

**Metropolitan Water Reclamation District Retirement Fund**

**December 31, 2018**

**Actuarial Report**

April 11, 2019

Board of Trustees  
Metropolitan Water Reclamation District Retirement Fund  
111 E. Erie St.  
Chicago, IL 60611

Dear Board:

We are pleased to present to the Board this report of the December 31, 2018 actuarial valuation of the Metropolitan Water Reclamation District Retirement Fund. This valuation reflects the assumption changes that resulted from the September 2018 Experience Study. Note, the assumption changes increased the actuarially determined contribution about \$5.8 million.

Included are the related results for GASB Statements No. 67 and No. 68. The funding valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year. The calculation of the liability for GASB results was performed for the purpose of satisfying the requirements of GASB Statements No. 67 and No. 68. Use of the results for other purposes may not be applicable and produce significantly different results.

The valuations have been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflects laws and regulations issued to date pursuant to the provisions of Article 13, Illinois Pension Code, as well as applicable federal laws and regulations. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuation, we did not perform an analysis of the potential range of such future measurements.

In preparing this report, we have relied on personnel, plan design and asset information supplied by the Plan. The actuarial value of assets was determined based on information supplied by Legacy Professionals LLP, the auditor for the Plan. In our opinion, the assumptions used in the valuation, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

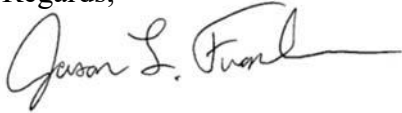
The total pension liability, net pension liability, and certain sensitivity information shown in the GASB results are based on an actuarial valuation performed as of the valuation date.

The undersigned is familiar with the immediate and long-term aspects of pension valuations and meets the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the actuarial opinions.

To our knowledge, no associate of Foster & Foster, Inc. working on this report has any direct financial interest or indirect material interest in the Metropolitan Water Reclamation District, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the Metropolitan Water Reclamation District Retirement Fund. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

We look forward to discussing the results with you.

Regards,

A handwritten signature in cursive script that reads "Jason L. Franken". The signature is written in black ink and is positioned above a horizontal line.

Jason L. Franken, FSA, EA, MAAA

Enrollment Number: 17-06888  
Foster & Foster, Inc.

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## SUMMARY OF RESULTS

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The table below contains a summary of key valuation results compared to the prior year values

	<b>December 31, 2018</b>	<b>December 31, 2017</b>
Total Actuarial Liability	\$ 2,601,163,632	\$ 2,497,890,179
Actuarial Value of Assets	\$ 1,470,308,639	\$ 1,456,195,876
Unfunded Actuarial Liability	\$ 1,130,854,993	\$ 1,041,694,303
Funded Ratio	56.5%	58.3%
Applicable Fiscal Year <sup>1</sup>	<b>2019</b>	<b>2018</b>
Employer's Normal Cost as a Percent of Payroll	6.7%	6.5%
Actuarially Determined Contribution	\$ 74,279,999	\$ 64,988,583
Contribution Requirement For Fiscal Year <sup>2</sup>	\$ 74,279,999	\$ 64,988,583
Expected Employer Contribution from Tax Levy for Fiscal Year	\$ 87,319,000	\$ 87,281,000

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<sup>1</sup> The contribution requirements are levied in the applicable fiscal year and deposited into the Fund during the following fiscal year.

<sup>2</sup> See details of calculation on page 9.

## DEVELOPMENT OF ACTUARIAL ASSETS

The Actuarial Value of Assets is determined by adjusting the market value of assets by the unrecognized investment gains and losses for each of the five years prior to the valuation date. Gains and losses are recognized at a rate of 20% per year. Actuarial Assets shall not be less than 80% nor greater than 120% of Market Value of Assets.

### Development of Investment Gain/Loss

Market Value of Assets, 12/31/2017	\$ 1,501,793,976
Contributions & Other Additions Less Benefit Payments & Admin Expenses	(54,793,646)
Expected Investment Earnings for 2018	<u>110,616,933</u>
Expected Market Value of Assets, 12/31/2018	\$ 1,557,617,263
Actual Net Investment Income/(Loss) for 2018	\$ (103,006,062)
2018 Investment Gain/(Loss), (Actual less Expected)	\$ (213,622,995)

### Development of Actuarial Value of Assets

Plan Year Ending	Gain/(Loss)	<u>Gains/Losses Not Yet Recognized by Valuation Year</u>			
		2018	2019	2020	2021
12/31/2014	(8,895,414)	0	0	0	0
12/31/2015	(99,931,928)	(19,986,386)	0	0	0
12/31/2016	18,841,099	7,536,440	3,768,220	0	0
12/31/2017	95,056,619	57,033,971	38,022,648	19,011,324	0
12/31/2018	(213,622,995)	<u>(170,898,396)</u>	<u>(128,173,797)</u>	<u>(85,449,198)</u>	<u>(42,724,599)</u>
Total		(126,314,371)	(86,382,929)	(66,437,874)	(42,724,599)

Market Value of Assets, 12/31/2018	\$ 1,343,994,268
Less: Unrecognized Amounts as of 12/31/2018	<u>(126,314,371)</u>
Actuarial Value of Assets, 12/31/2018	\$ 1,470,308,639

### Calculation of Rates of Return

Rates of return calculated below are based on a formula defined by the IRS. Therefore, the returns may differ from investment returns calculated for other purposes. The formula is defined as  $(2 * I)$  divided by  $(A + B - I)$  where A, B and I are as follows:

(A) 12/31/2017 Actuarial Assets:	\$ 1,456,195,876
(I) Net Investment Income:	
1. Interest, Dividends, Securities Lending Income and Other Income	24,632,343
2. Change in Actuarial Value	49,546,998
3. Investment Expenses and Bank Fees	<u>(5,272,932)</u>
Total	\$ 68,906,409
(B) 12/31/2018 Actuarial Assets:	\$ 1,470,308,639
Actuarial Asset Rate of Return = $2I/(A+B-I)$ :	4.8%
Market Value of Assets Rate of Return:	-7.0%

## ACTUARIAL LIABILITY AND FUNDED RATIO

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Below are details regarding the actuarial liability and funded ratio as of December 31, 2018.

1. Active Members	
Retirement	\$ 693,937,784
Termination	17,073,365
Death	23,878,188
Disability	6,889,796
Total	<u>\$ 741,779,133</u>
2. Members Receiving Benefits	
Retirement Annuities	\$ 1,621,753,298
Survivor Annuities/Children	221,810,590
Total	<u>\$ 1,843,563,888</u>
3. Inactive Members	<u>\$ 15,820,611</u>
4. Total Actuarial Liability	\$ 2,601,163,632
5. Actuarial Value of Assets	<u>\$ 1,470,308,639</u>
6. Unfunded Actuarial Liability	\$ 1,130,854,993
7. Funded Ratio	56.5%

## EMPLOYER'S NORMAL COST

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Below is a summary of the employer's share of the normal cost for the year beginning January 1, 2019.

	<b>For Year Beginning January 1, 2019</b>	<b>Percent of Payroll</b>
1. Active Members		
Retirement	\$ 27,028,914	14.38%
Termination	2,041,511	1.09%
Death	2,329,791	1.24%
Disability	711,656	0.38%
2. Expected Administrative Expenses	<u>1,685,479</u>	<u>0.90%</u>
3. Total Normal Cost	\$ 33,797,351	17.99%
4. Expected Member Contributions	<u>21,260,022</u>	<u>11.32%</u>
5. Employer's Share of Normal Cost	\$ 12,537,329	6.67%
6. Total Active Pensionable Payroll as of December 31, 2018	\$ 187,849,708	



## ACTUARIALLY DETERMINED CONTRIBUTION REQUIREMENT

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The actuarially determined contribution requirement based on the provisions applicable for fiscal years 2013 and later, according to section 13-503 of Article 13 of the Illinois Pension Code, is below.

1. Employer's Share of Normal Cost	\$ 12,537,329
2. Supplemental Cost (annual amount to amortize the unfunded liability by 2050)	
Actuarial Liability	\$ 2,601,163,632
Actuarial Assets	\$ 1,470,308,639
Unfunded Accrued Liability	\$ 1,130,854,993
Amortization Period	32 years
Supplemental Cost	\$ 61,742,670
3. Actuarially Determined Contribution for Year Beginning January 1, 2019	\$ 74,279,999
4. Maximum Tax Levy (4.19 x Total Member Contributions for two years prior)	\$ 87,319,000
5. Statutory Tax Levy (lesser of 3 and 4)	\$ 74,279,999

## RECONCILIATION OF CHANGE IN UNFUNDED ACTUARIAL LIABILITY

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1. Unfunded Actuarial Accrued Liability (UAAL) as of December 31, 2017	\$	1,041,694,303
2. Employer Normal Cost, Developed as of December 31, 2017		11,897,996
3. Expected Interest on 1. and 2.		79,019,422
4. Employer Contributions		87,167,339
5. Expected Interest on 4.		3,209,682
6. Expected UAAL as of December 31, 2018 (1)+(2)+(3)-(4)-(5)		1,042,234,700
7. Change in UAAL Due to Actuarial (Gain)/Loss, by component		
Increase in UAAL due to investment return lower than assumed		40,260,410
Decrease in UAAL due to salary increases lower than assumed		(7,369,068)
Increase in UAAL due to decrement experience		14,320,903
Increase in UAAL due to inactive mortality experience		4,104,912
Increase in UAAL due to other changes		<u>(135,723)</u>
Net increase in UAAL due to actuarial experience		51,181,434
8. Change in UAAL Due to Assumption Changes		37,438,859
9. Unfunded Actuarial Accrued Liability as of December 31, 2018	\$	1,130,854,993

## PARTICIPANT DATA

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<b>Participant Information</b>	<b>December 31, 2018</b>	<b>December 31, 2017</b>
Number Active Members	1,832	1,835
Number Receiving Benefits		
Retirement Annuities	1,848	1,809
Surviving Spouse Annuities	571	576
Children's Annuities	24	23
Number Inactive Members	127	137
Total Members	4,402	4,380
Total Pensionable Salary	\$ 187,849,708	\$ 184,385,188
<b>Active Statistics – Tier 1</b>		
Number	1,322	1,399
Average Age	52.75	52.50
Average Service	17.35	17.09
Total Pensionable Salary	\$ 145,118,272	\$ 148,728,061
Average Salary	\$ 109,772	\$ 106,310
<b>Active Statistics – Tier 2</b>		
Number	510	436
Average Age	42.67	42.15
Average Service	3.38	2.91
Total Salary	\$ 43,037,914	\$ 36,079,292
Average Salary	\$ 84,388	\$ 82,751
Pensionable Salary	\$ 42,731,436	\$ 35,657,127
Average Pensionable Salary	\$ 83,787	\$ 81,782
<b>Annual Benefit Payments for Members Receiving Benefits</b>		
Retirement Annuities	\$ 135,435,622	\$ 129,366,688
Surviving Spouse Annuities	\$ 25,965,116	\$ 24,615,058
Children's Annuities	\$ 144,000	\$ 138,000

## PARTICIPANT RECONCILIATION

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Below is a reconciliation of members from December 31, 2017 to December 31, 2018.

	<u>Active</u>	<u>Inactive Vested</u>	<u>Inactive Not Vested</u>	<u>Retiree</u>	<u>Surviving Spouse</u>	<u>Child</u>	<u>Total Count</u>
<b>As of 12/31/2017</b>	<b>1,835</b>	<b>41</b>	<b>96</b>	<b>1,809</b>	<b>576</b>	<b>23</b>	<b>4,380</b>
Terminations							
Vested	(11)	11					0
Not Vested	(12)		12				0
Retirements	(87)	(11)	(1)	99			0
Deaths							
w/o Beneficiary	(1)			(33)	(35)		(69)
w/ Beneficiary	(2)		(1)	(27)	30		0
w/ Child Beneficiary						3	3
w/ Rev. Annuitant							
New Member	114						114
Return to Work	9	(6)	(3)				0
Benefit expired						(3)	(3)
Refunds	(13)	0	(12)				(25)
Repaid Refunds							
Adjustments	0	0	1	0	0	1	2
Net Change	(3)	(6)	(4)	39	(5)	1	22
<b>As of 12/31/2018</b>	<b>1,832</b>	<b>35</b>	<b>92</b>	<b>1,848</b>	<b>571</b>	<b>24</b>	<b>4,402</b>

## ACTIVE PARTICIPANTS AS OF DECEMBER 31, 2018

### Active Age Service Grid Active Member Count and Pensionable Salary by Age and Service

Age	Years of Service									Total
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	
<b>&lt;25</b>	1	9								10
	\$56,014	\$67,036								\$65,934
<b>25-29</b>	10	39	9	1						59
	\$60,776	\$69,643	\$91,192	\$84,386						\$71,677
<b>30-34</b>	11	53	32	15						111
	\$61,836	\$75,001	\$88,205	\$108,815						\$82,072
<b>35-39</b>	8	66	48	61	12					195
	\$75,527	\$84,821	\$97,116	\$108,122	\$121,591					\$97,018
<b>40-44</b>	8	55	31	67	37	15				213
	\$90,797	\$86,718	\$93,807	\$107,971	\$112,088	\$126,671				\$101,809
<b>45-49</b>	6	40	37	56	48	57	18	2		264
	\$79,992	\$91,926	\$96,811	\$101,669	\$116,195	\$118,407	\$126,356	\$113,854		\$107,050
<b>50-54</b>	5	52	35	51	60	40	61	13		317
	\$70,036	\$88,078	\$95,192	\$97,847	\$103,885	\$123,161	\$127,189	\$126,700		\$106,679
<b>55-59</b>		41	26	62	58	48	78	21	3	337
		\$82,214	\$100,704	\$97,573	\$117,522	\$120,454	\$119,076	\$129,841	\$138,005	\$109,986
<b>60-64</b>	2	18	21	40	40	37	41	15	2	216
	\$76,785	\$89,218	\$93,238	\$92,323	\$104,305	\$118,586	\$119,913	\$113,894	\$155,938	\$106,051
<b>65-69</b>		8	5	16	22	13	14	5	2	85
		\$76,309	\$80,802	\$92,757	\$103,065	\$119,644	\$104,033	\$132,167	\$98,699	\$101,601
<b>70+</b>				2	7	10	2	3	1	25
				\$118,100	\$87,954	\$110,728	\$89,272	\$112,922	\$84,386	\$102,434
<b>Total</b>	51	381	244	371	284	220	214	59	8	1832
	\$71,731	\$82,694	\$94,701	\$101,597	\$110,170	\$120,035	\$120,899	\$123,890	\$125,959	\$102,538

## ACTUARIAL ASSUMPTIONS AND METHODS

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Below is a summary of the actuarial assumptions for the December 31, 2018 valuation. An experience study was performed in September of 2018 based on data for the period December 31, 2012 through December 31, 2017. The assumptions below are based on the experience study and were adopted effective December 31, 2018.

Interest Rate	7.25%
Mortality Rates – Healthy and Disabled Lives	RP-2000 Combined Healthy Mortality Table with Generational Mortality Improvements (Scale AA). Female rates are adjusted by a factor of 1.04 and male rates are unadjusted.
Cost-of-Living Adjustment - Annuitants	
Members Hired On Or After January 1, 2011	1.25%
Members Hired Before January 1, 2011	3.00%
Inflation	2.50%
Salary Increases	See Table 1
Retirement Rates	See Table 2
Termination Rates	See Table 3
Disability Rates	See Table 4
Load for Reciprocal Benefits	1.5% of active member costs and liabilities.
Percent Married	76%
Spousal Age Difference	Spouse of male member assumed to be 4 years younger than member; Spouse of female member assumed to be 4 years older than member.

Actuarially Determined Contribution Requirement	Section 13-503. Employer's normal cost plus the annual amount needed to amortize the unfunded liability by the year 2050 as a level percent of payroll.  The funding goal is to attain a funded ratio of at least 100% by the year 2050.
Actuarial Cost Method	Entry Age Normal, with costs allocated on basis of earnings. Actuarial gains and losses are reflected in the unfunded actuarial liability.
Asset Method	5-year Smoothing Method
Payroll Growth	3.00%
Assumed Administrative Expenses	Administrative expenses paid from the trust during the prior year.
Source of Data	Data and audited financial information is provided by the Plan.
Valuation Date	December 31, 2018.

## **Changes in Funding Assumptions/Methods Since the Prior Valuation**

### **Method Changes**

- None.

### **Assumption Changes**

The valuation reflects the following assumption changes to better reflect anticipated experience. These changes were based on an experience study performed September 28, 2018:

- Lowered the assumed investment return from 7.50% to 7.25%.
- Updated retirement rates, withdrawal rates and mortality rates.
- Updated salary increase rates.
- Lowered the payroll growth assumption from 3.70% to 3.00%.

Table 1 – Salary Increase Rates

Service	Salary Increase Rate
0	7.00%
1	6.50%
2	5.75%
3	5.50%
4	5.25%
5	6.00%
6	5.00%
7	4.75%
8	4.50%
9	4.25%
10	5.00%
11 - 14	4.00%
15	5.00%
16 - 19	4.00%
20	5.00%
21+	3.50%

Table 2 – Retirement Rates

Age	Retirement Rate
50 - 59	7%
60	20%
61 - 64	10%
65	15%
66	18%
67	25%
68	15%
69	30%
70	35%
71 - 74	20%
75	100%



Table 3 – Termination Rates

Service	Male Rate	Female Rate
0	5.00%	7.75%
1	3.50%	6.75%
2	3.50%	5.75%
3	2.60%	4.75%
4	2.24%	4.52%
5	2.15%	4.49%
6	1.75%	4.19%
7	1.70%	3.94%
8	1.65%	3.74%
9	1.55%	3.54%
10	1.55%	3.34%
11	1.55%	3.14%
12	1.45%	2.94%
13	1.40%	2.85%
14	1.35%	2.52%
15	1.20%	2.52%
16+	1.00%	2.52%

Table 4 – Disability Rates (Sample Rates)

Age	Disability Rate
20	0.002%
25	0.003%
30	0.006%
35	0.014%
40	0.033%
45	0.065%
50	0.120%
55	0.225%
60	0.490%
65	0.000%

## DISCUSSION OF RISK

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ASOP No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions, states that the actuary should identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition.

Throughout this report, actuarial results are determined under various assumption scenarios. These results are based on the premise that all future plan experience will align with the plan's actuarial assumptions; however, there is no guarantee that actual plan experience will align with the plan's assumptions. Whenever possible, the recommended assumptions in this report reflect conservatism to allow for some margin of unfavorable future plan experience. However, it is still possible that actual plan experience will differ from anticipated experience in an unfavorable manner that will negatively impact the plan's funded position.

Below are examples of ways in which plan experience can deviate from assumptions and the potential impact of that deviation. Typically, this results in an actuarial gain or loss representing the current-year financial impact on the plan's unfunded liability of the experience differing from assumptions; this gain or loss is amortized over a period of time determined by the plan's amortization method. When assumptions are selected that adequately reflect plan experience, gains and losses typically offset one another in the long term, resulting in a relatively low impact on the plan's contribution requirements associated with plan experience. When assumptions are too optimistic, losses can accumulate over time and the plan's amortization payment could potentially grow to an unmanageable level.

- Investment Return: When the rate of return on the Actuarial Value of Assets falls short of the assumption, this produces a loss representing assumed investment earnings that were not realized. Further, it is unlikely that the plan will experience a scenario that matches the assumed return in each year as capital markets can be volatile from year to year. Therefore, contribution amounts can vary in the future.
- Salary Increases: When a plan participant experiences a salary increase that was greater than assumed, this produces a loss representing the cost of an increase in anticipated plan benefits for the participant as compared to the previous year. The total gain or loss associated with salary increases for the plan is the sum of salary gains and losses for all active participants.
- Payroll Growth: The plan's payroll growth assumption, if one is used, causes a predictable annual increase in the plan's amortization payment in order to produce an amortization payment that remains constant as a percentage of payroll if all assumptions are realized. If payroll does not increase according to the plan's payroll growth assumption, the plan's amortization payment can increase significantly as a percentage of payroll even if all assumptions other than the payroll growth assumption are realized.

- Demographic Assumptions: Actuarial results take into account various potential events that could happen to a plan participant, such as retirement, termination, disability, and death. Each of these potential events is assigned a liability based on the likelihood of the event and the financial consequence of the event for the plan. Accordingly, actuarial liabilities reflect a blend of financial consequences associated with various possible outcomes (such as retirement at one of various possible ages). Once the outcome is known (e.g. the participant retires) the liability is adjusted to reflect the known outcome. This adjustment produces a gain or loss depending on whether the outcome was more or less favorable than other outcomes that could have occurred.
- Contribution risk: Risks associated with the items outlined above will inherently create varying liabilities and assets resulting in volatility in contributions. Actuarial losses on assets and liabilities will lead to higher contribution amounts, while actuarial gains on assets and liabilities will lead to lower contribution amounts.

It is important to note that the actuary has identified the risks above as the most significant risks based on the characteristics of the plan and the nature of the project, however, it is not an exhaustive list of potential risks that could be considered. Additional advanced modelling, as well as the identification of additional risks, can be provided at the request of the reader.

## PLAN PROVISIONS

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The following describe and reflect plan provisions in effect as described in Article 13 of the Illinois Pension Code. The provisions below reflect changes included in Public Act 96-0889 and Public Act 96-1490, which created the second “tier” of benefits for members hired on or after January 1, 2011 and provided clarifying changes.

Eligibility	All employees of the District whose duties indicate service during the calendar year for a minimum of 120 days are eligible.
Normal Retirement Eligibility	Hired before January 1, 2011: Age 60 and 5 years of service  Hired on or after January 1, 2011: Age 67 and 10 years of service
Normal Retirement Benefit	The annual benefit payable immediately is equal to the sum of: (a) 2.2% of Average Final Salary for each year of service up to 20 years.  (b) 2.4% of Average Final Salary for each year of service in excess of 20 years  The benefit shall not exceed 80% of Average Final Salary.
Early Retirement Eligibility	Hired before January 1, 2011: Age 55 (50 if hired before June 13, 1997) and 10 years of service  Hired on or after January 1, 2011: Age 62 and 10 years of service
Early Retirement Benefit	Normal Retirement Benefit reduced as follows:  Hired before January 1, 2011: If member retires before reaching age 60 with less than 30 years of service, 0.5% for each full month the member is less than age 60 or service is less than 30 years, whichever is less.  Hired on or after January 1, 2011: 0.5% per month the member is less than age 67

Deferred Retirement Eligibility	Tier 1: Age 55 (50 if hired before June 13, 1997) and 5 years of service. Tier 2: 10 years of service
Deferred Retirement Benefit	<p>The annual benefit payable at the following ages:</p> <p>Hired before January 1, 2011:</p> <p>Age 62, if withdraw on or after age 55 (50 if hired before June 13, 1997) with at least 5 years of service and less than 10 years</p> <p>Age 55 (50 if hired before June 13, 1997), if withdraw with 10 years of service</p> <p>Hired on or after January 1, 2011: Age 62, if withdraw with 10 years of service</p> <p>The annual benefit amount equals the Normal Retirement Benefit reduced with Early Retirement Reductions.</p>
Minimum Retirement Annuity	<p>10 years of service: \$500 per month plus \$25 per month for each year of service in excess of 10 years, not to exceed \$750 with 20 years of service</p> <p>Less than 10 years of service or retirement before age 60: \$250 per month</p>
Duty Disability Eligibility	Member incurs injury or sickness due to employment with the District and is compensable under the Workers' Compensation Act or the Occupational Disease Act.
Duty Disability Benefit	<p>75% of salary earned on the date of disability, less the amount paid by Workers' Compensation</p> <p>Benefit is 50% of salary if disability resulted from physical defect or disease that existed at the time injury was sustained.</p> <p>Benefits are payable during period of disablement, but not beyond attainment of age 65. If disability occurs at age 60 or older, benefits are payable for a maximum of 5 years.</p>

Ordinary Disability Eligibility	Member becomes disabled due to any cause other than injury or illness incurred in the performance of duty.
Ordinary Disability Benefit	50% of earnable salary at the date of disability  Member may receive ordinary disability benefits for a maximum period of the lesser of 25% of member's actual service prior to disablement or 5 years.
Surviving Spouse Annuity Eligibility	Hired before June 13, 1997: Immediately eligible if married to member on date of member's death while in service or married to member on member's date of termination from service and remained married until member's death. Dissolution of marriage after retirement shall not divest the member's spouse of entitlement if marriage was in effect for at least 10 years on the date of retirement.  Hired on or after June 13, 1997: Eligible after 3 years of service. Conditions for marriage described for members hired prior to June 13, 1997 apply.
Surviving Spouse Benefit	Hired before January 1, 2011: Retirement annuity earned at the time of death multiplied by a factor of 60% plus 1% for each year of member's total service, to a maximum of 85%. If hired after January 1, 1992, annuity is reduced by 0.25% for each full month spouse is younger than member to maximum reduction of 60%. Discount is reduced by 10% for each year marriage is in effect.  Hired on or after January 1, 2011: 66 2/3% of retirement annuity earned at the time of death.

Minimum Surviving Spouse Annuity	<p>Member with 10 years of service: greater of (a) \$500 per month plus \$25 per month for each year of service in excess of 10, not to exceed \$750 per month, or (b) 50% of the retirement annuity of member at time of death.</p> <p>Member with less than 10 years of service: \$250 per month.</p>
Children’s Annuity Eligibility	Member parent dies in service or deceased parent was former member with at least 10 years of service. Child is unmarried and less than age 18 (23, if full-time student).
Children’s Annuity Benefit	\$500 per month for each child if have living parent and \$1,000 per month for each child if neither parent is living to a maximum of \$5,000 per month.
Cost-of-Living Adjustments	<p>Hired before January 1, 2011: Retirement annuity is increased on the anniversary of retirement by 3% of the monthly annuity payable at the time of increase.</p> <p>Spouse annuity is increased on the earlier of the anniversary of the member’s death or retirement (whichever occurs first) by 3% of the monthly annuity payable at the time of increase.</p> <p>Hired on or after January 1, 2011: increase percentage is the lesser of 3% or ½ the increase in CPI-U during the previous calendar year. Increase is based on the originally granted retirement or spouse’s annuity.</p>

Member Contributions – retiree annuity

<u>Pay period:</u>	<u>Contribution percentage:</u>
Before January 1, 2013	7.5%
During calendar year 2013	8.5%
During calendar year 2014	9.5%
During calendar year 2015 and until fund is 90% funded	10.0%
After fund is 90% funded	7.5%

Members hired on or after January 1, 2011 have member contributions of 7.5% of pay.

Member Contributions – spouse annuity

<u>Pay period:</u>	<u>Contribution percentage:</u>
Before January 1, 2015	1.5%
During calendar year 2015 and until fund is 90% funded	2.0%
After fund is 90% funded	1.5%

Members hired on or after January 1, 2011 contribute 1.5% of pay.

Refund to Member upon Termination

Hired before January 1, 2011: Eligible for refund of all member contributions without interest if under age 55 (50 if hired before June 13, 1997); if age 60 with less than 20 years of service; or if 60 with less than 5 years of service. Upon receipt of refund, member forfeits rights to benefits from the Fund.  
Hired on or after January 1, 2011: Eligible for refund of all member contributions without interest if under age 62; or if have less than 10 years of service on termination. Upon receipt of refund, member forfeits rights to benefits from the Fund.

Refund for Surviving Spouse’s Annuity

Members unmarried at the time of retirement will receive a refund of contributions for spouse annuity with interest at 3% per year, compounded annually.



Refund of Remaining Amounts	If upon death the total amount contributed by the member with 3% interest per year has not been paid to the member, the spouse or designated beneficiaries or estate receives a refund of the excess amount.
Required Tax Levy	Lesser of actuarially determined contribution and 4.19 multiplied by total member contributions for the two years prior.
Average Final Salary	Hired before January 1, 2011: Highest average annual salary for any 52 consecutive bi-weekly pay periods within the last 10 years of service immediately preceding the date of retirement.  Hired on or after January 1, 2011: Highest average annual salary for 96 consecutive months of service within last 120 months of service, limited to \$106,800 (automatically increased by lesser of 3% or ½ the increase in CPI-U during the previous calendar year).
Pensionable Salary	Salary paid to a fund member for service to the District or to the Fund, including salary paid for vacation and sick leave and any amounts deferred under a deferred compensation plan established under the Code, but excluding the following: payment for unused vacation or sick leave, overtime pay, termination pay and any compensation in the form of benefits other than salary.  Salary for members hired on or after January 1, 2011 is subject to the salary limitations established in the Illinois Pension Code. For calendar year 2019, the statutory salary limitation is \$114,951.83.
Pension Service	Any employment, excluding overtime or extra service for which salary is received.

**Changes in Plan Provisions Since the Prior Valuation**

- None

STATEMENT OF FIDUCIARY NET POSITION  
December 31, 2018

<u>ASSETS</u>	MARKET VALUE
Cash	2,131,153
Total Cash and Equivalents	2,131,153
Receivables:	
District Contributions	87,281,000
Due From Broker	111,904,867
Accounts Receivable	52,687
Accrued Income	3,843,996
Total Receivables	203,082,550
Investments:	
Fixed Income	236,868,215
Equities	470,319,672
Short-Term Investment Funds	14,814,286
Mutual and Exchange Traded Funds	89,341,330
Pooled/Commingled Funds:	
Fixed Income	152,257,239
Equity	215,174,230
Real Estate	63,897,521
Total Investments	1,242,672,493
Securities Lending Collateral	14,166,319
Total Assets	1,462,052,515
<u>LIABILITIES</u>	
Liabilities:	
Payable:	
Securities Lending Collateral	14,166,319
Due to Broker	102,681,679
Accounts Payable	1,210,249
Total Liabilities	118,058,247
Net Assets:	
Active and Retired Members' Equity	1,343,994,268
Net Assets	
Active and Retired Members' Equity	1,343,994,268
NET POSITION RESTRICTED FOR PENSIONS	1,343,994,268
TOTAL LIABILITIES AND NET ASSETS	1,462,052,515

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
FOR THE YEAR ENDED December 31, 2018  
Market Value Basis

ADDITIONS

Contributions:

Member	21,032,601
District	87,167,339

Total Contributions 108,199,940

Investment Income:

Net Realized Gain (Loss)	0
Interest & Dividends	24,076,503
Net Increase in Fair Value of Investments	(122,365,473)
Securities Lending Income	555,840
Less Investment Expense <sup>1</sup>	(5,272,932)

Net Investment Income (103,006,062)

Other Income 15,415

Total Additions 5,209,293

DEDUCTIONS

Distributions to Members:

Benefit Payments	159,561,047
Termination Payments	1,762,475

Total Distributions 161,323,522

Administrative Expenses 1,685,479

Other Deductions 0

Total Deductions 163,009,001

Net Increase in Net Position (157,799,708)

NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year 1,501,793,976

End of the Year 1,343,994,268

SUMMARY OF PARTICIPANT DATA

Plan Membership:

	<u>12/31/2018</u>	<u>12/31/2017</u>
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	2,443	2,408
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	127	137
Active Plan Members	<u>1,832</u>	<u>1,835</u>
Total	4,402	4,380
Covered Payroll	\$187,849,708	\$184,385,188

SCHEDULE OF CHANGES IN NET PENSION LIABILITY

	12/31/2018	12/31/2017
Total Pension Liability		
Service Cost	32,212,530	32,370,187
Interest	182,881,416	179,038,283
Changes of Benefit Terms	-	-
Differences Between Expected and Actual Experience	12,157,757	(1,990,761)
Changes of Assumptions	35,593,015	-
Contributions - Buy Back	-	-
Benefit Payments, Including Refunds of Employee Contributions	(161,323,522)	(154,713,043)
Net Change in Total Pension Liability	101,521,196	54,704,666
Total Pension Liability - Beginning	2,486,868,107	2,432,163,441
Total Pension Liability - Ending (a)	<u>\$2,588,389,303</u>	<u>\$ 2,486,868,107</u>
Plan Fiduciary Net Position		
Contributions - Employer	87,167,339	89,858,224
Contributions - Employee	21,032,601	20,839,829
Contributions - Buy Back	-	-
Net Investment Income	(103,006,062)	194,821,459
Benefit Payments, Including Refunds of Employee Contributions	(161,323,522)	(154,713,043)
Administrative Expense	(1,685,479)	(1,613,976)
Other	15,415	3,100
Net Change in Plan Fiduciary Net Position	(157,799,708)	149,195,593
Plan Fiduciary Net Position - Beginning	1,501,793,976	1,352,598,383
Adjustment to beginning of year	-	-
Plan Fiduciary Net Position - Ending (b)	<u>\$1,343,994,268</u>	<u>\$ 1,501,793,976</u>
Net Pension Liability - Ending (a) - (b)	<u>\$1,244,395,035</u>	<u>\$ 985,074,131</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	51.92%	60.39%
Covered Payroll	\$ 187,849,708	\$ 184,385,188
Net Pension Liability as a Percentage of Covered Payroll	662.44%	534.25%

Changes reflected in December 31, 2018 results:

The results reflect the assumption changes noted in the assumptions section of the report.

STATEMENT OF CHANGES IN NET PENSION LIABILITY

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
	(a)	(b)	(a)-(b)
Reporting Period Ending December 31, 2017	\$ 2,486,868,107	\$1,501,793,976	\$ 985,074,131
Adjustment to beginning of year	-	-	-
Changes for a Year:			
Service Cost	32,212,530	-	32,212,530
Interest	182,881,416	-	182,881,416
Differences Between Expected and Actual Experience	12,157,757	-	12,157,757
Changes of Assumptions	35,593,015	-	35,593,015
Changes of Benefit Terms	-	-	-
Contributions - Employer	-	87,167,339	(87,167,339)
Contributions - Employee	-	21,032,601	(21,032,601)
Contributions - Buy Back	-	-	-
Net Investment Income	-	(103,006,062)	103,006,062
Benefit Payments, Including Refunds of Employee Contributions	(161,323,522)	(161,323,522)	-
Administrative Expense	-	(1,685,479)	1,685,479
Other Changes	-	15,415	(15,415)
Net Changes	101,521,196	(157,799,708)	259,320,904
Reporting Period Ending December 31, 2018	\$ 2,588,389,303	\$1,343,994,268	\$ 1,244,395,035

*Sensitivity of Net Pension Liability to changes in the Discount Rate:*

	Current		
	1% Decrease	Discount Rate	1% Increase
	6.25%	7.25%	8.25%
Sponsor's Net Pension Liability	\$ 1,539,876,439	\$1,244,395,035	\$ 995,556,421

*Pension Plan Fiduciary Net Position*

Detailed information about the Pension Plan's Fiduciary Net Position is available in a separately issued Plan financial report.

FINAL PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES  
AND DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS  
YEAR-END DECEMBER 31, 2018

For the year ended December 31, 2018, the Sponsor will recognize a pension expense of \$98,657,404. On December 31, 2018, the Sponsor reported deferred outflows of resources and deferred Inflows of Resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between actual and expected experience	20,040,521	1,658,970
Changes of assumptions	0	0
Net difference between projected and actual earnings on pension plan investments	0	44,596,803
Employer contributions after the measurement date	87,167,339	0
Total	\$107,207,860	\$46,255,773

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

Year-ended December 31:

2018	\$6,211,678
2019	\$3,370,757
2020	(\$18,418,856)
2021	(\$17,047,037)
2022	(\$331,794)
Thereafter	\$0

**PRELIMINARY PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS YEAR-END DECEMBER 31, 2019**

For the year ended December 31, 2019, the Sponsor will recognize a pension expense of \$142,039,395. On December 31, 2019, the Sponsor reported deferred outflows of resources and deferred Inflows of Resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between actual and expected experience	23,655,848	1,327,176
Changes of assumptions	29,660,845	0
Net difference between projected and actual earnings on pension plan investments	126,244,080	0
Employer contributions after the measurement date	TBD	0
<b>Total</b>	<b>\$179,560,773</b>	<b>\$1,327,176</b>

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

Year-ended December 31:

2020	\$54,046,274
2021	\$32,256,660
2022	\$33,628,479
2023	\$50,343,722
2024	\$7,958,462
Thereafter	\$0



FINAL COMPONENTS OF PENSION EXPENSE  
YEAR-END DECEMBER 31, 2018

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning Balance	\$1,079,565,058	\$ 15,101,932	\$ 182,035,011	
Employer Contributions made after December 31, 2017	\$ -	\$ -	\$ 87,167,339	\$ -
Total Pension Liability Factors:				
Service Cost	32,370,187	-	-	32,370,187
Interest	179,038,283	-	-	179,038,283
Changes in Benefit Terms	-	-	-	-
Contributions - Buy Back	-	-	-	-
Differences Between Expected and Actual Experience With Regard to Economic or Demographic Assumptions	(1,990,761)	1,990,761	-	-
Current Year Amortization	-	(331,791)	(6,516,139)	6,184,348
Changes in Assumptions About Future Economic or Demographic Factors or Other Inputs	-	-	-	-
Current Year Amortization	-	-	-	-
Benefit Payments	(154,713,043)	-	-	-
Net Change	54,704,666	1,658,970	80,651,200	217,592,818
Plan Fiduciary Net Position:				
Contributions - Employer	89,858,224	-	(89,858,224)	-
Contributions - Employee	20,839,829	-	-	(20,839,829)
Contributions - Buy Back	-	-	-	-
Projected Net Investment Income	99,733,793	-	-	(99,733,793)
Difference Between Projected and Actual Earnings on Pension Plan Investments	95,087,666	95,087,666	-	-
Current Year Amortization	-	(22,793,017)	(22,820,349)	27,332
Benefit Payments	(154,713,043)	-	-	-
Administrative Expenses	(1,613,976)	-	-	1,613,976
Other	3,100	-	-	(3,100)
Net Change	149,195,593	72,294,649	(112,678,573)	(118,935,414)
Adjustment to beginning of year	-	-	-	-
Ending Balance	\$ 985,074,131	\$ 89,055,551	\$ 150,007,638	\$ 98,657,404

PRELIMINARY COMPONENTS OF PENSION EXPENSE  
YEAR-END DECEMBER 31, 2019

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning Balance	\$ 985,074,131	\$ 89,055,551	\$ 150,007,638	
Employer Contributions made after December 31, 2018	-	-	TBD <sup>1</sup>	-
Total Pension Liability Factors:				
Service Cost	32,212,530	-	-	32,212,530
Interest	182,881,416	-	-	182,881,416
Changes in Benefit Terms	-	-	-	-
Contributions - Buy Back	-	-	-	-
Differences Between Expected and Actual Experience With Regard to Economic or Demographic Assumptions	12,157,757	-	12,157,757	-
Current Year Amortization	-	(331,794)	(8,542,431)	8,210,637
Changes in Assumptions About Future Economic or Demographic Factors or Other Inputs	35,593,015	-	35,593,015	-
Current Year Amortization	-	-	(5,932,170)	5,932,170
Benefit Payments	(161,323,522)	-	-	-
Net Change	101,521,196	(331,794)	33,276,171	229,236,753
Plan Fiduciary Net Position:				
Contributions - Employer	87,167,339	-	(87,167,339)	-
Contributions - Employee	21,032,601	-	-	(21,032,601)
Contributions - Buy Back	-	-	-	-
Projected Net Investment Income	110,579,208	-	-	(110,579,208)
Difference Between Projected and Actual Earnings on Pension Plan Investments	(213,585,270)	-	213,585,270	-
Current Year Amortization	-	(22,793,016)	(65,537,403)	42,744,387
Benefit Payments	(161,323,522)	-	-	-
Administrative Expenses	(1,685,479)	-	-	1,685,479
Other	15,415	-	-	(15,415)
Net Change	(157,799,708)	(22,793,016)	60,880,528	(87,197,358)
Adjustment to beginning of year	-	-	-	-
Ending Balance	\$ 1,244,395,035	\$ 65,930,741	TBD	\$142,039,395

<sup>1</sup> Employer contributions made after the December 31, 2018 measurement date, but before December 31, 2019 need to be added.

## AMORTIZATION SCHEDULE – EXPERIENCE

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience

Year Base Established	Differences Between Expected and Actual Experience		Recognition Period (Years)	Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience										
				2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2018	\$	12,157,757	6	\$ 2,026,292	\$ 2,026,293	\$ 2,026,293	\$ 2,026,293	\$ 2,026,293	\$ 2,026,293	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$	(1,990,761)	6	\$ (331,794)	\$ (331,794)	\$ (331,794)	\$ (331,794)	\$ (331,794)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$	13,813,742	6	\$ 2,302,290	\$ 2,302,290	\$ 2,302,290	\$ 2,302,290	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$	14,421,984	6	\$ 2,403,664	\$ 2,403,664	\$ 2,403,664	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2014	\$	10,861,109	6	\$ 1,810,185	\$ 1,810,185	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense				\$ 8,210,637	\$ 8,210,638	\$ 6,400,453	\$ 3,996,789	\$ 1,694,499	\$ 2,026,293	\$ -	\$ -	\$ -	\$ -	\$ -

AMORTIZATION SCHEDULE – CHANGES OF ASSUMPTIONS

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Changes of Assumptions

Year Base Established	Effects of Changes in Assumptions	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2018	\$ 35,593,015	6	\$ 5,932,170	\$ 5,932,169	\$ 5,932,169	\$ 5,932,169	\$ 5,932,169	\$ 5,932,169	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 5,932,170	\$ 5,932,169	\$ 5,932,169	\$ 5,932,169	\$ 5,932,169	\$ 5,932,169	\$ -	\$ -	\$ -	\$ -	\$ -

AMORTIZATION SCHEDULE – INVESTMENTS

Increase (Decrease) in Pension Expense Arising from the Recognition of the of Differences Between Projected and Actual Earnings on Pension Plan Investments									
Year Base Established	Differences Between Projected and Actual Earnings	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	
2018	\$ 213,585,270	5	\$ 42,717,054	\$ 42,717,054	\$ 42,717,054	\$ 42,717,054	\$ 42,717,054	\$ 42,717,054	\$ -
2017	\$ (95,087,666)	5	\$ (19,017,533)	\$ (19,017,533)	\$ (19,017,533)	\$ (19,017,533)	\$ -	\$ -	\$ -
2016	\$ (18,877,416)	5	\$ (3,775,483)	\$ (3,775,483)	\$ (3,775,483)	\$ -	\$ -	\$ -	\$ -
2015	\$ 99,897,144	5	\$ 19,979,429	\$ 19,979,429	\$ -	\$ -	\$ -	\$ -	\$ -
2014	\$ 14,204,600	5	\$ 2,840,920	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 42,744,387	\$ 39,903,467	\$ 19,924,038	\$ 23,699,521	\$ 42,717,054	\$ -	\$ -

SCHEDULE OF CONTRIBUTIONS

Plan Year-End	Actuarially Determined Contribution	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
12/31/2018	64,988,583	87,167,339	(22,178,756)	187,849,708	46.40%
12/31/2017	65,727,912	89,858,224	(24,130,312)	184,385,188	48.73%

The following assumptions were used to determine the Actuarially Determined Contribution as of December 31, 2017:

Calculation Timing	The Actuarially Determined Contribution is calculated as of December 31 one year prior to the year in which contributions are reported.
Interest Rate	7.50%
Mortality Rates – Healthy Lives	RP-2000 Combined Healthy Mortality Table with Generational Mortality Improvements (Scale AA).
Mortality Rates – Disabled Lives	RP-2000 Disabled Retiree Mortality Table
Assumptions	All other assumptions and methods used for determining the Actuarially Determined Contribution can be found in the December 31, 2017 Actuarial Valuation Report for the Metropolitan Water Reclamation District Retirement Fund.

SCHEDULE OF INVESTMENT RETURNS

For the year ended December 31, 2018, the annual money-weighted return on Pension Plan investments, net of pension plan investment expense, was -7.44 percent.. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Plan Year-End	Annual Money-Weighted Rate of Return Net of Investment Expense
12/31/2018	-7.44%
12/31/2017	15.62%

## ASSUMPTIONS – TOTAL PENSION LIABILITY

The valuation reflects the following assumption changes to better reflect anticipated experience. These changes were based on an experience study performed September 28, 2018:

- Lowered the assumed investment return from 7.50% to 7.25%.
- Updated retirement rates, withdrawal rates and mortality rates.
- Updated salary increase rates.

The following assumptions were used to determine the Net Pension Liability:

Valuation Date	December 31, 2018
Measurement Date	December 31, 2018
GASB 68 Expense	
Measurement Period	January 1, 2018 - December 31, 2018
Reporting Period	January 1, 2019 - December 31, 2019
Discount Rate	7.25%
Mortality Rates – Healthy and Disabled Lives	RP-2000 Combined Healthy Mortality Table with Generational Mortality Improvements (Scale AA). Female rates are adjusted by a factor of 1.04 and male rates are unadjusted.
Cost-of-Living Adjustment - Annuitants	
Members Hired On Or After January 1, 2011	1.25%
Members Hired Before January 1, 2011	3.00%
Inflation	2.50%
Salary Increases	See Table 1
Retirement Rates	See Table 2
Termination Rates	See Table 3
Disability Rates	See Table 4
Load for Reciprocal Benefits	1.5% of active member costs and liabilities.
Percent Married	76%



GASB 67/68

Spousal Age Difference

Spouse of male member assumed to be 4 years younger than member; Spouse of female member assumed to be 4 years older than member.

Table 1 – Salary Increase Rates

Service	Salary Increase Rate
0	7.00%
1	6.50%
2	5.75%
3	5.50%
4	5.25%
5	6.00%
6	5.00%
7	4.75%
8	4.50%
9	4.25%
10	5.00%
11 - 14	4.00%
15	5.00%
16 - 19	4.00%
20	5.00%
21+	3.50%

Table 2 – Retirement Rates

Age	Retirement Rate
50 - 59	7%
60	20%
61 - 64	10%
65	15%
66	18%
67	25%
68	15%
69	30%
70	35%
71 - 74	20%
75	100%

GASB 67/68

Table 3 – Termination Rates

Service	Male Rate	Female Rate
0	5.00%	7.75%
1	3.50%	6.75%
2	3.50%	5.75%
3	2.60%	4.75%
4	2.24%	4.52%
5	2.15%	4.49%
6	1.75%	4.19%
7	1.70%	3.94%
8	1.65%	3.74%
9	1.55%	3.54%
10	1.55%	3.34%
11	1.55%	3.14%
12	1.45%	2.94%
13	1.40%	2.85%
14	1.35%	2.52%
15	1.20%	2.52%
16+	1.00%	2.52%

Table 4 – Disability Rates (Sample Rates)

Age	Disability Rate
20	0.002%
25	0.003%
30	0.006%
35	0.014%
40	0.033%
45	0.065%
50	0.120%
55	0.225%
60	0.490%
65	0.000%

NOTES TO THE FINANCIAL STATEMENTS

*Support for Long-Term Expected Rate of Return*

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses 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 target asset allocation percentage and by adding expected inflation.

Best estimates of geometric real rates of return for each major asset class included in the Pension Plan’s target asset allocation adopted as of December 31, 2018, as provided by Marquette Associates, are summarized in the following table:

Asset Class	Target Allocation	Long Term Expected Real Rate of Return
Domestic Equity	42.00%	5.80%
International Equity	23.00%	6.70%
Bonds	30.00%	1.30%
Private Real Estate	5.00%	5.30%
Cash	0.00%	0.00%
Total	100.00%	

Inflation rate of investment advisor 1.90%

*Concentrations*

The Plan did not hold investments in any one organization that represent 5 percent or more of the Pension Plan’s fiduciary net position.

*Discount Rate*

The Discount Rate used to measure the Total Pension Liability was 7.25 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those assumptions, the Pension Plan’s Fiduciary Net Position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the Long-Term Expected Rate of Return on Pension Plan investments (7.25 percent) was applied to all periods of projected benefit payments to determine the Total Pension Liability.

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.25 percent. The municipal bond rate is 4.10 percent (based on the weekly rate closest to, but not later than the measurement date of the Bond Buyer 20-Bond Index as published by The Bond Buyer). The resulting single discount rate is 7.25 percent.

PLAN PROVISIONS

The following describe and reflect plan provisions in effect as described in Article 13 of the Illinois Pension Code. The provisions below reflect changes included in Public Act 96-0889 and Public Act 96-1490, which created the second “tier” of benefits for members hired on or after January 1, 2011 and provided clarifying changes.

Eligibility	All employees of the District whose duties indicate service during the calendar year for a minimum of 120 days are eligible.
Normal Retirement Eligibility	<p>Hired before January 1, 2011: Age 60 and 5 years of service</p> <p>Hired on or after January 1, 2011: Age 67 and 10 years of service</p>
Normal Retirement Benefit	<p>The annual benefit payable immediately is equal to the sum of:</p> <ul style="list-style-type: none"> <li>(a) 2.2% of Average Final Salary for each year of service up to 20 years.</li> <li>(b) 2.4% of Average Final Salary for each year of service in excess of 20 years</li> </ul> <p>The benefit shall not exceed 80% of Average Final Salary.</p>
Early Retirement Eligibility	<p>Hired before January 1, 2011: Age 55 (50 if hired before June 13, 1997) and 10 years of service</p> <p>Hired on or after January 1, 2011: Age 62 and 10 years of service</p>
Early Retirement Benefit	<p>Normal Retirement Benefit reduced as follows:</p> <p>Hired before January 1, 2011: If member retires before reaching age 60 with less than 30 years of service, 0.5% for each full month the member is less than age 60 or service is less than 30 years, whichever is less.</p> <p>Hired on or after January 1, 2011: 0.5% per month the member is less than age 67</p>

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Deferred Retirement Eligibility	Tier 1: Age 55 (50 if hired before June 13, 1997) and 5 years of service. Tier 2: 10 years of service
Deferred Retirement Benefit	<p>The annual benefit payable at the following ages:</p> <p>Hired before January 1, 2011:</p> <p>Age 62, if withdraw on or after age 55 (50 if hired before June 13, 1997) with at least 5 years of service and less than 10 years</p> <p>Age 55 (50 if hired before June 13, 1997), if withdraw with 10 years of service</p> <p>Hired on or after January 1, 2011: Age 62, if withdraw with 10 years of service</p> <p>The annual benefit amount equals the Normal Retirement Benefit reduced with Early Retirement Reductions.</p>
Minimum Retirement Annuity	<p>10 years of service: \$500 per month plus \$25 per month for each year of service in excess of 10 years, not to exceed \$750 with 20 years of service</p> <p>Less than 10 years of service or retirement before age 60: \$250 per month</p>
Duty Disability Eligibility	Member incurs injury or sickness due to employment with the District and is compensable under the Workers' Compensation Act or the Occupational Disease Act.
Duty Disability Benefit	<p>75% of salary earned on the date of disability, less the amount paid by Workers' Compensation</p> <p>Benefit is 50% of salary if disability resulted from physical defect or disease that existed at the time injury was sustained.</p> <p>Benefits are payable during period of disablement, but not beyond attainment of age 65. If disability occurs at age 60 or older, benefits are payable for a maximum of 5 years.</p>

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Ordinary Disability Eligibility	Member becomes disabled due to any cause other than injury or illness incurred in the performance of duty.
Ordinary Disability Benefit	50% of earnable salary at the date of disability  Member may receive ordinary disability benefits for a maximum period of the lesser of 25% of member's actual service prior to disablement or 5 years.
Surviving Spouse Annuity Eligibility	Hired before June 13, 1997: Immediately eligible if married to member on date of member's death while in service or married to member on member's date of termination from service and remained married until member's death. Dissolution of marriage after retirement shall not divest the member's spouse of entitlement if marriage was in effect for at least 10 years on the date of retirement.  Hired on or after June 13, 1997: Eligible after 3 years of service. Conditions for marriage described for members hired prior to June 13, 1997 apply.
Surviving Spouse Benefit	Hired before January 1, 2011: Retirement annuity earned at the time of death multiplied by a factor of 60% plus 1% for each year of member's total service, to a maximum of 85%. If hired after January 1, 1992, annuity is reduced by 0.25% for each full month spouse is younger than member to maximum reduction of 60%. Discount is reduced by 10% for each year marriage is in effect.  Hired on or after January 1, 2011: 66 2/3% of retirement annuity earned at the time of death.

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Minimum Surviving Spouse Annuity	<p>Member with 10 years of service: greater of (a) \$500 per month plus \$25 per month for each year of service in excess of 10, not to exceed \$750 per month, or (b) 50% of the retirement annuity of member at time of death.</p> <p>Member with less than 10 years of service: \$250 per month.</p>
Children's Annuity Eligibility	<p>Member parent dies in service or deceased parent was former member with at least 10 years of service. Child is unmarried and less than age 18 (23, if full-time student).</p>
Children's Annuity Benefit	<p>\$500 per month for each child if have living parent and \$1,000 per month for each child if neither parent is living to a maximum of \$5,000 per month.</p>
Cost-of-Living Adjustments	<p>Hired before January 1, 2011: Retirement annuity is increased on the anniversary of retirement by 3% of the monthly annuity payable at the time of increase.</p> <p>Spouse annuity is increased on the earlier of the anniversary of the member's death or retirement (whichever occurs first) by 3% of the monthly annuity payable at the time of increase.</p> <p>Hired on or after January 1, 2011: increase percentage is the lesser of 3% or ½ the increase in CPI-U during the previous calendar year. Increase is based on the originally granted retirement or spouse's annuity.</p>

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### Member Contributions – retiree annuity

<u>Pay period:</u>	<u>Contribution percentage:</u>
Before January 1, 2013	7.5%
During calendar year 2013	8.5%
During calendar year 2014	9.5%
During calendar year 2015 and until fund is 90% funded	10.0%
After fund is 90% funded	7.5%

Members hired on or after January 1, 2011 have member contributions of 7.5% of pay.

### Member Contributions – spouse annuity

<u>Pay period:</u>	<u>Contribution percentage:</u>
Before January 1, 2015	1.5%
During calendar year 2015 and until fund is 90% funded	2.0%
After fund is 90% funded	1.5%

Members hired on or after January 1, 2011 contribute 1.5% of pay.

### Refund to Member upon Termination

Hired before January 1, 2011: Eligible for refund of all member contributions without interest if under age 55 (50 if hired before June 13, 1997); if age 60 with less than 20 years of service; or if 60 with less than 5 years of service. Upon receipt of refund, member forfeits rights to benefits from the Fund.  
Hired on or after January 1, 2011: Eligible for refund of all member contributions without interest if under age 62; or if have less than 10 years of service on termination. Upon receipt of refund, member forfeits rights to benefits from the Fund.

### Refund for Surviving Spouse's Annuity

Members unmarried at the time of retirement will receive a refund of contributions for spouse annuity with interest at 3% per year, compounded annually.



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Refund of Remaining Amounts	If upon death the total amount contributed by the member with 3% interest per year has not been paid to the member, the spouse or designated beneficiaries or estate receives a refund of the excess amount.
Required Tax Levy	Lesser of actuarially determined contribution and 4.19 multiplied by total member contributions for the two years prior.
Average Final Salary	Hired before January 1, 2011: Highest average annual salary for any 52 consecutive bi-weekly pay periods within the last 10 years of service immediately preceding the date of retirement.  Hired on or after January 1, 2011: Highest average annual salary for 96 consecutive months of service within last 120 months of service, limited to \$106,800 (automatically increased by lesser of 3% or ½ the increase in CPI-U during the previous calendar year).
Pensionable Salary	Salary paid to a fund member for service to the District or to the Fund, including salary paid for vacation and sick leave and any amounts deferred under a deferred compensation plan established under the Code, but excluding the following: payment for unused vacation or sick leave, overtime pay, termination pay and any compensation in the form of benefits other than salary.  Salary for members hired on or after January 1, 2011 is subject to the salary limitations established in the Illinois Pension Code. For calendar year 2019, the statutory salary limitation is \$114,951.83.
Pension Service	Any employment, excluding overtime or extra service for which salary is received.