insurer have been paid in full or duly provided for.

Each of the City and Trustee covenant and agree to take such action (including, as applicable, filing of UCC financing statements and continuations thereof) as is necessary from time to time to preserve the priority of the pledge of the Trust Estate under applicable law.

Claims Upon the Bond Insurance Policy and Payments by and to the Bond Insurer.

If, on the Business Day prior to the related scheduled interest payment date or principal payment date ("Payment Date") there is not on deposit with the Trustee, after making all transfers and deposits required under the Eleventh Supplemental Indenture, moneys sufficient to pay the principal of and interest on the Insured Bonds due on such Payment Date, the Trustee shall give notice to the Bond Insurer and to its designated agent (if any) (the "Bond Insurer's Fiscal Agent") by telephone or telecopy of the amount of such deficiency by 12:00 noon, New York City time, on such Business Day. If, on the Business Day prior to the related Payment Date, there continues to be a deficiency in the amount available to pay the principal of and interest on the Insured Bonds due on such Payment Date, the Trustee shall make a claim under the Bond Insurance Policy and give notice to the Bond Insurer and the Bond Insurer's Fiscal Agent (if any) by telephone of the amount of such deficiency, and the allocation of such deficiency between the amount required to pay interest on the Insured Bonds and the amount required to pay principal of the Insured Bonds, confirmed in writing to the Bond Insurer and the Bond Insurer's Fiscal Agent by 12:00 noon, New York City time, on such Business Day by filling in the form of Notice of Claim and Certificate delivered with the Bond Insurance Policy.

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The Trustee shall designate any portion of payment of principal on Insured Bonds paid by the Bond Insurer, whether by

virtue of mandatory sinking fund redemption, maturity or other advancement of maturity, on its books as a reduction in the principal amount of Insured Bonds registered to the then current Insured Bondholder, whether DTC or its nominee or otherwise, and shall issue a replacement Insured Bond to the Bond Insurer, registered in the name of Assured Guaranty Municipal Corp., in a principal amount equal to the amount of principal so paid (without regard to authorized denominations); provided that the Trustee's failure to so designate any payment or issue any replacement Insured Bond shall have no effect on the amount of principal or interest payable by the City on any Insured Bond or the subrogation rights of the Bond Insurer.

The Trustee shall keep a complete and accurate record of all funds deposited by the Bond Insurer into the Policy Payments Account (defined below) and the allocation of such funds to payment of interest on and principal of any Insured Bond. The Bond Insurer shall have the right to inspect such records at reasonable times upon reasonable notice to the Trustee.

Upon payment of a claim under the Bond Insurance Policy, the Trustee shall establish a separate special purpose trust account for the benefit of Insured Bondholders referred to herein as the "Policy Payments Account" and over which the Trustee shall have exclusive control and sole right of withdrawal. The Trustee shall receive any amount paid under the Bond Insurance Policy in trust on behalf of Insured Bondholders and shall deposit any such amount in the Policy Payments Account and distribute such amount only for purposes of making the payments for which a claim was made. Such amounts shall be disbursed by the Trustee to Insured Bondholders in the same manner as principal and interest payments are to be made with respect to the Insured Bonds under the sections hereof regarding payment of Insured Bonds. It shall not be necessary for such payments to be made by checks or wire transfers separate from the check or wire transfer used to pay debt service with other funds available to make such payments. Notwithstanding anything herein to the contrary, the City agrees to pay to the Bond Insurer (i) a sum equal to the total of all amounts paid by the Bond Insurer under the Bond Insurance Policy (the "Bond Insurer Advances"); and (ii) interest on such Bond Insurer Advances from the date paid by the Bond Insurer until payment thereof in full, payable to the Bond Insurer at the Late Payment Rate per annum (collectively, the "Bond Insurer Reimbursement Amounts"). "Late Payment Rate" means the lesser of (a) the greater of (i) the per annum rate of interest, publicly announced from time to time by JPMorgan Chase Bank at its principal office in The City of New York, as its prime or base lending rate (any change in such rate of interest to be effective on the date such change is announced by JPMorgan Chase Bank) plus 3%, and (ii) the then applicable highest rate of interest on the Insured Bonds and (b) the maximum rate permissible under applicable usury or similar laws limiting interest rates. The Late Payment Rate shall be computed on the basis of the actual number of days elapsed over a year of 360 days. The City hereby covenants and agrees that the Bond Insurer Reimbursement Amounts are secured by a lien on and pledge of the Second Lien Bond Revenues and payable from such Second Lien Bond Revenues on a parity with debt service due on the Insured Bonds.

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Funds held in the Policy Payments Account shall not be invested by the Trustee and may not be applied to satisfy any costs, expenses or liabilities of the Trustee. Any funds remaining in the Policy Payments Account following an Insured Bond payment date shall promptly be remitted to the Bond Insurer.

The Bond Insurer shall, to the extent it makes any payment of principal of or interest on the Insured Bonds, become subrogated to the rights of the recipients of such payments in accordance with the terms of the Bond Insurance Policy. Each obligation of the City to the Bond Insurer under the Eleventh Supplemental Indenture shall survive discharge or termination of the Eleventh Supplemental Indenture.

The City shall pay or reimburse the Bond Insurer any and all charges, fees, costs and expenses that the Bond Insurer may reasonably pay or incur in connection with (i) the administration, enforcement, defense or preservation of any rights or security in the Eleventh Supplemental Indenture; (ii) the pursuit of any remedies under the Eleventh Supplemental Indenture or otherwise afforded by law or equity, (iii) any amendment, waiver or other action with respect to, or related to, the Eleventh Supplemental Indenture whether or not executed or completed, or (iv) any litigation or other dispute in connection with the Eleventh Supplemental Indenture or the transactions contemplated thereby, other than costs resulting from the failure of the Bond Insurer to honor its obligations under the Bond Insurance Policy. The Bond Insurer reserves the right to charge a reasonable fee as a condition to executing any amendment, waiver or consent proposed in respect of the Eleventh Supplemental Indenture.

After payment of reasonable expenses of the Trustee, the application of funds realized upon default shall be applied to the payment of expenses of the City or rebate only after the payment of past due and current debt service on the Insured Bonds.

The Bond Insurer shall be entitled to pay principal or interest on the Insured Bonds that shall become Due for Payment but shall be unpaid by reason of Nonpayment by the City (as such terms are defined in the Bond Insurance Policy) and any amounts due on the Insured Bonds as a result of acceleration of the maturity thereof in accordance with the Eleventh Supplemental Indenture, whether or not the Bond Insurer has received a Notice of Nonpayment (as such terms are defined in the Bond Insurance Policy) or a claim upon the Bond Insurance Policy.

The notice address of the Bond Insurer is: Assured Guaranty Municipal Corp., 1633 Broadway, New York, New York 10019, Attention: Managing Director - Surveillance, Re: Policy No. 218282-N, Telephone: (212) 826-0100; Telecopier: (212) 339-3556. In each case in which notice or other communication refers to an Event of Default, then a copy of such notice or other communication shall also be sent to the attention of the General Counsel and shall be marked to indicate "URGENT MATERIAL ENCLOSED."

The Bond Insurer shall be provided with the following information by the City or the Trustee, as the case may be:

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- i) Annual audited financial statements within 210 days after the end of the City's fiscal year (together with, if specifically requested by the Bond Insurer in writing, a certification of the City that it is not aware of any breach of any covenants under the Eleventh Supplemental Indenture), and the City's annual budget within 30 days after the approval thereof together with such other information, data or reports as the Bond Insurer shall reasonably request from time to time (the provisions of this paragraph (i) with respect to annual audited financial statements shall be deemed satisfied if such financial statements, budget and other information, data or reports shall have been posted electronically on a website that the Bond Insurer has access to);
- ii) Notice of any default known to the Trustee or the City within five Business Days after knowledge thereof;
- iii) Prior notice of the advance refunding or redemption of any of the Insured Bonds, including the principal amount, maturities and CUSIP numbers thereof;
- iv) Notice of the resignation or removal of the Trustee and the Bond Registrar and the appointment of, and acceptance of duties by, any successor thereto;

- v) Notice of the commencement of any proceeding by or against the City commenced under the United States Bankruptcy Code or any other applicable bankruptcy, insolvency, receivership, rehabilitation or similar law (an "Insolvency Proceeding");
- vi) Notice of the making of any claim in connection with any Insolvency Proceeding seeking the avoidance as a preferential transfer of any payment of principal of, or interest on, the Insured Bonds;
- vii) An executed copy of any amendment, supplement, or waiver to the Eleventh Supplemental Indenture; and
- viii) All reports, notices and correspondence to be delivered to Insured Bondholders under the terms of the Eleventh Supplemental Indenture (the requirements of this sentence shall be deemed satisfied if the City has posted such information electronically on a website that the Bond Insurer has access to).

In addition, to the extent that the City has entered into a continuing disclosure agreement, covenant or undertaking with respect to the Insured Bonds, all information furnished pursuant to such agreements shall also be provided to the Bond Insurer, simultaneously with the furnishing of such information (the requirements of this sentence shall be deemed satisfied if the City has posted such information electronically on a website that the Bond Insurer has access to).

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The Bond Insurer shall have the right to receive such additional information as it may reasonably request.

- (t) The City will permit the Bond Insurer to discuss the affairs, finances and accounts of the City or any information the Bond Insurer may reasonably request regarding the security for the Insured Bonds with appropriate officers of the City and will use commercially reasonable efforts to enable the Bond Insurer to have access to the facilities, books and records of the City on any Business Day upon reasonable prior notice.
- (u) The Trustee shall notify the Bond Insurer of any failure of the City to provide notices, certificates and other information under the transaction documents.
- (v) Notwithstanding satisfaction of the other conditions to the issuance of Second Lien Parity Bonds set forth in the Master Indenture, no such issuance may occur if an Event of Default (or any event which, once all notice or grace periods have passed, would constitute an Event of Default) exists unless such default shall be cured upon such issuance.
- (w) In determining whether any amendment, consent, waiver or other action to be taken, or any failure to take action, under the Eleventh Supplemental Indenture would adversely affect the security for the Insured Bonds or the rights of the Insured Bondholders, the Trustee shall consider the effect of any such amendment, consent, waiver, action or inaction as if there were no Bond Insurance Policy.
- (x) No contract shall be entered into or any action taken by which the rights of the Bond Insurer or security for or sources of payment of the Insured Bonds may be impaired or prejudiced in any material respect except upon obtaining the prior written consent of the Bond Insurer.

Anything contained in this Eleventh Supplemental Indenture or in the Insured Bonds to the contrary notwithstanding, the existence of all rights given to the Bond Insurer hereunder with respect to the giving of consents or approvals, or the direction of proceedings, are expressly conditioned upon its timely and full performance of the Bond

Insurance Policy. Any such rights shall not apply if at any time:

- i) there are no Insured Bonds Outstanding;
- ii) if the Bond Insurer has failed to perform any of its obligations under the Bond Insurance Policy or has been declared insolvent or bankrupt by a court of competent jurisdiction;
- iii) an order or decree shall have been entered appointing a receiver, receivers, custodian or custodians for any of its assets or revenues, or any proceeding shall be instituted with the consent or acquiescence of the Bond Insurer or any plan shall be entered into by the Bond Insurer for the purpose of effecting a composition between the Bond Insurer and its creditors or for the purpose of adjusting the claims of such creditors;

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- iv) the Bond Insurer is dissolved;
- v) the Bond Insurer makes any assignment for the benefit of its creditors;
- vi) the Bond Insurer is generally not paying its debts as such debts become due or the Bond Insurer files a petition in bankruptcy or under Title II of the United States Code, as amended;
- vii) the Bond Insurance Policy has been determined to be void or unenforceable by final non-appealable judgment of a court of competent jurisdiction; or
- viii) the Bond Insurer contests the validity or enforceability of the Bond Insurance Policy;

provided that this Section shall not in any way limit or affect the rights of the Bond Insurer as an Insured Bondholder, as subrogee of an Insured Bondholder or as assignee of an Insured Bondholder, or otherwise, to be reimbursed and indemnified for its costs and expenses and other payment on or in connection with the Insured Bonds or the Bond Insurance Policy either by operation of law or at equity or by contract.

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**EXHIBIT D**  
**CUSIP NUMBERS**

Maturity (November 1) CUSIP

|      |                |
|------|----------------|
| 2018 | 167736N29      |
| 2019 | 167736N37      |
| 2020 | 167736N45      |
| 2021 | 167736N52      |
| 2022 | 167736N60      |
| 2023 | 167736N78      |
| 2024 | 167736N86      |
| 2024 | 2028 167736N94 |
| 2030 | 167736 P27     |
| 2031 | 167736 P35     |
| 2032 | 167736 P43     |
| 2033 | 167736 P50     |
| 2034 | 167736 P68     |
| 2035 | 167736 P76     |
| 2036 | 167736 P84     |
| 2037 | 167736 P92     |
| 2038 | 167736 Q26     |



**EXHIBIT E ELEVENTH SUPPLEMENTAL INDENTURE**

**CITY OF CHICAGO to**

**THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.,  
as Trustee**

**ELEVENTH SUPPLEMENTAL INDENTURE SECURING  
SECOND LIEN WATER REVENUE REFUNDING BONDS,  
SERIES 2017-2**

**DATED AS OF DECEMBER 1, 2017**

Supplementing a Master Indenture of Trust Securing Second Lien Water Revenue Bonds, dated as of December 15, 1999, from the City of Chicago to The Bank of New York Mellon Trust Company, NA., as successor Trustee, as amended by Amendment No. 1 To Master Indenture, dated as of August 1, 2004.

THIS ELEVENTH SUPPLEMENTAL INDENTURE is made and entered into as of December 1, 2017 (this "Eleventh Supplemental Indenture"), from the City of Chicago (the "City"), a municipal corporation and home rule unit of local government duly organized and existing under the Constitution and laws of the State of Illinois, to The Bank of New York Mellon Trust Company, N.A., a national banking association duly organized, existing and authorized to accept and execute trusts of the character set out in this Eleventh

Supplemental Indenture under and by virtue of the laws of the United States of America, as Trustee (the "Trustee").

**WITNESSETH:**

WHEREAS, the City is a duly constituted and existing municipality within the meaning of Section 1 of Article VII of the 1970 Constitution of the State of Illinois, and is a "home rule unit" of local government under Section 6(a) of Article VII of the 1970 Constitution; and

WHEREAS, the City has constructed and is maintaining and operating the Water System (as defined in the Series 2017-2 Bond Ordinance described below) to meet the needs of the City's inhabitants and other users of the Water System; and

WHEREAS, the Water System is operated under the supervision and control of the Department of Water Management of the City; and

WHEREAS, the City has issued and has outstanding its Outstanding Senior Lien Bonds, Outstanding Second Lien Bonds and its Outstanding Subordinate Lien Obligations; and

WHEREAS, the City has determined that it is advisable and in the best interests of the City to authorize the issuance from time to time of its Second Lien Water Revenue Refunding Bonds, Series 2017-2 ("Series 2017-2 Second Lien Bonds"), subject to the authorization limits specified in the Series 2017-2 Bond Ordinance, for any one or more of the purposes of (1) refunding the Refunded Bonds, (2) paying Costs of Issuance of the Series 2017-2 Second Lien Bonds, and (3) providing for any discount on the Series 2017-2 Second Lien Bonds; and

WHEREAS, the aggregate estimated amount of uses for the Series 2017-2 Second Lien Bonds does not exceed \$400,000,000. The proceeds of the Series 2017-2 Second Lien Bonds incurred for the costs described in clause (1) - (3) of the immediately preceding paragraph (the "2017-2 Costs ") will not exceed the amount required to pay such costs; and

WHEREAS, the City does not have available funds sufficient to pay the 2017-2 Costs;  
and

WHEREAS, pursuant to an ordinance duly adopted by the City Council on November 8, 2017 (the "Series 2017-2 Bond Ordinance"), the City has determined to authorize the issuance of the Series 2017-2 Second Lien Bonds in one or more series for any one or more of the purposes described therein; and

WHEREAS, the City has entered into a Master Indenture of Trust Securing City of Chicago Second Lien Water Revenue Bonds, dated as of December 15, 1999, as heretofore supplemented and as amended by Amendment No. 1 To Master Indenture, dated as of August 1,

2004 (said Master Indenture as heretofore and hereafter supplemented and amended, including by this Eleventh Supplemental Indenture, the "Indenture"), with the Trustee, which Indenture authorizes the issuance of Second Lien Parity Bonds in one or more series pursuant to one or more Supplemental Indentures and the incurrence by the City of Section 2.08 Obligations (as defined in the Indenture) and Section 2.09 Obligations (as defined in the Indenture); and

WHEREAS, pursuant to Section 2.01 of the Series 2017-2 Bond Ordinance, the City has

WHEREAS, pursuant to Section 2.01 of Part B of the Series 2017-2 Bond Ordinance, the City has authorized the issuance and sale of the Series 2017-2 Second Lien Bonds pursuant to the Indenture in one or more separate series that may be issued under or pursuant to the Series 2017-2 Bond Ordinance and the Indenture (provided that the total principal amount of any Series 2017-2 Bonds shall not exceed \$400,000,000, plus an amount equal to the amount of any original issue discount (not to exceed 15 percent of the aggregate principal amount of such series of Bonds) used in the marketing of such Series 2017-2 Second Lien Bonds); and

WHEREAS, pursuant to such authorization, in order to pay the 2017-2 Costs, the City has, pursuant to authorization granted in the Series 2017-2 Bond Ordinance, determined to issue and sell the Series 2017-2 Second Lien Bonds authorized as aforesaid; and

WHEREAS, such Series 2017-2 Second Lien Bonds shall be issued and sold in a single series as provided in this Eleventh Supplemental Indenture, being the aggregate principal amount of \$235,260,000 and designated as "Second Lien Water Revenue Refunding Bonds, Series 2017-2;" and

WHEREAS, the Series 2017-2 Second Lien Bonds, and the Trustee's Certificate of Authentication to be endorsed on such Bonds, shall be substantially in the forms attached to this Eleventh Supplemental Indenture as Exhibit A, with necessary and appropriate variations, omissions and insertions as permitted or required by the Series 2017-2 Bond Ordinance or the Indenture;

**NOW, THEREFORE, THIS ELEVENTH SUPPLEMENTAL INDENTURE WITNESSETH:**

### **GRANTING CLAUSES**

*That the City, in consideration of the premises and the acceptance by the Trustee of the trusts created by this Eleventh Supplemental Indenture, and of the purchase and acceptance of the Series 2017-2 Second Lien Bonds by their Registered Owners, and of the sum of one dollar, lawful money of the United States of America, to it duly paid by the Trustee at or before the execution and delivery of these presents, and for other good and valuable consideration, the receipt and sufficiency of which are acknowledged, to secure the payment of the principal of, premium, if any, and interest on the Series 2017-2 Second Lien Bonds according to their tenor and effect, and to secure the performance and observance by the City of all the covenants expressed or implied in this Eleventh Supplemental Indenture and in the Series 2017-2 Second Lien Bonds, assigns and grants a security interest in and to the following to the Trustee, and its successors in trust and assigns forever, for the securing of the performance of the obligations of the City set forth below (the "Trust Estate"):*

### **3**

### **GRANTING CLAUSE FIRST**

All right, title and interest of the City in and to Second Lien Bond Revenues and amounts on deposit in the Second Lien Bonds Account (other than monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other Series of Second Lien Bonds issued or to be issued), in each case to the extent pledged and assigned in the granting clauses of the Indenture, as supplemented by the Series 2017-2 Bond Ordinance;

### **GRANTING CLAUSE SECOND**

All monies and securities on deposit in the Series 2017-2 Second Lien Bonds Account, as supplemented by the Series 2017-2 Bond Ordinance;

All moneys and securities from time to time held by the Trustee under the terms of this Eleventh Supplemental Indenture; and

### **GRANTING CLAUSE THIRD**

Any and all other property, rights and interests of every kind and nature from time to time hereafter by delivery or by writing of any kind granted, bargained, sold, alienated, demised, released, conveyed, assigned, transferred, mortgaged, pledged, hypothecated or otherwise subjected to this Eleventh Supplemental Indenture, as and for additional security under this Eleventh Supplemental Indenture by the City or by any other person on its behalf or with its written consent to the Trustee, and the Trustee is by this Eleventh Supplemental Indenture authorized to receive any and all such property at any and all times and to hold and apply the same subject to the terms of this Eleventh Supplemental Indenture;

TO HAVE AND TO HOLD all and singular the Trust Estate, whether now owned or hereafter acquired, unto the Trustee and its successors in said trust and assigns forever;

IN TRUST, NEVERTHELESS, upon the terms and trusts set forth in this Eleventh Supplemental Indenture for the equal and proportionate benefit, security and protection of all present and future Registered Owners of the Series 2017-2 Second Lien Bonds and all other Second Lien Bonds issued or secured from time to time under the provisions of the Indenture, without privilege, priority or distinction as to the lien or otherwise of any of the foregoing over any other of the foregoing, except to the extent otherwise specifically provided in the Indenture;

PROVIDED, HOWEVER, that if the City, its successors or assigns shall well and truly pay, or cause to be paid, the principal of, premium, if any, and interest on the Series 2017-2 Second Lien Bonds, and shall cause the payments to be made on such Series 2017-2 Second Lien Bonds as required in this Eleventh Supplemental Indenture, and shall well and truly cause to be kept, performed and observed all of its covenants and conditions pursuant to the terms of the Indenture and shall pay or cause to be paid to the Trustee all sums of money due or to become due to the Trustee in accordance with the terms and provisions of this Eleventh Supplemental Indenture, then upon the final payment of such sums this Eleventh Supplemental Indenture and the rights by this Eleventh Supplemental Indenture granted shall cease, determine and be void; otherwise this Eleventh Supplemental Indenture shall remain in full force and effect.

**THIS ELEVENTH SUPPLEMENTAL INDENTURE FURTHER WITNESSETH,**  
and it is expressly declared; that all Series 2017-2 Second Lien Bonds issued and secured under

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this Eleventh Supplemental Indenture are to be issued, authenticated and delivered, and all said property, rights and interests and any other amounts assigned and pledged by this Eleventh Supplemental Indenture are to be dealt with and disposed of, under, upon and subject to the terms, conditions, stipulations, covenants, agreements, trusts, uses and purposes expressed in this Eleventh Supplemental Indenture, and the City has agreed and covenanted and by this Eleventh Supplemental Indenture agrees and covenants with the Trustee, the respective owners of the Series 2017-2 Second Lien Bonds as follows:

### **ARTICLE I DEFINITIONS**

Section 1.01. Definitions. All capitalized terms used in this Eleventh Supplemental Indenture unless otherwise defined shall have the same meaning as used in Article I of the Indenture and in the Series 2017-2 Bond Ordinance. In addition to the terms defined in the preambles of this Eleventh Supplemental Indenture,

the following words and phrases shall have the following meanings for purposes of this Eleventh Supplemental Indenture:

"Authorized Denomination" means, with respect to a particular Series 2017-2 Second Lien Bond, \$5,000 and any integral multiple of \$5,000.

"Bondholder," "holder," "owner of the Series 2017-2 Second Lien Bonds" or "Registered Owner" means the Registered Owner of any Series 2017-2 Second Lien Bond.

"Bond Insurance Policy" means the municipal bond insurance policy issued by the Bond Insurer insuring the scheduled payment of principal and interest on the Insured Bonds.

"Bond Insurer" means Assured Guaranty Municipal Corp. and its successors and assigns.

"Bond Register" means the registration books of the City kept by the Trustee (in its capacity as Bond Registrar) to evidence the registration and transfer of Series 2017-2 Second Lien Bonds.

"BondRegistrar" means the Trustee.

"Chief Financial Officer" means the Chief Financial Officer appointed by the Mayor of the City or, in the event no person is at the time then so appointed and acting, the City Comptroller of the City.

"City" means the City of Chicago, a municipal corporation and home rule unit of local government, organized and existing under the Constitution and laws of the State.

"Code" means the United States Internal Revenue Code of 1986, as amended. References to the Code and to Sections of the Code shall include relevant final, temporary or proposed regulations thereunder as in effect from time to time and as applicable to obligations issued on the Date of Issuance.

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"Date of Issuance" means December 21, 2017, the date of original issuance and delivery of the Series 2017-2 Second Lien Bonds under this Eleventh Supplemental Indenture.

"DTC" means The Depository Trust Company, New York, New York, or its nominee, and its successors and assigns, or any other depository performing similar functions.

"Eleventh Supplemental Indenture " means this Eleventh Supplemental Indenture and any amendments and supplements to this Eleventh Supplemental Indenture.

"Indenture " means the Master Indenture of Trust Securing Second Lien Water Revenue Bonds, dated as of December 15, 1999, from the City to the Trustee, pursuant to which Second Lien Bonds are authorized to be issued, as heretofore supplemented and as amended by Amendment No. 1 To Master Indenture, dated as of August 1, 2004 and any additional amendments and supplements to it, including this Eleventh Supplemental Indenture. References to Articles and Sections of the Indenture shall be deemed to refer to Articles and Sections of the Master Indenture as amended and supplemented.

"Series 2017-2 Second Lien Bonds" means the Series 2017-2 Second Lien Bonds authorized by the City of Chicago and the Trustee.

"Insured Bonds" means the Series 2017-2 Second Lien Bonds maturing on November 1 of the years 2028 and 2030 through 2038, inclusive, certain special provisions with respect to which are set forth on Exhibit B to this Eleventh Supplemental Indenture.

"Interest Payment Date" means each May 1 and November 1, commencing on May 1, 2018.

"Maturity Date " means, with respect to a particular Series 2017-2 Second Lien Bond, the maturity date for such Series 2017-2 Second Lien Bond set forth in Section 2.01(c) hereof.

"Opinion of Bond Counsel" means a written opinion of Bond Counsel in form and substance acceptable to the City and the Trustee, which opinion may be based on a ruling or rulings of the Internal Revenue Service.

"Participant," when used with respect to any Securities Depository, means any participant of such Securities Depository.

"Paying Agent" means the Trustee and any other bank, national banking association or trust company designated by the City or the Trustee pursuant to Section 8.03 hereof as a paying agent for the Series 2017-2 Second Lien Bonds, and any successor or successors appointed by the Chief Financial Officer or the Trustee under this Eleventh Supplemental Indenture.

"Permitted Investments " means any of the following to the extent permitted by law and by the Indenture (which definition of "Indenture," for purposes of this definition only, shall not include this Eleventh Supplemental Indenture) at the time of such investment:

a) direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America; and

b) shares of a money market fund registered under the Investment Company Act of 1940, whose shares are registered under the Securities Act of 1933, as amended, including those

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for which the Trustee or an affiliate performs services for a fee, whether as custodian, transfer agent, investment advisor or otherwise.

"Principal and Interest Account" means the account designated the "Series 2017-2 Second Lien Bonds, Principal and Interest Account" established in the 2017-2 Second Lien Bonds Subaccount as described in Section 4.02(b)(iii) and Section 4.05 hereof.

"Principal and Interest Account Requirement" means an amount, calculated as of each Deposit Date, equal to the total Principal Installments and interest due on the Series 2017-2 Second Lien Bonds on such Deposit Date.

"Program Fee Account" means the account designated the "Series 2017-2 Second Lien Bonds, Program Fee Account" established in the 2017-2 Second Lien Bonds Subaccount as described in Section 4.02(b)(ii) and Section 4.06 hereof.

"Program Fees " means:

a) the fees, expenses and other charges payable to each fiduciary, including the Trustee, the Trustee's Agent and any Paying Agent, pursuant to the provisions of Section 8.05 of the Indenture; provided that if at any time there shall be any Series of Second Lien Bonds Outstanding under the Indenture other than the Series 2017-2 Second Lien Bonds, then "Program Fees" shall mean only such portion of such fees, expenses and other charges as shall be payable with respect to, or properly allocable to, the duties performed by each such fiduciary with respect to the Series 2017-2 Second Lien Bonds;

b) ongoing fees payable to any Rating Agency maintaining a rating on any Series 2017-2 Second Lien Bonds; and

c) any other fees, expenses and other charges of a similar nature payable by the City to any person under this Eleventh Supplemental Indenture or otherwise with respect to the Series 2017-2 Second Lien Bonds.

"Rating Agency" means any nationally recognized securities ratings service that shall have assigned ratings to any Series 2017-2 Second Lien Bond as requested by or on behalf of the City and which ratings are then currently in effect.

"Record Date " means April 15 and October 15 of each year (whether or not a Business Day).

"RefundedBonds" means the City's Second Lien Water Revenue Project and Refunding Bonds, Series 2008 maturing on November 1 of the years and in the amounts set forth below:

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Maturity (November .1)  
Principal Amount

|              |            |           |            |            |           |           |  |  |  |
|--------------|------------|-----------|------------|------------|-----------|-----------|--|--|--|
| 2019         |            |           |            |            |           |           |  |  |  |
| 2020         |            |           |            |            |           |           |  |  |  |
| 2021         |            |           |            |            |           |           |  |  |  |
| 2022         |            |           |            |            |           |           |  |  |  |
| 2023         |            |           |            |            |           |           |  |  |  |
| 2024 *       |            |           |            |            |           |           |  |  |  |
| 2024 *       |            |           |            |            |           |           |  |  |  |
| 2025         |            |           |            |            |           |           |  |  |  |
| 2028         |            |           |            |            |           |           |  |  |  |
| 2033 **      |            |           |            |            |           |           |  |  |  |
| 2038         |            |           |            |            |           |           |  |  |  |
| \$16,075,000 | 16,880,000 | 9,870,000 | 10,365,000 | 10,885,000 | 1,910,000 | 9,515,000 |  |  |  |

995,000

13,885,000 66,385,000 104,570,000

\* Split maturity.

\*\* The redemption amount will be credited against portions of the mandatory sinking fund redemption payments for this maturity due on November 1 of 2030 and 2031, and all of the mandatory sinking fund redemption payments for this maturity due on November 1 of 2032 and 2033.

"Registered Owner " or "Owner " means the person or persons in whose name or names a Series 2017-2 Second Lien Bond shall be registered in the Bond Register.

"Securities Depository " means DTC and any other securities depository registered as a clearing agency with the Securities and Exchange Commission pursuant to Section 17A of the Securities Exchange Act of 1934, as amended, and appointed as the securities depository for the Series 2017-2 Second Lien Bonds.

"Series 2017-2 Second Lien Bonds" means the \$235,260,000 aggregate principal amount of Second Lien Water Revenue Refunding Bonds, Series 2017-2 authorized to be issued pursuant to Section 2.01 hereof.

"State " means the State of Illinois.

"Tax Regulatory Agreement" means the Tax Regulatory Agreement of the City relating to the Series 2017-2 Second Lien Bonds delivered by the City on the date of issuance of the Series 2017-2 Second Lien Bonds.

"Trust Estate" means the property conveyed to the Trustee pursuant to the Granting Clauses of this Eleventh Supplemental Indenture.

"Trustee" means The Bank of New York Mellon Trust Company, N.A., a national banking association duly organized and existing under the laws of the United States of America (as successor trustee), and its successors and any entity resulting from or surviving any

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consolidation or merger to which it or its successors may be a party, and any successor Trustee at the time serving as successor trustee under this Eleventh Supplemental Indenture.

"Trustee's Agent" means any agent designated as Trustee's Agent by the Trustee and at the time serving in that capacity. Any agent so designated by the Trustee shall execute a written agreement with the Trustee assuming all obligations of the Trustee under this Eleventh Supplemental Indenture with respect to those duties of the Trustee which such agent agrees to perform on behalf of the Trustee.

"2017-2 Costs" has the meaning ascribed to it in the preambles to this Eleventh Supplemental Indenture.

"2017-2 Second Lien Bonds Subaccount" means the fund of that name established within the Second Lien Bonds Account created under Section 3.03(d) of Part B of the Series 2017-2 Bond Ordinance, as further described in Sections 4.02, 4.04, 4.05 and 4.06 hereof.



## ARTICLE II THE SERIES 2017-2 SECOND LIEN BONDS

Section 2.01. Authority for and Issuance of Series 2017-2 Second Lien Bonds, (a) No Series 2017-2 Second Lien Bonds may be issued under the provisions of this Eleventh Supplemental Indenture except in accordance with this Article. The Series 2017-2 Second Lien Bonds are being issued to provide funds to pay 2017-2 Costs.

b) Pursuant to the Series 2017-2 Bond Ordinance, the total principal amount of any Series 2017-2 Second Lien Bonds shall not exceed \$400,000,000, plus an amount equal to the amount of any original issue discount (not to exceed 15 percent of the aggregate principal amount of such series of Bonds (other than Series 2017-2 Second Lien Bonds issued in lieu of or in substitution for which other Series 2017-2 Second Lien Bonds have been authenticated and delivered pursuant to Sections 2.01(c), 2.03, 2.04, 2.06, 2.07 or 3.04(d) hereof). The Series 2017-2 Second Lien Bonds shall be issuable as fully registered bonds, without coupons, in Authorized Denominations, substantially in the form attached as Exhibit A. Unless the City shall otherwise direct, the Series 2017-2 Second Lien Bonds shall be lettered and numbered from R-1 and upwards, but need not be numbered consecutively.

c) The Series 2017-2 Second Lien Bonds shall be designated "City of Chicago Second Lien Water Revenue Refunding Bonds, Series 2017-2" and shall be issued in the aggregate principal amount of \$235,260,000. The Series 2017-2 Second Lien Bonds shall be dated the Date of Issuance, and shall mature on November 1 in each of the years and in the principal amounts and shall bear interest at the respective rates per annum set forth in the table below:

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| Maturity (November 1)                |            |            |            |            |            |            |            |       |  |
|--------------------------------------|------------|------------|------------|------------|------------|------------|------------|-------|--|
| Principal Amount                     |            |            |            |            |            |            |            |       |  |
| Rate Per Maturity Annum (November 1) |            |            |            |            |            |            |            |       |  |
| Principal Amount                     |            |            |            |            |            |            |            |       |  |
| Rate per Annum                       |            |            |            |            |            |            |            |       |  |
| 2018                                 | 2019       | 2020       | 2021       | 2022       | 2023       | 2024       | 2028       | 2030  |  |
| \$ 3,000,000                         | 16,950,000 | 12,640,000 | 5,415,000  | 5,690,000  | 5,975,000  | 6,270,000  |            |       |  |
|                                      |            |            |            |            |            | 13,585,000 | 15,030,000 |       |  |
| 5.00%                                | 5.00%      | 5.00%      | 5.00%      | 5.00%      | 5.00%      | 5.00%      | 5.00%      | 5.00% |  |
| 2031                                 | 2032       | 2033       | 2034       | 2035       | 2036       | 2037       | 2038       |       |  |
| \$15,780,000                         | 16,570,000 | 17,400,000 | 18,275,000 | 19,185,000 | 20,145,000 | 21,145,000 | 22,205,000 |       |  |
| 5.00%                                | 5.00%      | 5.00%      | 5.00%      | 5.00%      | 5.00%      | 5.00%      | 5.00%      |       |  |

d) Each Series 2017-2 Second Lien Bond authenticated prior to the first Interest Payment Date for such Series 2017-2 Second Lien Bond shall bear interest from the Date of Issuance, and following the first Interest Payment Date interest shall accrue as set forth in the next paragraph except that if as shown by the records of the Trustee, interest

on such Series 2017-2 Second Lien Bond shall be in default, any Series 2017-2 Second Lien Bond issued in exchange for or upon the registration of transfer of such Series 2017-2 Second Lien Bond shall bear interest from the date to which interest has been paid in full on such Series 2017-2 Second Lien Bond or, if no interest has been paid on such Series 2017-2 Second Lien Bond, the Date of Issuance. Each Series 2017-2 Second Lien Bond shall bear interest on overdue principal and, to the extent permitted by law, on overdue premium, if any, and interest at the rate borne by such Series 2017-2 Second Lien Bond on the date on which such principal, premium or interest came due and payable.

e) Interest on the Series 2017-2 Second Lien Bonds shall be payable on each Interest Payment Date, computed upon the basis of a 360-day year consisting of twelve 30-day months. No interest shall accrue on any Series 2017-2 Second Lien Bond after the Maturity Date thereof (provided, the payment at maturity is paid or provided for in accordance with the provisions of the Indenture).

f) The principal of and interest on the Series 2017-2 Second Lien Bonds shall be payable in any coin or currency of the United States of America which, at the respective dates of payment of such Series 2017-2 Second Lien Bonds, is legal tender for the payment of public and private debts.

g) The principal of the Series 2017-2 Second Lien Bonds shall be payable at the designated corporate trust office of the Trustee or, at the option of the Registered Owners, at the designated corporate trust office of any Paying Agent named in such Series 2017-2 Second Lien Bonds, upon presentation and surrender of such Series 2017-2 Second Lien Bonds.

h) Payment of interest on Series 2017-2 Second Lien Bonds shall be made by check mailed on the Interest Payment Date to the persons appearing on the Bond Register as the Registered Owners of such Series 2017-2 Second Lien Bonds as of the close of business of the

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Trustee on the Record Date at the addresses of such Registered Owners as they appear on the Bond Register, or at such other addresses as are furnished to the Trustee in writing by the Registered Owners not later than the Record Date. Payment of interest on any Series 2017-2 Second Lien Bond shall be made to the Registered Owner of \$1,000,000 or more in aggregate principal amount of Series 2017-2 Second Lien Bonds as of the close of business of the Trustee on the Record Date for a particular Interest Payment Date by wire transfer to such Registered Owner on such Interest Payment Date upon written notice from such Registered Owner containing the wire transfer address within the United States to which such Registered Owner wishes to have such wire directed, which written notice is received not later than the Business Day next preceding the Record Date.

(i) The Series 2017-2 Second Lien Bonds shall bear interest from and including the Date of Issuance, until payment of the principal or Redemption Price of such Series 2017-2 Second Lien Bonds shall have been made or provided for in accordance with the provisions of this Eleventh Supplemental Indenture, whether at the Maturity Date or otherwise.

Section 2.02. Execution; Limited Obligations. The Series 2017-2 Second Lien Bonds shall be executed on behalf of the City with the official manual or facsimile signature of the Mayor of the City and attested with the official manual or facsimile signature of its City Clerk or Deputy City Clerk, and shall have affixed, impressed, imprinted or otherwise reproduced on such Series 2017-2 Second Lien Bonds the corporate seal of the City or a facsimile of such seal. The Series 2017-2 Second Lien Bonds are issued pursuant to and in full compliance with the Constitution and laws of the State, and pursuant to the Series 2017-2 Bond Ordinance. The Series 2017-2 Second Lien Bonds, the Section 2.08 Obligations and the Section 2.09 Obligations are not

general obligations of the City, but are limited obligations payable solely from the Trust Estate, including Second Lien Bond Revenues, amounts on deposit in the Second Lien Bonds Account, and shall be a valid claim of the respective Registered Owners of the Series 2017-2 Second Lien Bonds only against the Trust Estate, including amounts on deposit in the Second Lien Bonds Account (other than monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other Series of Second Lien Bonds issued or to be issued) and other moneys held by the Trustee or otherwise pledged therefor, which amounts are by this Eleventh Supplemental Indenture pledged, assigned and otherwise held as security for the equal and ratable payment of the Series 2017-2 Second Lien Bonds, the Section 2.08 Obligations and the Section 2.09 Obligations, and shall be used for no other purpose than to pay the principal of, premium, if any, and interest on the Series 2017-2 Second Lien Bonds, the Section 2.08 Obligations and the Section 2.09 Obligations, except as may be otherwise expressly authorized in the Indenture. Neither the Series 2017-2 Second Lien Bonds, the Section 2.08 Obligations nor the Section 2.09 Obligations shall constitute an indebtedness of the City or a loan of credit of the City within the meaning of any constitutional or statutory limitation, and neither the faith and credit nor the taxing power of the City, the State or any political subdivision of the State is pledged to the payment of the principal of premium, if any, or the interest on the Series 2017-2 Second Lien Bonds, the Section 2.08 Obligations or the Section 2.09 Obligations, or other costs incident to the Series 2017-2 Second Lien Bonds, the Section 2.08 Obligations or the Section 2.09 Obligations. In case any officer whose signature or a facsimile of whose signature shall appear on the Series 2017-2 Second Lien Bonds shall cease to be such officer before the delivery of such Series 2017-2 Second Lien Bonds, such signature

or such facsimile shall nevertheless be valid and sufficient for all purposes, as if such officer had remained in office until delivery.

Section 2.03. Authentication. No Series 2017-2 Second Lien Bond shall be valid or obligatory for any purpose or be entitled to any security or benefit under this Eleventh Supplemental Indenture unless and until such certificate of authentication in substantially the form attached to this Eleventh Supplemental Indenture as part of Exhibit A shall have been duly executed by the Trustee, and such executed certificate of the Trustee upon any such Series 2017-2 Second Lien Bond shall be conclusive evidence that such Series 2017-2 Second Lien Bond has been authenticated and delivered under this Eleventh Supplemental Indenture. The Trustee's certificate of authentication on any Series 2017-2 Second Lien Bond shall be deemed to have been executed by it if (i) signed by an authorized signatory of the Trustee, but it shall not be necessary that the same signatory sign the certificates of authentication on all of the Series 2017-2 Second Lien Bonds issued under this Eleventh Supplemental Indenture and (ii) the date of authentication on such Series 2017-2 Second Lien Bond is inserted in the place provided for such date in the certificate of authentication.

Section 2.04. Form of Series 2017-2 Second Lien Bonds; Temporary Series 2017-2 Second Lien Bonds. The Series 2017-2 Second Lien Bonds issued under this Eleventh Supplemental Indenture shall be substantially in the form attached to this Eleventh Supplemental Indenture as Exhibit A, with such appropriate variations, omissions and insertions as are permitted or required by this Eleventh Supplemental Indenture.

Pending preparation of definitive Series 2017-2 Second Lien Bonds, or by agreement with the purchasers of such Series 2017-2 Second Lien Bonds, the City may issue and, upon its request, the Trustee shall authenticate, in lieu of definitive Series 2017-2 Second Lien Bonds, one or more temporary printed or typewritten Bonds in Authorized Denominations of substantially the tenor recited above. Upon request of the City, the Trustee shall authenticate definitive Series 2017-2 Second Lien Bonds in exchange for and upon surrender of an equal principal amount of temporary Series 2017-2 Second Lien Bonds. Until so exchanged,

temporary Series 2017-2 Second Lien Bonds shall have the same rights, remedies and security under this Eleventh Supplemental Indenture as definitive Series 2017-2 Second Lien Bonds.

Section 2.05. Delivery of Series 2017-2 Second Lien Bonds. Upon the execution and delivery of this Eleventh Supplemental Indenture, the City shall execute and deliver to the Trustee, and the Trustee shall authenticate, the Series 2017-2 Second Lien Bonds and deliver them to the purchasers as may be directed by the City as provided in this Section.

Prior to the delivery by the Trustee of the Series 2017-2 Second Lien Bonds there shall be filed with the Trustee:

- i) a copy, duly certified by the City Clerk or Deputy City Clerk of the City, of the Series 2017-2 Bond Ordinance;
- ii) original executed counterparts of the Indenture, including this Eleventh Supplemental Indenture;

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iii) a Counsel's Opinion or Opinions to the effect that: (A) the City had the right and power to adopt the Series 2017-2 Bond Ordinance; (B) the Series 2017-2 Bond Ordinance has been duly and lawfully adopted by the City Council, is in full force and effect and is valid and binding upon the City and enforceable in accordance with its terms (except as limited by any applicable bankruptcy liquidation, reorganization, insolvency or other similar laws and by general principles of equity in the event equitable remedies are sought); (C) the Indenture and this Eleventh Supplemental Indenture have been duly and lawfully authorized by all necessary action on the part of the City, have been duly and lawfully executed by authorized officers of the City, are in full force and effect and are valid and binding upon the City and enforceable in accordance with their terms (except as limited by any applicable bankruptcy, liquidation, reorganization, insolvency or other similar laws and by general principles of equity in the event equitable remedies are sought); (D) the Series 2017-2 Bond Ordinance, the Indenture and this Eleventh Supplemental Indenture create the valid pledge of the Trust Estate, including Second Lien Bond Revenues and moneys and securities held in the Second Lien Bonds Account (other than monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other Series of Second Lien Bonds issued or to be issued) under the Series 2017-2 Bond Ordinance, the Indenture and this Eleventh Supplemental Indenture for the benefit and security of the Series 2017-2 Second Lien Bonds; subject to application of such moneys and securities in the manner provided in the Indenture and this Eleventh Supplemental Indenture; (E) upon the execution, authentication and delivery of the Indenture and this Eleventh Supplemental Indenture, the Series 2017-2 Second Lien Bonds will have been, duly and validly authorized and issued in accordance with the Constitution and laws of the State, the Series 2017-2 Bond Ordinance, the Indenture and this Eleventh Supplemental Indenture and (F) any required approval for the issuance of the Series 2017-2 Second Lien Bonds has been obtained;

iv) a written order as to the delivery of the Series 2017-2 Second Lien Bonds, signed by the Chief Financial Officer and stating (A) the identity of the purchasers, the aggregate purchase price and the date and place of delivery; and (B) that no Event of Default has occurred and is continuing under the Indenture or this Eleventh Supplemental Indenture; and

v) a Certificate of the Chief Financial Officer stating that the conditions of Section 2.06 of the Indenture have been met.

Section 2.06. Mutilated, Lost, Stolen or Destroyed Series 2017-2 Second Lien Bonds. In the event a Series 2017-2 Second Lien Bond is mutilated, lost, stolen or destroyed, the City may execute and the Trustee may authenticate a new Series 2017-2 Second Lien Bond of like date, maturity, interest rate and denomination as the Series 2017-2 Second Lien Bond mutilated, lost, stolen or destroyed; provided that, in the case of any mutilated Series 2017-2 Second Lien Bond, such mutilated Series 2017-2 Second Lien Bond shall first be surrendered to the Trustee, and in the case of any lost, stolen or destroyed Series 2017-2 Second Lien Bond, there shall be first furnished to the City and the Trustee evidence of such loss, theft or destruction satisfactory to the City and the Trustee, together with indemnity satisfactory to them. In the event any such Series 2017-2 Second Lien Bond has matured, instead of issuing a substitute

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Series 2017-2 Second Lien Bond the City may pay the same without surrender of such Series 2017-2 Second Lien Bond. The City and the Trustee may charge the Registered Owner of such Series 2017-2 Second Lien Bond with their reasonable fees and expenses in this connection. All Series 2017-2 Second Lien Bonds so surrendered to the Trustee shall be canceled and destroyed, and evidence of such destruction shall be given to the City. Upon the date of final maturity or redemption of all of the Series 2017-2 Second Lien Bonds, the Trustee shall destroy any inventory of unissued certificates.

All duplicate Series 2017-2 Second Lien Bonds issued and authenticated pursuant to this Section shall constitute original, contractual obligations of the City (whether or not, in the case of the first paragraph of this Section, lost, stolen or destroyed Series 2017-2 Second Lien Bonds be at any time found by anyone), and shall be entitled to equal and proportionate rights and benefits under this Eleventh Supplemental Indenture as all other Outstanding Series 2017-2 Second Lien Bonds issued under this Eleventh Supplemental Indenture.

All Series 2017-2 Second Lien Bonds shall be owned upon the express condition that the foregoing provisions, to the extent permitted by law, are exclusive with respect to the replacement or payment of mutilated, destroyed, lost, stolen or purchased Series 2017-2 Second Lien Bonds, and shall preclude any and all other rights or remedies.

Section 2.07. Transfer and Exchange of Series 2017-2 Second Lien Bonds; Persons Treated as Owners, (a) Subject to the limitations contained in subsection (c) of this Section, upon surrender for registration of transfer of any Series 2017-2 Second Lien Bond at the principal corporate trust office of the Trustee, duly endorsed by, or accompanied by a written instrument or instruments of transfer in form satisfactory to the Trustee and duly executed by the Bondholder or such Bondholder's attorney duly authorized in writing, the City shall execute, and the Trustee shall authenticate and deliver, in the name of the transferee or transferees a new Series 2017-2 Second Lien Bond or Bonds of like date and tenor in Authorized Denominations of the same Maturity Date and interest rate for the aggregate principal amount which the Registered Owner is entitled to receive bearing numbers not contemporaneously Outstanding. Subject to the limitations contained in subsection (c) of this Section, Series 2017-2 Second Lien Bonds may be exchanged at such times at such designated corporate trust office of the Trustee upon surrender of such Series 2017-2 Second Lien Bonds together with an assignment duly executed by the Registered Owner of such Series 2017-2 Bonds or such Registered Owner's attorney in such form and with guarantee of signature as shall be satisfactory to the Trustee for an equal aggregate principal amount of Series 2017-2 Second Lien Bonds of like date and tenor of any Authorized Denomination as the Series 2017-2 Second Lien Bonds surrendered for exchange bearing numbers not contemporaneously Outstanding. The execution by the City of any Series 2017-2 Second Lien Bond of any

contemporaneously outstanding. The execution by the City of any Series 2017-2 Second Lien Bond of any Authorized Denomination shall constitute full and due authorization of such Authorized Denomination, and the Trustee shall thereby be authorized to authenticate and deliver such registered Series 2017-2 Second Lien Bond.

(b) No service charge shall be imposed upon the Registered Owners for any exchange or transfer of Series 2017-2 Second Lien Bonds. The City and the Trustee may, however, require payment by the person requesting an exchange or transfer of Series 2017-2 Second Lien Bonds of a sum sufficient to cover any tax, fee or other governmental charge that may be imposed in relation to such exchange or transfer, except in the case of the issuance of one or

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more Series 2017-2 Second Lien Bonds for the unredeemed portion of a Series 2017-2 Second Lien Bond surrendered for redemption in part.

c) The Trustee shall not be required to transfer or exchange any Series 2017-2 Second Lien Bond during the period commencing on the Record Date next preceding any Interest Payment Date for such Series 2017-2 Second Lien Bond and ending on such Interest Payment Date, or to transfer or exchange such Series 2017-2 Second Lien Bond after the mailing of notice calling such Series 2017-2 Second Lien Bond for redemption has been made as provided in this Eleventh Supplemental Indenture or during the period of 15 days next preceding the giving of notice of redemption of Series 2017-2 Second Lien Bonds of the same Maturity Date and interest rate.

d) Series 2017-2 Second Lien Bonds delivered upon any registration of transfer or exchange as provided in this Section 2.07 or as provided in Section 2.08 hereof shall be valid limited obligations of the City, evidencing the same debt as the Series 2017-2 Second Lien Bonds surrendered, shall be secured by the Indenture and shall be entitled to all of the security and benefits of this Eleventh Supplemental Indenture to the same extent as the Series 2017-2 Second Lien Bonds surrendered.

e) The City, the Trustee and any Paying Agent may treat the Registered Owner of any Series 2017-2 Second Lien Bond as the absolute owner of such Series 2017-2 Second Lien Bond for all purposes, whether or not such Series 2017-2 Second Lien Bond shall be overdue, and shall not be bound by any notice to the contrary. All payments of or on account of the principal of, premium, if any, and interest on any such Series 2017-2 Second Lien Bond as provided in this Eleventh Supplemental Indenture shall be made only to or upon the written order of the Registered Owner of such Series 2017-2 Second Lien Bond or such Registered Owner's legal representative, but such registration may be changed as provided in this Eleventh Supplemental Indenture. All such payments shall be valid and effectual to satisfy and discharge the liability upon such Series 2017-2 Second Lien Bond to the extent of the sum or sums so paid.

Section 2.08. Cancellation. Any Series 2017-2 Second Lien Bond surrendered for the purpose of payment or retirement, or for exchange, transfer or replacement, shall be canceled upon surrender of such Series 2017-2 Second Lien Bond to the Trustee or any Paying Agent. If the City shall acquire any of the Series 2017-2 Second Lien Bonds, the City shall deliver such Series 2017-2 Second Lien Bonds to the Trustee for cancellation and the Trustee shall cancel the same. Any such Series 2017-2 Second Lien Bonds canceled by any Paying Agent other than the Trustee shall be promptly transmitted by such Paying Agent to the Trustee. Certification of Series 2017-2 Second Lien Bonds canceled by the Trustee and Series 2017-2 Second Lien Bonds canceled by a Paying Agent other than the Trustee which are transmitted to the Trustee shall be made to the City. Canceled Series 2017-2 Second Lien Bonds may be destroyed by the Trustee unless instructions to the contrary are received from the City. Upon the date of final maturity or redemption of all Series 2017-2 Second

contrary are received from the City. Upon the date of final maturity or redemption of all Series 2017-2 Second Lien Bonds, the Trustee shall destroy any inventory of unissued certificates.

Section 2.09. Book-Entry Provisions. The provisions of this Section shall apply as long as the Series 2017-2 Second Lien Bonds are maintained in book-entry form with DTC or

another Securities Depository, any provisions of this Eleventh Supplemental Indenture to the contrary notwithstanding.

a) Payments of the principal of and interest on the Series 2017-2 Second Lien Bonds shall be made to the Securities Depository, or its nominee, as the Registered Owner of the Series 2017-2 Second Lien Bonds, in same day funds on each date on which the principal of, premium; if any, and interest on the Series 2017-2 Second Lien Bonds is due as set forth in this Eleventh Supplemental Indenture and the Series 2017-2 Second Lien Bonds. Such payments shall be made to the offices of the Securities Depository specified by the Securities Depository to the City and the Trustee in writing. Without notice to or the consent of the beneficial owners of the Series 2017-2 Second Lien Bonds, the City and the Securities Depository may agree in writing to make payments of principal and interest in a manner different from that set forth herein. If such different manner of payment is agreed upon, the City shall give the Trustee written notice thereof, and the Trustee shall make payments with respect to the Series 2017-2 Second Lien Bonds in the manner specified in such notice as set forth herein. Neither the City nor the Trustee shall have any obligation with respect to the transfer or crediting of the principal of, premium, if any, and interest on the Series 2017-2 Second Lien Bonds to Participants or the beneficial owners of the Series 2017-2 Second Lien Bonds or their nominees.

b) The Registered Owners of the Series 2017-2 Second Lien Bonds have no right to the appointment or retention of a Securities Depository for the Series 2017-2 Second Lien Bonds. If (i) the City determines, or (ii) the City receives notice that the Securities Depository has received notice from its Participants having interests in at least 50 percent in principal amount of the Series 2017-2 Second Lien Bonds that the Securities Depository or its successor is incapable of discharging its responsibilities as a securities depository, or that it is in the best interests of the beneficial owners that they obtain certificated Series 2017-2 Second Lien Bonds, the City may (or, in the case of clause (ii) above, the City shall) cause the Trustee to authenticate and deliver Series 2017-2 Second Lien Bond certificates. The City shall have no obligation to make any investigation to determine the occurrence of any events that would permit the City to make any determination described in this paragraph.

c) If, following a determination or event specified in paragraph (b) above, the City discontinues the maintenance of the Series 2017-2 Second Lien Bonds in book-entry form with the then current Securities Depository, the City will issue replacement Series 2017-2 Second Lien Bonds to the replacement Securities Depository, if any, or, if no replacement Securities Depository is selected for the Series 2017-2 Second Lien Bonds, directly to the Participants as shown on the records of the former Securities Depository or, to the extent requested by any Participant, to the beneficial owners of the Series 2017-2 Second Lien Bonds shown on the records of such Participant. Replacement Series 2017-2 Second Lien Bonds shall be in fully registered form and in Authorized Denominations, be payable as to interest on the Interest Payment Dates of such Series 2017-2 Second Lien Bonds by check mailed to each Registered Owner at the address of such Registered Owner as it appears on the Bond Register or, at the option of any Registered Owner of not less than \$1,000,000 principal amount of Series 2017-2 Second Lien Bonds, by wire transfer to any address in the United States of America on such Interest Payment Date to such Registered Owner as of such Record Date, if such Registered Owner provides the Trustee with written notice of such wire transfer address not later than the Record Date (which notice may provide that it will remain in effect with respect to subsequent

Interest Payment Dates unless and until changed or revoked by subsequent notice). Principal and premium, if any, on the replacement Series 2017-2 Second Lien Bonds are payable only upon presentation and surrender of such replacement Series 2017-2 Bond or Second Lien Bonds at the principal corporate trust office of the Trustee.

d) The Securities Depository and its Participants, and the beneficial owners of the Series 2017-2 Second Lien Bonds, by their acceptance of the Series 2017-2 Second Lien Bonds, agree that the City and the Trustee shall not have liability for the failure of such Securities Depository to perform its obligations to the Participants and the beneficial owners of the Series 2017-2 Second Lien Bonds, nor shall the City or the Trustee be liable for the failure of any Participant or other nominee of the beneficial owners to perform any obligation of the Participant to a beneficial owner of the Series 2017-2 Second Lien Bonds.

e) As long as Cede & Co. is the Registered Owner of the Series 2017-2 Second Lien Bonds, as nominee of DTC, references herein to the Registered Owners of the Series 2017-2 Second Lien Bonds shall mean Cede & Co. and shall not mean the beneficial owners of the Series 2017-2 Second Lien Bonds.

(f) As long as Cede & Co. is the Registered Owner of the Series 2017-2 Second Lien Bonds:

i) selection of Series 2017-2 Second Lien Bonds to be redeemed upon partial redemption or presentation of such Series 2017-2 Second Lien Bonds to the Trustee upon partial redemption shall be deemed made when the right to exercise ownership rights in such Series 2017-2 Second Lien Bonds through DTC or DTC's Participants is transferred by DTC on its books; and

ii) DTC may present notices, approvals, waivers or other communications required or permitted to be made by Registered Owners under this Eleventh Supplemental Indenture on a fractionalized basis on behalf of some or all of those persons entitled to exercise ownership rights in the Series 2017-2 Second Lien Bonds through DTC or its Participants.

### ARTICLE III

#### REDEMPTION OF SERIES 2017-2 SECOND LIEN BONDS

Section 3.01. Optional Redemption. The Series 2017-2 Second Lien Bonds maturing on or after November 1, 2028 are subject to redemption prior to maturity at the option of the City, in whole or in part, on any date on or after November 1, 2027, and if in part, in such order of maturity as the City shall determine and within any maturity and interest rate by lot, at a Redemption Price equal to the outstanding principal amount of such Series 2017-2 Second Lien Bond, together with accrued interest to the date fixed for redemption.

**Section 3.02. Reserved.**

**Section 3.03. Reserved.**



### **Section 3.04. Redemption Terms; Notice of Redemption.**

a) Series 2017-2 Second Lien Bonds may be called for redemption by the Trustee pursuant to Section 3.01 hereof upon receipt by the Trustee at least 45 days prior to the redemption date (or such shorter period as shall be acceptable to the Trustee) of a written request of the City requesting such redemption.

b) Unless waived by any owner of Series 2017-2 Second Lien Bonds to be redeemed, notice of the call for any optional or mandatory redemption pursuant to Section 3.01 or Section 3.02 shall be given by the Trustee on behalf of the City by mailing the redemption notice by first class mail at least 30 days and not more than 45 days prior to the date fixed for redemption to the Registered Owner of the Series 2017-2 Second Lien Bond or Bonds to be redeemed at the address shown on the Bond Register or at such other address as is furnished in writing by such Registered Owner to the Trustee, but the failure to mail any such notice or any defect therein as to any Series 2017-2 Second Lien Bond to be redeemed shall not affect the validity of the proceedings for the redemption of any other Series 2017-2 Second Lien Bond to be redeemed. Any notice of redemption mailed as provided in this Section shall be conclusively presumed to have been given whether or not actually received by the addressee.

c) All notices of redemption shall specify, at a minimum: (i) the series name and designation and certificate numbers of Series 2017-2 Second Lien Bonds being redeemed, (ii) the CUSIP numbers of the Series 2017-2 Second Lien Bonds being redeemed, (iii) the principal amount of Series 2017-2 Second Lien Bonds being redeemed and the redeemed amount for each certificate (for partial calls), (iv) the redemption date, (v) the Redemption Price, (vi) the Date of Issuance of the Series 2017-2 Second Lien Bonds being redeemed, (vii) the interest rate and Maturity Date of the Series 2017-2 Second Lien Bonds being redeemed, (viii) the date of mailing of notices to Registered Owners and information services (if required), and (ix) the name of the employee of the Trustee which may be contacted with regard to such notice. Such notice may state that said redemption is conditioned upon the receipt by the Trustee on or prior to the date fixed for redemption of moneys sufficient to pay the Redemption Price of the Series 2017-2 Second Lien Bonds being redeemed. If such moneys are not so received, such redemption notice shall be of no force and effect, the City shall not redeem such Series 2017-2 Second Lien Bonds and the Trustee shall give notice, in the same manner in which the notice of redemption was given, that such moneys were not so received and that such Series 2017-2 Second Lien Bonds will not be redeemed. Unless the notice of redemption shall be made conditional as provided above, on or prior to any redemption date for Series 2017-2 Second Lien Bonds, the City shall deposit with the Trustee an amount of money sufficient to pay the Redemption Price of all Series 2017-2 Second Lien Bonds or portions thereof which are to be redeemed on that date.

d) Notice of redemption having been given as aforesaid, the Series 2017-2 Second Lien Bonds, or portions thereof, so to be redeemed shall, on the redemption date (unless the redemption has been canceled as described in Section 3.04(c) hereof), become due and payable at the Redemption Price therein specified, and from and after such date (unless the City shall default in the payment of the Redemption Price) such Series 2017-2 Second Lien Bonds, or portions thereof, shall cease to bear interest. Upon surrender of such Series 2017-2 Second Lien

Bonds for redemption in accordance with said notice, such Series 2017-2 Second Lien Bonds shall be paid by the Trustee at the Redemption Price. Installments of interest due on or prior to the redemption date shall be payable as herein provided for payment of interest. Upon surrender for any partial redemption of any Series 2017-2 Second Lien Bond, there shall be prepared for the Registered Owner a new Series 2017-2 Second Lien Bond or Bonds of the same interest rate and maturity in the amount of the amount redeemed. If any Series 2017-

Bond or Bonds of the same interest rate and maturity in the amount of the unpaid principal. If any Series 2017-2 Second Lien Bond, or portion thereof, called for redemption shall not be so paid upon surrender thereof for redemption, the principal shall, until paid, bear interest from the redemption date at the rate borne by such Bond, or portion thereof, so called for redemption.

Section 3.05. Selection of Series 2017-2 Second Lien Bonds for Redemption. In the event of the redemption of fewer than all the Series 2017-2 Second Lien Bonds of the same interest rate and maturity, the aggregate principal amount thereof to be redeemed shall be in an Authorized Denomination, and the Trustee shall assign to each Series 2017-2 Second Lien Bond of such interest rate and maturity a distinctive number for each minimum Authorized Denomination of such Bond and shall select by lot from the numbers so assigned as many numbers as, at such minimum Authorized Denomination for each number, shall equal the principal amount of such Series 2017-2 Second Lien Bonds to be redeemed. The Series 2017-2 Second Lien Bonds to be redeemed shall be those to which were assigned numbers so selected; provided that only so much of the principal amount of each Series 2017-2 Second Lien Bond shall be redeemed as shall equal such minimum Authorized Denomination for each number assigned to it and so selected. For purposes of any redemption of fewer than all of the outstanding Series 2017-2 Second Lien Bonds of a single interest rate and maturity, the particular Series 2017-2 Second Lien Bonds or portions thereof to be redeemed shall be selected not more than 60 days prior to the redemption date by the Trustee.

#### ARTICLE IV REVENUES AND FUNDS

Section 4.01. Source of Payment of Series 2017-2 Second Lien Bonds. The Series 2017-2 Second Lien Bonds, the Section 2.08 Obligations and the Section 2.09 Obligations are not general obligations of the City but are limited obligations as described in Section 2.02 hereof and as provided in the Indenture.

Section 4.02. Creation of Accounts and Subaccounts in 2017-2 Second Lien Bonds Subaccount, (a) Moneys on deposit in the 2017-2 Second Lien Bonds Subaccount, and in each Account established in it as provided below, shall be held in trust by the Trustee for the sole and exclusive benefit of the Registered Owners of the Series 2017-2 Second Lien Bonds.

(b) There are by this Eleventh Supplemental Indenture created by the City and ordered established with the Trustee separate Accounts within the 2017-2 Second Lien Bonds Subaccount, designated as follows:

(i) *Costs of Issuance Account: an Account to be designated the "Series 2017-2 Bonds, Costs of Issuance Account" (the "Costs of Issuance Account");*

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ii) *Program Fee Account: an Account to be designated the "Series 2017-2 Second Lien Bonds, Program Fee Account" (the "Program Fee Account"); and*

iii) *Principal and Interest Account: an Account to be designated the "Series 2017-2 Second Lien Bonds, Principal and Interest Account" (the "Principal and Interest Account").*

Section 4.03. Application of Series 2017-2 Second Lien Bond Proceeds. The proceeds received by the City from the sale of the Series 2017-2 Second Lien Bonds in the amount of \$272,730,363.95 (consisting of the aggregate principal amount of the Series 2017-2 Second Lien Bonds, plus net premium of \$38,668,270.25 and less the Underwriters' discount of \$1,197,906.30, shall be applied as

follows:

i) Proceeds of the Series 2017-2 Second Lien Bonds in the amount of \$1,086,055.48 will be paid to the Bond Insurer for the Bond Insurance.

ii) Proceeds of the Series 2017-2 Second Lien Bonds in the amount of \$674,962.72 will be deposited in the Costs of Issuance Account to pay Costs of Issuance for the Series 2017-2 Second Lien Bonds.

iii) Proceeds of the Series 2017-2 Second Lien Bonds in the amount of \$270,969,345.75 will be deposited in the Escrow Account established pursuant to that certain Escrow Deposit Agreement dated as of December 21, 2017, between the City and The Bank of New York Mellon Trust Company, N.A., and together with other funds deposited in the Escrow Account, will be used to refund the Refunded Bonds.

#### **Section 4.04. Deposits into 2017-2 Second Lien Bonds Subaccount and Accounts.**

*On May 1 and November 1 of each year, commencing May 1, 2018 (each such date referred to in this Eleventh Supplemental Indenture as the "Deposit Date"), there shall be deposited into the 2017-2 Second Lien Bonds Subaccount from amounts on deposit in the Second Lien Bonds Account (other than monies, instruments and securities or any Qualified Reserve Account Credit Instrument on deposit in a Debt Service Reserve Account for any other Series of Second Lien Bonds issued or to be issued) an amount equal to the aggregate of the following amounts, which amounts shall have been calculated by the Trustee and certified by the Chief Financial Officer and transferred by the City to the Trustee in accordance with Section 3.03(d) of Part B of the Series 2017-2 Bond Ordinance on or before the Business Day next preceding each such May 1 or November 1, respectively (such aggregate amount with respect to any Deposit Date being referred to in this Eleventh Supplemental Indenture as the "Series 2017-2 Deposit Requirement"):*

a) for deposit into the Principal and Interest Account, an amount equal to the Principal and Interest Account Requirement; and

b) for deposit into the Program Fee Account, the amount estimated by the City to be required as of the close of business on the related Deposit Date to pay all Program Fees payable from amounts in the Program Fee Account during the semi-annual period commencing on such related Deposit Date and, in the case of the initial Deposit

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Date, any Program Fees payable from the Date of Issuance to, but not including, such initial Deposit Date.

In addition to the Series 2017-2 Deposit Requirement, there shall be deposited into the 2017-2 Second Lien Bonds Subaccount any other moneys received by the Trustee under and pursuant to the Indenture or this Eleventh Supplemental Indenture, when accompanied by directions from the person depositing such moneys that such moneys are to be paid into the 2017-2 Second Lien Bonds Subaccount or to one or more Accounts in that Subaccount.

Upon calculation by the Trustee of each Series 2017-2 Deposit Requirement under this Section, the Trustee shall notify the City of the Series 2017-2 Deposit Requirement and the Deposit Date to which it relates; and shall provide the City with such supporting documentation and calculations as the City may

reasonably request.

Section 4.05. Use of Moneys in the Principal and Interest Account. Moneys in the Principal and Interest Account shall be used for the payment of the principal of, premium, if any, and interest on the Series 2017-2 Second Lien Bonds, for the redemption of Series 2017-2 Second Lien Bonds prior to their respective Maturity Dates and for the payment of Section 2.08 Obligations and Section 2.09 Obligations. Funds for payment of principal of, premium, if any, and interest due on each Payment Date with respect to the Series 2017-2 Second Lien Bonds (including the optional redemption of Series 2017-2 Second Lien Bonds pursuant to Section 3.01 hereof and not otherwise provided for; and with respect to payments made pursuant to Section 2.08 Obligations and Section 2.09 Obligations), shall be derived from moneys held in the Principal and Interest Account, ratably, without preference or priority of any kind, except that net payments required to be made by the City from Gross Revenues to a swap provider pursuant to a swap agreement authorized under the Indenture that does not satisfy the requirements for qualification as a Qualified Second Lien Swap Agreement shall be made only from amounts available after the payment of all Second Lien Bonds and termination and other non-scheduled payments made with respect to Section 2.09 Obligations shall be paid on a subordinate basis.

Section 4.06. Use of Moneys in the Program Fee Account. Moneys deposited into the Program Fee Account pursuant to Section 4.04(b) shall be used for the payment of Program Fees payable by the City to third parties with respect to the Series 2017-2 Second Lien Bonds as set forth in a certificate of the City filed with the Trustee.

#### **Section 4.07. Reserved.**

Section 4.08. Use of Moneys in the Costs of Issuance Account. Money deposited into the Costs of Issuance Account pursuant to Section 4.03 shall be used for the payment of Costs of Issuance, as directed in a certificate of the City filed with the Trustee. If after the earliest to occur of (i) payment of all other expenses incurred in connection with issuance of the Series 2017-2 Second Lien Bonds and the refunding of the Refunded Bonds, as specified in a certificate of the City filed with the Trustee and (ii) June 21, 2018, there shall be any balance remaining in the Cost of Issuance Account, such balance shall be transferred to the Principal and Interest Account.

Section 4.09. Tax Covenants. The City covenants to take any action required by the provisions of the Code and within its power to take in order to preserve the exclusion of interest on the Series 2017-2 Second Lien Bonds from gross income for federal income tax purposes, including, but not limited to, the provisions of Section 148 of the Code relating to "arbitrage bonds."

The City further covenants to comply with the provisions of the Tax Regulatory Agreement, including, but not limited to, those provisions relating to the status of the Series 2017-2 Second Lien Bonds as "private activity bonds" under Section 141 of the Code.

Section 4.10. Non-presentment of Bonds. In the event any Series 2017-2 Second Lien Bond shall not be presented for payment when the principal of such Series 2017-2 Second Lien Bond becomes due, whether at maturity, at the date fixed for redemption or otherwise, if moneys sufficient to pay such Series 2017-2 Second Lien Bond shall have been made available to the Trustee for the benefit of the Registered Owner of such Series 2017-2 Second Lien Bond, subject to the provisions of the immediately following paragraph, all liability of the

City to the Registered Owner of such Series 2017-2 Second Lien Bond for the payment of such Series 2017-2 Second Lien Bond shall immediately cease; determine and be completely discharged, and thereupon it shall be the duty of the Trustee to hold such moneys, without for interest on such monies; for the benefit of the Registered Owner of such 2017-2 Second Lien Bond who shall thereafter be restricted exclusively to such moneys, for any claim of whatever nature on his or her part under the Indenture or on, or with respect to, such Series 2017-2 Second Lien Bond.

Any moneys so deposited with and held by the Trustee not so applied to the payment of Series 2017-2 Second Lien Bonds within two years after the date on which the same shall have become due shall be repaid by the Trustee to the City upon the City's written request, and thereafter the Registered Owners of such Series 2017-2 Second Lien Bonds shall be entitled to look only to the City for payment, and then only to the extent of the amount so repaid, and all liability of the Trustee with respect to such moneys shall thereupon cease, and the City shall not be liable for any interest on such monies and shall not be regarded as a trustee of such moneys. The obligation of the Trustee under this Section to pay any such funds to the City shall be subject, however, to any provisions of law applicable to the Trustee or to such funds providing other requirements for disposition of unclaimed property.

Section 4.11. Moneys Held in Trust. All moneys required to be deposited with or paid to the Trustee for the account of any Fund or Account referred to in any provision of this Eleventh Supplemental Indenture shall be held by the Trustee in trust as provided in Section 8.03 of the Indenture, and shall, while held by the Trustee, constitute part of the Trust Estate and be subject to the lien or security interest created by this Eleventh Supplemental Indenture.

## ARTICLE V INVESTMENT OF MONEYS

Section 5.01. Investment of Moneys. Moneys held in the funds, accounts and subaccounts established under this Eleventh Supplemental Indenture, including moneys held for payment of Series 2017-2 Second Lien Bonds not presented for payment as described in

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Section 4.10 hereof, shall be invested and reinvested in Permitted Investments in accordance with the provisions governing investments contained in the Indenture; provided, however, that moneys in the Principal and Interest Account representing principal of or interest on the Series 2017-2 Second Lien Bonds shall only be invested in Governmental Obligations scheduled to mature on the earlier of (i) (A) 30 days from the date of investment (in the case of amounts representing principal of the Series 2017-2 Second Lien Bonds) or (B) six months from the date of investment (in the case of amounts representing interest payable on the Series 2017-2 Second Lien Bonds) or (ii) the date upon which such moneys will be required to be used in accordance with this Eleventh Supplemental Indenture. All such investments shall be held by or under the control of the Trustee and shall be deemed at all times part of the fund, account or subaccount for which they were made.

## ARTICLE VI DISCHARGE OF LIEN

Section 6.01. Defeasance. If the City shall pay to the Registered Owners of the Series 2017-2 Second Lien Bonds, or provide for the payment of, the principal, premium, if any, and interest to become due on the Series 2017-2 Second Lien Bonds, then this Eleventh Supplemental Indenture shall be fully discharged and satisfied upon the satisfaction and discharge of this Eleventh Supplemental Indenture, the Trustee shall, upon the request of the City, execute and deliver to the City all such instruments as may be desirable to evidence such discharge and satisfaction, and all fiduciaries shall pay over or deliver to the City all funds, accounts and

other moneys or securities held by them pursuant to this Eleventh Supplemental Indenture which are not required for the payment or redemption of the Series 2017-2 Second Lien Bonds.

If the City shall pay and discharge a portion of the Series 2017-2 Second Lien Bonds as provided above, including any Series in full, such portion shall cease to be entitled to any lien, benefit or security under the Indenture. The liability of the City with respect to such Series 2017-2 Second Lien Bonds shall continue, but the Registered Owners of the Series 2017-2 Second Lien Bonds so defeased shall thereafter be entitled to payment (to the exclusion of all other Bondholders) only out of the moneys or Governmental Obligations described in clause (a) of the definition of such term deposited with the Trustee under Article IX of the Indenture.

The provisions of this Section 6.01 are subject in all respects to the provisions of Sections 9.01 and 9.02 of the Indenture.

## **ARTICLE VII REMEDIES**

The provisions of Article VII of the Indenture shall be applicable to any Event of Default which shall have occurred and be continuing under this Eleventh Supplemental Indenture.

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Under no circumstance may the Trustee declare the principal of or interest on the Series 2017-2 Second Lien Bonds to be due and payable prior to the Maturity Date following the occurrence of an Event of Default under the Indenture or this Eleventh Supplemental Indenture.

## **ARTICLE VIII**

### **TRUSTEE AND PAYING AGENT**

#### **Section 8.01. Acceptance of Trusts.**

a) The Trustee accepts the trusts imposed upon it by this Eleventh Supplemental Indenture, and agrees to perform said trusts, but only upon and subject to the express terms and conditions set forth in this Eleventh Supplemental Indenture and in the Indenture. Except as otherwise expressly set forth in this Eleventh Supplemental Indenture, the Trustee assumes no duties, responsibilities or liabilities by reason of its execution of this Eleventh Supplemental Indenture other than as set forth in the Indenture and this Eleventh Supplemental Indenture, and this Eleventh Supplemental Indenture is executed and accepted by the Trustee subject to all the terms and conditions of its acceptance of the trust under the Indenture, as fully as if said terms and conditions were set forth at length in this Eleventh Supplemental Indenture. Notwithstanding the provisions of Section 8.04 or 8.05 of the Indenture, the Trustee shall have no lien or security interest in and to amounts in the Principal and Interest Account for the purpose of paying the fees or expenses of the Trustee or any Paying Agent. Notwithstanding any provision of the Indenture to the contrary, the Trustee may not resign or be removed until a successor Trustee shall have been appointed as provided in the Indenture.

b) The Trustee may appoint a Trustee's Agent with power to act on its behalf and subject to its direction in the authentication, registration and delivery of Series 2017-2 Second Lien Bonds of any Series in

connection with transfers and exchanges hereunder, as fully to all intents and purposes as though such Trustee's Agent had been expressly authorized by this Eleventh Supplemental Indenture to authenticate, register and deliver such Series 2017-2 Second Lien Bonds. The foregoing notwithstanding, the Trustee need not appoint a Trustee's Agent for as long as the Trustee shall have an office in New York, New York capable of handling the duties of Trustee's Agent hereunder. Any Trustee's Agent appointed pursuant to this Section shall evidence its acceptance by a certificate filed with the Trustee and the City. For all purposes of this Eleventh Supplemental Indenture, the authentication, registration and delivery of Series 2017-2 Second Lien Bonds by the Trustee or any Trustee's Agent pursuant to this Section shall be deemed to be the authentication, registration and delivery of such Series 2017-2 Second Lien Bonds "by or to the Trustee." Such Trustee's Agent shall at all times be a commercial bank having an office in New York, New York, and shall at all times be a corporation organized and doing business under the laws of the United States or of any state with combined capital and surplus of at least \$15,000,000 and authorized under such laws to exercise corporate trust powers and subject to supervision or examination by Federal or state authority. If such corporation publishes reports of condition at least annually pursuant to law or the requirements of such authority, then for the purposes of this Section the combined capital and surplus of such corporation shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. Any Trustee's Agent appointed hereunder shall also be a Paying Agent for purposes of this Eleventh Supplemental Indenture.

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Section 8.02. Dealing in Series 2017-2 Second Lien Bonds. The Trustee, in its individual capacity, may buy, sell, own, hold and deal in the Series 2017-2 Second Lien Bonds, and may join in any action which the Registered Owner of any Series 2017-2 Second Lien Bond may be entitled to take with like effect as if it did not act in any capacity under this Eleventh Supplemental Indenture. The Trustee, in its individual capacity, either as principal or agent, may also engage in or be interested in any financial or other transaction with the City, and may act as depository, trustee or agent for any committee or body of the Registered Owners of the Series 2017-2 Second Lien Bonds secured by this Eleventh Supplemental Indenture or other obligations of the City as freely as if it did not act in any capacity under this Eleventh Supplemental Indenture.

### Section 8.03. Paying Agent.

a) The Trustee is hereby appointed Paying Agent for the Series 2017-2 Second Lien Bonds. The City may at any time or from time to time appoint one or more other Paying Agents having the qualifications set forth in subsection (c) below for a successor Paying Agent.

b) The Trustee hereby accepts the duties and obligations imposed upon it as Paying Agent by this Eleventh Supplemental Indenture. Each other Paying Agent shall signify its acceptance of the duties and obligations imposed upon it by this Eleventh Supplemental Indenture by executing and delivering to the City and to the Trustee a written acceptance thereof.

c) Any Paying Agent may at any time resign and be discharged of the duties and obligations imposed upon it by this Eleventh Supplemental Indenture by giving at least 60 days' written notice to the City and the Trustee, and such resignation shall take effect upon the day specified in such notice but only if a successor shall have been appointed as provided herein. Any Paying Agent appointed by the City may be removed at any time by an instrument signed by the Chief Financial Officer and filed with such Paying Agent and the Trustee. The Trustee may at any time terminate the agency of any Paying Agent appointed by it by giving written notice of such termination to such Paying Agent and the City. Upon receiving such a notice of resignation or upon such a termination, or in case at any time such Paying Agent shall cease to be eligible under this Section, the Trustee shall promptly appoint a successor Paying Agent shall give written notice of such

appointment to the City and shall mail notice of such appointment to all Owners of Series 2017-2 Second Lien Bonds. Any successor Paying Agent shall be appointed by the City and shall be a bank or trust company organized under the laws of any state of the United States or a national banking association; having capital stock and surplus aggregating at least \$15,000,000, or shall be a wholly-owned subsidiary of such an entity, willing and able to accept the office on reasonable and customary terms and authorized by law to perform all the duties imposed upon it by this Eleventh Supplemental Indenture.

d) In the event of the resignation or removal of any Paying Agent, such Paying Agent shall pay over, assign and deliver any moneys held by it as Paying Agent to its successor, or if there be no successor, to the Trustee and shall be subject to audit of all of its books, records and accounts with respect to the Bonds.

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## ARTICLE IX

### SUPPLEMENTAL INDENTURES

Section 9.01. Supplemental Indentures. This Eleventh Supplemental Indenture may be supplemented and amended in the manner set forth in Articles V and VI, respectively, of the Indenture.

Additionally, this Eleventh Supplemental Indenture may, without the consent of, or notice to, any of the Bondholders, be supplemented and amended, in such manner as shall not be inconsistent with the terms and provisions of this Eleventh Supplemental Indenture, the Indenture or the Series 2017-2 Bond Ordinance, for any one or more of the following purposes:

- a) to provide for certificated Series 2017-2 Second Lien Bonds; and
- b) to secure or maintain ratings from any Rating Agency in the highest long-term debt rating category of such Rating Agency which are available for the Series 2017-2 Second Lien Bonds, which changes will not restrict, limit or reduce the obligation of the City to pay the principal of, premium, if any, and interest on such Series 2017-2 Second Lien Bonds as provided in the Indenture or otherwise adversely affect the Registered Owners of such Series 2017-2 Second Lien Bonds under the Indenture.

## ARTICLE X MISCELLANEOUS

Section 10.01. Eleventh Supplemental Indenture as Part of Indenture. This Eleventh Supplemental Indenture shall be construed in connection with, and as a part of, the Indenture, and all terms, conditions and covenants contained in the Indenture, except as provided in the Indenture or as modified or supplemented in this Eleventh Supplemental Indenture or the Series 2017-2 Bond Ordinance and shall apply and be deemed to be for the equal benefit, security and protection of the Bondholders.

Section 10.02. Severability. If any provision of this Eleventh Supplemental Indenture shall be held or deemed to be, or shall, in fact, be, illegal, inoperative or unenforceable, the same shall not affect any other provision or provisions contained in this Eleventh Supplemental Indenture or render the same invalid, inoperative or unenforceable to any extent whatever.



Section 10.03. Payments Due on Saturdays, Sundays and Holidays. If the date for making any payment, or the last date for the performance of any act or the exercise of any right, as provided in this Eleventh Supplemental Indenture, shall not be a Business Day, such payment may be made, act performed or right exercised on the next Business Day with the same force and effect as if done on the nominal date provided in this Eleventh Supplemental Indenture, and no interest shall accrue for the period after such nominal date.

Section 10.04. Counterparts. This Eleventh Supplemental Indenture may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

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Section 10.05. Rules of Interpretation. Unless expressly indicated otherwise, references to Sections or Articles are to be construed as references to Sections or Articles of this instrument as originally executed.

Section 10.06. Captions. The captions and headings in this Eleventh Supplemental Indenture are for convenience only and in no way define, limit or describe the scope or intent of any provisions or Sections of this Eleventh Supplemental Indenture.

**[Signature Page Follows]**

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IN WITNESS WHEREOF, City has caused these presents to be executed in its name and with its official seal affixed with this Eleventh Supplemental Indenture and attested by its duly authorized officials; and to evidence its acceptance of the trusts created by this Eleventh Supplemental Indenture, the Trustee has caused these presents to be executed in its corporate name and with its corporate seal affixed with this Eleventh Supplemental Indenture and attested by its duly authorized officers, as of the date first above written.

Carole L. Brown Chief Financial Officer

Andrea M. Valencia City Clerk

THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., as Trustee

By:  
Authorized Signatory

Eleventh Supplemental Indenture

IN WITNESS WHEREOF, City has caused these presents to be executed in its name and with its official seal affixed with this Eleventh Supplemental Indenture and attested by its duly authorized officials; and to evidence its acceptance of the trusts created by this Eleventh Supplemental Indenture, the Trustee has caused these presents to be executed in its corporate name and with its corporate seal affixed with this Eleventh Supplemental Indenture and attested by its duly authorized officers, as of the date first above written.

**CITY OF CHICAGO**

Carole L. Brown Chief Financial Officer

Attest:

By:

Andrea M. Valencia  
City Clerk

THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., as Trustee

Authorized Signatory

Attest:

By:

Eleventh Supplemental Indenture  
*Exhibit A*  
*Form of Series 2017-2 Second Lien Bond*

[Assured Guaranty Municipal Corp. ("AGM"), New York, New York, has delivered its municipal bond insurance policy (the "Policy") with respect to the scheduled payments due of principal of and interest on the

Bonds maturing on November 1 of the years 2028 and 2030 through 2038, inclusive (the "Insured Bonds"), to The Bank of New York Mellon Trust Company, N.A., Chicago, Illinois, or its successor, as paying agent for the Insured Bonds (the "Paying Agent"). Said Policy is on file and available for inspection at the principal office of the Paying Agent and a copy thereof may be obtained from AGM or the Paying Agent. All payments required to be made under the Policy shall be made in accordance with the provisions thereof. The owner of this Bond acknowledges and consents to the subrogation and other rights of AGM as more fully set forth in the Policy and the Eleventh Supplemental Indenture.] [For Insured Bonds Only]

**United States of America State of Illinois City of Chicago Second**

**Lien Water Revenue Refunding Bonds Series 2017-2**

Number R-

Maturity Date

November 1, 20

Interest Rate %

Original Issue Date December 21, 2017

CUSIP 167736

Registered Owner:

Principal Amount:

The City of Chicago (the "City"), a municipal corporation and home rule unit of local government duly organized and existing under the laws of the State of Illinois, for value received, hereby promises to pay (but only out of the sources provided below) to the Registered Owner identified above, or registered assigns, on the Maturity Date specified above upon presentation and surrender of this Series 2017-2 Second Lien Bond, the Principal Amount specified above, and to pay (but only out of the sources provided below) interest on the balance of said Principal Amount from time to time remaining unpaid from and including the original issue date specified above, or from and including the most recent Interest Payment Date (as defined in the Eleventh Supplemental Indenture, as such term is defined below) with respect to

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which interest has been paid or duly provided for, until payment of said Principal Amount has been made or duly provided for.

*The Series 2017-2 Second Lien Bonds are limited obligations of the City and shall not constitute an indebtedness of the City or a loan of credit thereof within the meaning of any Constitutional or statutory provision or limitation as to indebtedness. The Series 2017-2 Second Lien Bonds do not have a claim for payment from any taxes of the City. Neither the faith and credit nor the taxing power of the City, the State of Illinois or any political subdivision of the State of Illinois is pledged to the payment of the principal of the Series 2017-2 Second Lien Bonds, or the interest or any premium on the Series 2017-2 Second Lien Bonds. The Series 2017-2 Second Lien Bonds are payable solely from the Trust Estate (as defined in the Eleventh Supplemental Indenture) pledged to such payment under the Indenture and certain other monies held by or on*

*behalf of the Trustee.*

The principal of and premium, if any, on this Series 2017-2 Second Lien Bond shall be payable at the designated corporate trust office of the Trustee or upon presentation and surrender of this Series 2017-2 Second Lien Bond.

Interest on this Series 2017-2 Second Lien Bond shall be paid by check mailed on the Interest Payment Date to the person appearing on the Bond Register as the Registered Owner of this Series 2017-2 Second Lien Bond as of the close of business of the Trustee on the Record Date at the address of such Registered Owners as it appears on the Bond Register or at such other address as is furnished to the Trustee in writing by such Registered Owner not later than the Record Date. Payment of interest on this Series 2017-2 Second Lien Bond shall be made to a Registered Owner of One Million Dollars (\$1,000,000) or more in aggregate principal amount of Series 2017-2 Second Lien Bonds as of the close of business of the Trustee on the Record Date for a particular Interest Payment Date by wire transfer to such Registered Owner on such Interest Payment Date upon written notice from such Registered Owner containing the wire transfer address within the United States to which such Registered Owner wishes to have such wire directed, which written notice is received not later than the Business Day next preceding the Record Date.

Interest accrued on this Series 2017-2 Second Lien Bond shall be paid in arrears on each Interest Payment Date. Interest on this Series 2017-2 Second Lien Bond shall be computed upon the basis of a three hundred sixty (360) day year consisting of twelve (12) thirty (30) day months.

General. This Series 2017-2 Second Lien Bond is one of an authorized series of bonds limited in aggregate principal amount to \$235,260,000 (the "Series 2017-2 Second Lien Bonds") issued pursuant to, under authority of and in full compliance with the Constitution and laws of the State of Illinois, particularly Article VII, Section 6(a) of the 1970 Constitution of the State of Illinois and an ordinance of the City Council of the City, and executed under a Master Indenture of Trust Securing Second Lien Water Revenue Bonds, dated as of December 15, 1999, as heretofore supplemented and as amended by Amendment Number 1 to Master Indenture, dated as of August 1, 2004 (the "Master Indenture"), and as supplemented by a Eleventh Supplemental Indenture, dated as of December 1, 2017 (the "Eleventh Supplemental Indenture" and, together with the Master Indenture, the "Indenture"), from the City to The Bank of New York Mellon Trust Company, N.A., as successor trustee (the "Trustee"), for any one or more of the purposes

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of (1) refunding the Refunded Bonds, (2) paying Costs of Issuance of the Series 2017-2 Second Lien Bonds, and (3) providing for any discount on the Series 2017-2 Second Lien Bonds.

The Series 2017-2 Second Lien Bonds and the interest on them are payable from Second Lien Bond Revenues (as defined in the Indenture) deposited into the 2017-2 Second Lien Second Lien Bonds Subaccount and pledged to the payment of the Series 2017-2 Second Lien Bonds under the Indenture and certain other monies held by or on behalf of the Trustee and from any other monies held by the Trustee under the Indenture for such purpose.

As provided in the Indenture, additional bonds may be issued from time to time pursuant to supplemental indentures in one or more series, in various principal amounts, may mature at different times, may bear interest at different rates and may otherwise vary as provided in the Master Indenture. The aggregate principal amount of bonds that may be issued pursuant to the Indenture is not limited, except as provided in the Indenture and ordinances authorizing those additional bonds, and all bonds issued and to be issued pursuant to

the Indenture, including the Series 2017-2 Second Lien Bonds, are and will be equally secured by the pledges and covenants made in the Series 2017-2 Second Lien Bonds, except as otherwise provided or permitted in the Master Indenture.

Copies of the Indenture are on file at the principal corporate trust office of the Trustee, and reference to the Indenture and any and all supplements to it and modifications and amendments of it is made for a description of the pledge and covenants securing the Series 2017-2 Second Lien Bonds, the nature, extent and manner of enforcement of such pledge, the rights and remedies of the Registered Owners of the Series 2017-2 Second Lien Bonds and the limitations on such rights and remedies.

The Series 2017-2 Second Lien Bonds are subject to optional redemption prior to maturity as provided in the Eleventh Supplemental Indenture.

Limited Obligation. The Series 2017-2 Second Lien Bonds are issued pursuant to an ordinance adopted by the City Council of the City, which ordinance authorizes the execution and delivery of the Eleventh Supplemental Indenture. The Series 2017-2 Second Lien Bonds are limited obligations of the City payable solely from the Trust Estate pledged therefor under the Indenture.

No recourse shall be had for the payment of the principal of premium, if any, or interest on any of the Series 2017-2 Second Lien Bonds or for any claim based on the Series 2017-2 Second Lien Bonds or upon any obligation, covenant or agreement in the Indenture contained, against any past, present or future officer, employee or agent, or member of the City Council, of the City, or any successor to the City, as such, either directly or through the City, or any successor to the City, under any rule of law or equity, statute or constitution or by the enforcement of any assessment or penalty or otherwise, and all such liability of any such officer, employee or agent, or member of the City Council, as such, is hereby expressly waived and released as a condition of and in consideration for the execution of the Indenture and the issuance of any of the Series 2017-2 Second Lien Bonds.

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Registration. This Series 2017-2 Second Lien Bond is transferable by the Registered Owner of this Series 2017-2 Second Lien Bond in person or by such Registered Owner's attorney duly authorized in writing at the designated corporate trust office of the Trustee, but only in the manner and subject to the limitations provided in the Indenture.

Defeasance. Provision for payment of all or any portion of the Series 2017-2 Second Lien Bonds may be made, and the Eleventh Supplemental Indenture may be discharged, prior to payment of the Series 2017-2 Second Lien Bonds in the manner provided in the Indenture.

Miscellaneous. The Registered Owner of this Series 2017-2 Second Lien Bond shall have no right to enforce the provisions of the Indenture or to institute action to enforce the covenants, the Indenture, or to take any action with respect to any event of default under the Indenture, or to institute, appear in or defend any suit or other proceedings with respect to the Indenture, except as provided in the Indenture.

It is Certified, Recited and Declared that all acts and conditions required to be performed precedent to and in the execution and delivery of the Indenture and the issuance of this Series 2017-2 Second Lien Bond have been performed in due time, form and manner as required by law, and that the issuance of this Series 2017

-2 Second Lien Bond and the series of which it forms a part does not exceed or violate any constitutional or statutory limitation.

This Series 2017-2 Second Lien Bond shall not be valid or become obligatory for any purpose or be entitled to any security or benefit under the Indenture unless and until the certificate of authentication hereon shall have been duly executed by the Trustee.

In Witness Whereof, the City of Chicago has caused this Series 2017-2 Second Lien Bond to be executed in its name by the manual or facsimile signature of its Mayor and the manual or facsimile of its corporate seal to be printed on this Series 2017-2 Second Lien Bond and attested by the manual or facsimile signature of its City Clerk.

City of Chicago

By:

Mayor

Attest:

City Clerk

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#### Certificate of Authentication

This Series 2017-2 Second Lien Bond is one of the Series 2017-2 Second Lien Bonds described in the within-mentioned Indenture.

Authentication Date:

THE BANK OF NEW YORK MELLON TRUST  
COMPANY, N.A., as Trustee

By:

Authorized Signatory

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EXHIBIT B

Assignment

The following abbreviations, when used in the inscription on the face of this certificate, shall be construed as though they were written out in full according to applicable laws or regulations:

Ten. Com.    ~    as tenants in common

Ten. Ent.    -    as tenants by the entireties

Jt. Ten.    ~    as joint tenants with right of survivorship and not as tenants in common

Unif. Gift Min. Act

(Cust.) (Minor)                      Custodian



under Uniform Gifts to Minors Act

(State)

Additional abbreviations may also be used, though not in the above list. For Value Received,

The undersigned sells, assigns and transfers unto

(Name and Address of Assignee)

this Series 2017-2 Second Lien Bond of the City of Chicago and does hereby irrevocably constitute and appoint \_\_\_\_\_, attorney to transfer said Series 2017-2 Second Lien Bond on the books kept for registration thereof, with full power of substitution in the premises.

Dated:

Signature:

Signature Guaranteed:

Notice: The signature to this assignment must correspond with the name as it appears upon the face of this Series 2017-2 Second Lien Bond in every particular, without alteration or enlargement or any change whatever.

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*Exhibit B*  
*Provisions Applicable to Insured Bonds*

Notwithstanding anything to the contrary set forth in this Eleventh Supplemental Indenture, the following provisions shall apply to the Insured Bonds for so long as the Insured Bonds are "Outstanding" within the meaning established by (i) below, subject, however, to the provisions of the last paragraph of this Exhibit B.

- a) The Bond Insurer shall be deemed to be the sole holder of the Insured Bonds for the purpose of exercising any voting right or privilege or giving any consent or direction or taking any other action that the holders of the Insured Bonds are entitled to take pursuant to the Master Indenture pertaining to (i) defaults and remedies and (ii) the duties and obligations of the Trustee (with respect to the Insured Bonds). In furtherance thereof and as a term of the Eleventh Supplemental Indenture and each Insured Bond, each Insured Bondholder appoints the Bond Insurer as its agent and attorney-in-fact and agrees that the Bond Insurer may at any time during the continuation of any proceeding by or against the City under the United States Bankruptcy Code or any other applicable bankruptcy, insolvency, receivership, rehabilitation or similar law (an "Insolvency Proceeding") direct all matters relating to such Insolvency Proceeding, including without limitation (A) all matters relating to any claim or enforcement

proceeding in connection with an Insolvency Proceeding (a "Claim"), (B) the direction of any appeal of any order relating to any Claim, (C) the posting of any surety, supersedeas or performance bond pending any such appeal, and (D) the right to vote to accept or reject any plan of adjustment. In addition, each Insured Bondholder delegates and assigns to the Bond Insurer, to the fullest extent permitted by law, the rights of each Insured Bondholder in the conduct of any Insolvency Proceeding, including, without limitation, all rights of any party to an adversary proceeding or action with respect to any court order issued in connection with any such Insolvency Proceeding. The Trustee acknowledges such appointment, delegation and assignment by each Insured Bondholder for the Bond Insurer's benefit, and agrees to cooperate with the Bond Insurer in taking any action reasonably necessary or appropriate in connection with such appointment, delegation and assignment. Remedies granted to the Insured Bondholders shall expressly include mandamus, but these provisions shall not create any remedy not otherwise expressly granted by the Master Indenture.

- b) The maturity of Insured Bonds shall not be accelerated without the consent of the Bond Insurer and in the event the maturity of the Insured Bonds is accelerated, the Bond Insurer may elect, in its sole discretion, to pay accelerated principal and interest accrued, on such principal to the date of acceleration (to the extent unpaid by the City) and the Trustee shall be required to accept such amounts. Upon payment of such accelerated principal and interest accrued to the acceleration date as provided above, the Bond Insurer's obligations under the Bond Insurance Policy with respect to such Insured Bonds shall be fully discharged.

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- c) No grace period for a covenant default shall exceed 30 days or be extended for more than 60 days, without the prior written consent of the Bond Insurer. No grace period shall be permitted for payment defaults.
- d) The Bond Insurer is a third party beneficiary to the Eleventh Supplemental Indenture.
- e) The exercise of any provision of the Eleventh Supplemental Indenture which permits the purchase of Insured Bonds in lieu of redemption shall require the prior written approval of the Bond Insurer if any Insured Bond so purchased is not cancelled upon purchase.
- f) Any amendment, supplement, modification to, or waiver of, the Eleventh Supplemental Indenture that requires the consent of Insured Bondowners or adversely affects the rights and interests of the Bond Insurer shall be subject to the prior written consent of the Bond Insurer.
- g) Unless the Bond Insurer otherwise directs, upon the occurrence and continuance of an Event of Default or an event which with notice or lapse of time would constitute an Event of Default, amounts on deposit in the 2017 Construction Account (as applicable) shall not be disbursed, but shall instead be applied to the payment of debt service or redemption price of the Bonds.
- (h) The rights granted to the Bond Insurer under the Eleventh Supplemental Indenture to request, consent to or direct any action are rights granted to the Bond Insurer in consideration of its issuance of the Bond Insurance Policy. Any exercise by the Bond Insurer of such rights is merely an exercise of the Bond Insurer's contractual rights and shall not be construed or deemed to be taken for the benefit, or on behalf, of the Insured

Bondholders and such action does not evidence any position of the Bond Insurer, affirmative or negative, as to whether the consent of the Insured Bondowners or any other person is required in addition to the consent of the Bond Insurer.

(i) Only (1) cash, (2) non-callable direct obligations of the United States of America ("Treasuries"), (3) evidences of ownership of proportionate interests in future interest and principal payments on Treasuries held by a bank or trust company as custodian, under which the owner of the investment is the real party in interest and has the right to proceed directly and individually against the obligor and the underlying Treasuries are not available to any person claiming through the custodian or to whom the custodian may be obligated, (4) subject to the prior written consent of the Bond Insurer, pre-refunded municipal obligations rated "AAA" and "Aaa" by S&P and Moody's, respectively, or (5) subject to the prior written consent of the Bond Insurer, securities eligible for "AAA" defeasance under then existing criteria of S & P or any combination thereof, shall be used to effect defeasance of the Insured Bonds unless the Bond Insurer otherwise approves.

To accomplish defeasance, the City shall cause to be delivered (i) a report of an independent firm of nationally recognized certified public accountants or such other accountant as shall be acceptable to the Bond Insurer ("Accountant") verifying the sufficiency of the escrow established to pay the Insured Bonds in full on the maturity or

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redemption date ("Verification"), (ii) an Escrow Deposit Agreement (which shall be acceptable in form and substance to the Bond Insurer), (iii) an opinion of nationally recognized bond counsel to the effect that the Insured Bonds are no longer "Outstanding" under the Eleventh Supplemental Indenture and (iv) a certificate of discharge of the Trustee with respect to the Insured Bonds; each Verification and defeasance opinion shall be acceptable in form and substance, and addressed, to the City, the Trustee and the Bond Insurer. The Bond Insurer shall be provided with final drafts of the above-referenced documentation not less than five business days prior to the funding of the escrow.

Insured Bonds shall be deemed "Outstanding" under the Eleventh Supplemental Indenture, and the rights granted to the Bond Insurer shall remain in effect (subject to the last paragraph of this Exhibit B) unless and until the City has paid the Bond Insurer in full for any payment of principal of or interest on the Insured Bonds made by the Bond Insurer, and there are no other amounts due or owing to the Bond Insurer.

Amounts paid by the Bond Insurer under the Bond Insurance Policy shall not be deemed paid for purposes of the Eleventh Supplemental Indenture and the Insured Bonds relating to such payments shall remain Outstanding and continue to be due and owing until paid by the City in accordance with the Eleventh Supplemental Indenture. The Eleventh Supplemental Indenture shall not be discharged unless all amounts due or to become due to the Bond Insurer have been paid in full or duly provided for.

Each of the City and Trustee covenant and agree to take such action (including, as applicable, filing of UCC financing statements and continuations thereof) as is necessary from time to time to preserve the priority of the pledge of the Trust Estate under applicable law.

Claims Upon the Bond Insurance Policy and Payments by and to the Bond Insurer.

If, on the Business Day prior to the related scheduled interest payment date or principal payment date ("Payment Date") there is not on deposit with the Trustee, after making all transfers and deposits required under the Eleventh Supplemental Indenture, moneys sufficient to pay the principal of and interest on the Insured Bonds due on such Payment Date, the Trustee shall give notice to the Bond Insurer and to its designated agent (if any) (the "Bond Insurer's Fiscal Agent") by telephone or telecopy of the amount of such deficiency by 12:00 noon, New York City time, on such Business Day. If, on the Business Day prior to the related Payment Date, there continues to be a deficiency in the amount available to pay the principal of and interest on the Insured Bonds due on such Payment Date, the Trustee shall make a claim under the Bond Insurance Policy and give notice to the Bond Insurer and the Bond Insurer's Fiscal Agent (if any) by telephone of the amount of such deficiency, and the allocation of such deficiency between the amount required to pay interest on the Insured Bonds and the amount required to pay principal of the Insured Bonds, confirmed in writing to the Bond Insurer and the Bond Insurer's Fiscal Agent by 12:00 noon, New York City time, on such Business Day by filling in the form of Notice of Claim and Certificate delivered with the Bond Insurance Policy.

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The Trustee shall designate any portion of payment of principal on Insured Bonds paid by the Bond Insurer, whether by virtue of mandatory sinking fund redemption, maturity or other advancement of maturity, on its books as a reduction in the principal amount of Insured Bonds registered to the then current Insured Bondholder, whether DTC or its nominee or otherwise, and shall issue a replacement Insured Bond to the Bond Insurer, registered in the name of Assured Guaranty Municipal Corp., in a principal amount equal to the amount of principal so paid (without regard to authorized denominations); provided that the Trustee's failure to so designate any payment or issue any replacement Insured Bond shall have no effect on the amount of principal or interest payable by the City on any Insured Bond or the subrogation rights of the Bond Insurer.

The Trustee shall keep a complete and accurate record of all funds deposited by the Bond Insurer into the Policy Payments Account (defined below) and the allocation of such funds to payment of interest on and principal of any Insured Bond. The Bond Insurer shall have the right to inspect such records at reasonable times upon reasonable notice to the Trustee.

Upon payment of a claim under the Bond Insurance Policy, the Trustee shall establish a separate special purpose trust account for the benefit of Insured Bondholders referred to herein as the "Policy Payments Account" and over which the Trustee shall have exclusive control and sole right of withdrawal. The Trustee shall receive any amount paid under the Bond Insurance Policy in trust on behalf of Insured Bondholders and shall deposit any such amount in the Policy Payments Account and distribute such amount only for purposes of making the payments for which a claim was made. Such amounts shall be disbursed by the Trustee to Insured Bondholders in the same manner as principal and interest payments are to be made with respect to the Insured Bonds under the sections hereof regarding payment of Insured Bonds. It shall not be necessary for such payments to be made by checks or wire transfers separate from the check or wire transfer used to pay debt service with other funds available to make such payments. Notwithstanding anything herein to the contrary, the City agrees to pay to the Bond Insurer (i) a sum equal to the total of all amounts paid by the Bond Insurer under the Bond Insurance Policy (the "Bond Insurer Advances"); and (ii) interest on such Bond Insurer Advances from the date paid by the Bond Insurer until payment thereof in full, payable to the Bond Insurer at the Late Payment Rate per annum (collectively, the "Bond Insurer Reimbursement Amounts"). "Late Payment Rate" means the lesser of (a) the greater of (i) the per annum rate of interest, publicly announced from time to time by JPMorgan Chase Bank at its principal office in The City of New York, as its prime or base lending rate (any

change in such rate of interest to be effective on the date such change is announced by JPMorgan Chase Bank) plus 3%, and (ii) the then applicable highest rate of interest on the Insured Bonds and (b) the maximum rate permissible under applicable usury or similar laws limiting interest rates. The Late Payment Rate shall be computed on the basis of the actual number of days elapsed over a year of 360 days. The City hereby covenants and agrees that the Bond Insurer Reimbursement Amounts are secured by a lien on and pledge of the Second Lien Bond Revenues and payable from such Second Lien Bond Revenues on a parity with debt service due on the Insured Bonds.

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Funds held in the Policy Payments Account shall not be invested by the Trustee and may not be applied to satisfy any costs, expenses or liabilities of the Trustee. Any funds remaining in the Policy Payments Account following an Insured Bond payment date shall promptly be remitted to the Bond Insurer.

The Bond Insurer shall, to the extent it makes any payment of principal of or interest on the Insured Bonds, become subrogated to the rights of the recipients of such payments in accordance with the terms of the Bond Insurance Policy. Each obligation of the City to the Bond Insurer under the Eleventh Supplemental Indenture shall survive discharge or termination of the Eleventh Supplemental Indenture.

The City shall pay or reimburse the Bond Insurer any and all charges, fees, costs and expenses that the Bond Insurer may reasonably pay or incur in connection with (i) the administration, enforcement, defense or preservation of any rights or security in the Eleventh Supplemental Indenture; (ii) the pursuit of any remedies under the Eleventh Supplemental Indenture or otherwise afforded by law or equity, (iii) any amendment, waiver or other action with respect to, or related to, the Eleventh Supplemental Indenture whether or not executed or completed, or (iv) any litigation or other dispute in connection with the Eleventh Supplemental Indenture or the transactions contemplated thereby, other than costs resulting from the failure of the Bond Insurer to honor its obligations under the Bond Insurance Policy. The Bond Insurer reserves the right to charge a reasonable fee as a condition to executing any amendment, waiver or consent proposed in respect of the Eleventh Supplemental Indenture.

After payment of reasonable expenses of the Trustee, the application of funds realized upon default shall be applied to the payment of expenses of the City or rebate only after the payment of past due and current debt service on the Insured Bonds.

The Bond Insurer shall be entitled to pay principal or interest on the Insured Bonds that shall become Due for Payment but shall be unpaid by reason of Nonpayment by the City (as such terms are defined in the Bond Insurance Policy) and any amounts due on the Insured Bonds as a result of acceleration of the maturity thereof in accordance with the Eleventh Supplemental Indenture, whether or not the Bond Insurer has received a Notice of Nonpayment (as such terms are defined in the Bond Insurance Policy) or a claim upon the Bond Insurance Policy.

The notice address of the Bond Insurer is: Assured Guaranty Municipal Corp., 1633 Broadway, New York, New York 10019, Attention: Managing Director - Surveillance, Re: Policy No. 218282-N, Telephone: (212) 826-0100; Telecopier: (212) 339-3556. In each case in which notice or other communication refers to an Event of Default, then a copy of such notice or other communication shall also be sent to the attention of the General Counsel and shall be marked to indicate "URGENT MATERIAL ENCLOSED."

The Bond Insurer shall be provided with the following information by the City or the Trustee, as the case may be:

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- i) Annual audited financial statements within 210 days after the end of the City's fiscal year (together with, if specifically requested by the Bond Insurer in writing, a certification of the City that it is not aware of any breach of any covenants under the Eleventh Supplemental Indenture), and the City's annual budget within 30 days after the approval thereof together with such other information, data or reports as the Bond Insurer shall reasonably request from time to time (the provisions of this paragraph (i) with respect to annual audited financial statements shall be deemed satisfied if such financial statements, budget and other information, data or reports shall have been posted electronically on a website that the Bond Insurer has access to);
- ii) Notice of any default known to the Trustee or the City within five Business Days after knowledge thereof;
- iii) Prior notice of the advance refunding or redemption of any of the Insured Bonds, including the principal amount, maturities and CUSIP numbers thereof;
- iv) Notice of the resignation or removal of the Trustee and the Bond Registrar and the appointment of, and acceptance of duties by, any successor thereto;
- v) Notice of the commencement of any proceeding by or against the City commenced under the United States Bankruptcy Code or any other applicable bankruptcy, insolvency, receivership, rehabilitation or similar law (an "Insolvency Proceeding");
- vi) Notice of the making of any claim in connection with any Insolvency Proceeding seeking the avoidance as a preferential transfer of any payment of principal of, or interest on, the Insured Bonds;
- vii) An executed copy of any amendment, supplement, or waiver to the Eleventh Supplemental Indenture; and
- viii) All reports, notices and correspondence to be delivered to Insured Bondholders under the terms of the Eleventh Supplemental Indenture (the requirements of this sentence shall be deemed satisfied if the City has posted such information electronically on a website that the Bond Insurer has access to).

In addition, to the extent that the City has entered into a continuing disclosure agreement, covenant or undertaking with respect to the Insured Bonds, all information furnished pursuant to such agreements shall also be provided to the Bond Insurer, simultaneously with the furnishing of such information (the requirements of this sentence shall be deemed satisfied if the City has posted such information electronically on a website that the Bond Insurer has access to).

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- (s) The Bond Insurer shall have the right to receive such additional information as it may reasonably request.
- (t) The City will permit the Bond Insurer to discuss the affairs, finances and accounts of the City or any information the Bond Insurer may reasonably request regarding the security for the Insured Bonds with appropriate officers of the City and will use commercially reasonable efforts to enable the Bond Insurer to have access to the facilities, books and records of the City on any Business Day upon reasonable prior notice.
- (u) The Trustee shall notify the Bond Insurer of any failure of the City to provide notices, certificates and other information under the transaction documents.
- (v) Notwithstanding satisfaction of the other conditions to the issuance of Second Lien Parity Bonds set forth in the Master Indenture, no such issuance may occur if an Event of Default (or any event which, once all notice or grace periods have passed, would constitute an Event of Default) exists unless such default shall be cured upon such issuance.
- (w) In determining whether any amendment, consent, waiver or other action to be taken, or any failure to take action, under the Eleventh Supplemental Indenture would adversely affect the security for the Insured Bonds or the rights of the Insured Bondholders, the Trustee shall consider the effect of any such amendment, consent, waiver, action or inaction as if there were no Bond Insurance Policy.
- (x) No contract shall be entered into or any action taken by which the rights of the Bond Insurer or security for or sources of payment of the Insured Bonds may be impaired or prejudiced in any material respect except upon obtaining the prior written consent of the Bond Insurer.

Anything contained in this Eleventh Supplemental Indenture or in the Insured Bonds to the contrary notwithstanding, the existence of all rights given to the Bond Insurer hereunder with respect to the giving of consents or approvals, or the direction of proceedings, are expressly conditioned upon its timely and full performance of the Bond Insurance Policy. Any such rights shall not apply if at any time:

- i) there are no Insured Bonds Outstanding;
- ii) if the Bond Insurer has failed to perform any of its obligations under the Bond Insurance Policy or has been declared insolvent or bankrupt by a court of competent jurisdiction;
- iii) an order or decree shall have been entered appointing a receiver, receivers, custodian or custodians for any of its assets or revenues, or any proceeding shall be instituted with the consent or acquiescence of the Bond Insurer or any plan shall be entered into by the Bond Insurer for the purpose of effecting a composition between the Bond Insurer and its creditors or for the purpose of adjusting the claims of such creditors;

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- iv) the Bond Insurer is dissolved:

- v) the Bond Insurer makes any assignment for the benefit of its creditors;
- vi) the Bond Insurer is generally not paying its debts as such debts become due or the Bond Insurer files a petition in bankruptcy or under Title II of the United States Code, as amended;
- vii) the Bond Insurance Policy has been determined to be void or unenforceable by final non-appealable judgment of a court of competent jurisdiction; or
- viii) the Bond Insurer contests the validity or enforceability of the Bond Insurance Policy;

provided that this Section shall not in any way limit or affect the rights of the Bond Insurer as an Insured Bondholder, as subrogee of an Insured Bondholder or as assignee of an Insured Bondholder, or otherwise, to be reimbursed and indemnified for its costs and expenses and other payment on or in connection with the Insured Bonds or the Bond Insurance Policy either by operation of law or at equity or by contract.

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#### **ACKNOWLEDGMENT OF FILING**

The foregoing Second Lien Bonds Determination Certificate of the Chief Financial Officer of the City



of Chicago (the "City") executed and delivered in connection with the issuance by the City of its \$235,260,000 Second Lien Water Revenue Refunding Bonds, Series 2017-2 and directed to the City Council, has been filed in the office of the City Clerk of the City and is part of the official files and records of said office.

IN WITNESS WHEREOF, I have hereunto affixed my signature and caused to be affixed hereto the corporate seal of the City of Chicago, Illinois, this 15<sup>th</sup> day of December, 2017.

Andrea M. Valencia City Clerk .

ACKNOWLEDGMENT OF FILING