

Metropolitan Water Reclamation District Retirement Fund

December 31, 2017

Actuarial Report

April 6, 2018

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

Dear Board:

We are pleased to present the results of the December 31, 2017 actuarial valuation. The valuation was performed to determine whether assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year. Please note that this valuation may not be applicable for any other purposes.

The valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice issued by the Actuarial Standards Board. It reflects laws and regulations issued to date pursuant to Article 13 of the Illinois Pension Code, as well as applicable federal laws and regulations.

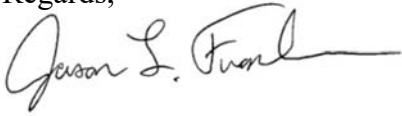
In preparing this report, we have relied on personnel, plan design and asset information supplied by the Plan. The actuarial value of assets was determined based on information supplied by Legacy Professionals LLP, the auditor for the Plan. In our opinion, the assumptions used in the valuation, as adopted 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, so we have no reason to doubt the substantial accuracy of the information. 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.

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,



Jason L. Franken, FSA, EA, MAAA

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

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SUMMARY OF RESULTS

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

	December 31, 2017	December 31, 2016
Total Actuarial Liability	\$ 2,497,890,179	\$ 2,443,291,644
Actuarial Value of Assets	\$ 1,456,195,876	\$ 1,372,361,950
Unfunded Actuarial Liability	\$ 1,041,694,303	\$ 1,070,929,694
Funded Ratio	58.3%	56.2%
Applicable Fiscal Year ¹	2018	2017
Employer's Normal Cost as a Percent of Payroll	6.5%	6.6%
Actuarially Determined Contribution	\$ 64,988,583	\$ 65,727,912
Contribution Requirement For Fiscal Year ²	\$ 64,988,583	\$ 65,727,912
Expected Employer Contribution from Tax Levy for Fiscal Year	\$ 87,281,000	\$ 89,604,000

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

² 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, 12/31/2016	\$ 1,352,598,383
Contributions & Other Additions Less Benefit Payments & Admin Expenses	(45,625,866)
Expected Investment Earnings for 2017	<u>99,764,840</u>
Expected Market Value of Assets, 12/31/2017	\$ 1,406,737,357
Actual Net Investment Income/(Loss) for 2017	\$ 194,821,459
2017 Investment Gain/(Loss), (Actual less Expected)	\$ 95,056,619

Development of Actuarial Value of Assets

Plan Year Ending	Gain/(Loss)	<u>Gains/Losses Not Yet Recognized by Valuation Year</u>			
		2017	2018	2019	2020
12/31/2013	143,404,383	0	0	0	0
12/31/2014	(8,895,414)	(1,779,083)	0	0	0
12/31/2015	(99,931,928)	(39,972,771)	(19,986,386)	0	0
12/31/2016	18,841,099	11,304,659	7,536,440	3,768,220	0
12/31/2017	95,056,619	<u>76,045,295</u>	<u>57,033,971</u>	<u>38,022,648</u>	<u>19,011,324</u>
Total		45,598,100	44,584,025	41,790,868	19,011,324

Market Value of Assets, 12/31/2017	\$ 1,501,793,976
Less: Unrecognized Amounts as of 12/31/2017	<u>45,598,100</u>
Actuarial Value of Assets, 12/31/2017	\$ 1,456,195,876

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) 12/31/2016 Actuarial Assets:	\$ 1,372,361,950
(I) Net Investment Income:	
1. Interest, Dividends, Securities Lending Income and Other Income	22,189,451
2. Change in Actuarial Value	111,980,303
3. Investment Expenses and Bank Fees	<u>(4,709,962)</u>
Total	\$ 129,459,792
(B) 12/31/2017 Actuarial Assets:	\$ 1,456,195,876
Actuarial Asset Rate of Return = $2I/(A+B-I)$:	9.6%
Market Value of Assets Rate of Return:	14.7%

ACTUARIAL LIABILITY AND FUNDED RATIO

Below are details regarding the actuarial liability and funded ratio as of December 31, 2017.

1. Active Members	
Retirement	\$ 695,236,448
Termination	9,860,864
Death	24,375,725
Disability	7,159,381
Total	<u>\$ 736,632,418</u>
2. Members Receiving Benefits	
Retirement Annuities	\$ 1,536,538,430
Survivor Annuities/Children	209,059,868
Total	<u>\$ 1,745,598,298</u>
3. Inactive Members	<u>\$ 15,659,463</u>
4. Total Actuarial Liability	\$ 2,497,890,179
5. Actuarial Value of Assets	<u>\$ 1,456,195,876</u>
6. Unfunded Actuarial Liability	\$ 1,041,694,303
7. Funded Ratio	58.3%

EMPLOYER'S NORMAL COST

Below is a summary of the employer's share of the normal cost for the year beginning January 1, 2018.

	For Year Beginning January 1, 2018	Percent of Payroll
1. Active Members		
Retirement	\$ 27,110,080	14.69%
Termination	1,342,604	0.73%
Death	2,287,635	1.24%
Disability	712,812	0.39%
2. Expected Administrative Expenses	<u>1,613,976</u>	<u>0.88%</u>
3. Total Normal Cost	\$ 33,067,107	17.93%
4. Expected Member Contributions	<u>21,056,508</u>	<u>11.42%</u>
5. Employer's Share of Normal Cost	\$ 12,010,599	6.51%
6. Total Active Pensionable Payroll as of December 31, 2017	\$ 184,385,188	

ACTUARIALLY DETERMINED CONTRIBUTION REQUIREMENT

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	\$ 12,010,599
2. Supplemental Cost (annual amount to amortize the unfunded liability by 2050)	
Actuarial Liability	\$ 2,497,890,179
Actuarial Assets	\$ 1,456,195,876
Unfunded Accrued Liability	\$ 1,041,694,303
Amortization Period	33 years
Supplemental Cost	\$ 52,977,984
3. Actuarially Determined Contribution for Year Beginning January 1, 2018	\$ 64,988,583
4. Maximum Tax Levy (4.19 x Total Member Contributions for two years prior)	\$ 87,281,000
5. Statutory Tax Levy (lesser of 3 and 4)	\$ 64,988,583

RECONCILIATION OF CHANGE IN UNFUNDED ACTUARIAL LIABILITY

1. Unfunded Actuarial Accrued Liability (UAAL) as of December 31, 2016	\$	1,070,929,694
2. Employer Normal Cost, Developed as of December 31, 2016		12,094,866
3. Expected Interest on 1. and 2.		81,226,842
4. Employer Contributions		89,858,224
5. Expected Interest on 4.		3,308,766
6. Expected UAAL as of December 31, 2017 (1)+(2)+(3)-(4)-(5)		1,071,084,412
7. Change in UAAL Due to Actuarial (Gain)/Loss and Assumption/Method Changes, by component		
Decrease in UAAL due to investment return higher than assumed		(27,925,002)
Decrease in UAAL due to salary increases lower than assumed		(11,576,111)
Increase in UAAL due to decrement experience		13,672,315
Decrease in UAAL due to inactive mortality experience		(2,787,776)
Increase in UAAL due to other changes		<u>(773,535)</u>
Net decrease in UAAL due to actuarial experience		(29,390,109)
8. Unfunded Actuarial Accrued Liability as of December 31, 2017	\$	1,041,694,303

PARTICIPANT DATA

Participant Information	December 31, 2017	December 31, 2016
Number Active Members	1,835	1,843
Number Receiving Benefits		
Retirement Annuities	1,809	1,779
Surviving Spouse Annuities	576	590
Children's Annuities	23	25
Number Inactive Members	137	135
Total Members	4,380	4,372
Total Pensionable Salary	\$ 184,385,188	\$ 182,640,163
Active Statistics – Tier 1		
Number	1,399	1,484
Average Age	52.50	52.02
Average Service	17.09	16.74
Total Pensionable Salary	\$ 148,728,061	\$ 154,134,566
Average Salary	\$ 106,310	\$ 103,864
Active Statistics – Tier 2		
Number	436	359
Average Age	42.15	41.52
Average Service	2.91	2.46
Total Salary	\$ 36,079,292	\$ 28,845,489
Average Salary	\$ 82,751	\$ 80,350
Pensionable Salary	\$ 35,657,127	\$ 28,505,597
Average Pensionable Salary	\$ 81,782	\$ 79,403
Annual Benefit Payments for Members Receiving Benefits		
Retirement Annuities	\$ 129,366,688	\$ 123,491,448
Surviving Spouse Annuities	\$ 24,615,058	\$ 23,770,312
Children's Annuities	\$ 138,000	\$ 150,000

PARTICIPANT RECONCILIATION

Below is a reconciliation of members from December 31, 2016 to December 31, 2017.

	<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>
As of 12/31/2016	1,843	46	89	1,779	590	25	4,372
Terminations							
Vested	(11)	11					0
Not Vested	(18)		18				0
Retirements	(85)	(11)	(2)	98			0
Deaths							
w/o Beneficiary	(2)		(1)	(43)	(39)		(85)
w/ Beneficiary				(25)	25		0
w/ Child Beneficiary	(1)					1	0
w/ Rev. Annuitant							
New Member	112						112
Return to Work	4	(4)					0
Benefit expired						(3)	(3)
Refunds	(7)	(1)	(8)				(16)
Repaid Refunds							
Adjustments	0	0	0	0	0	0	0
Net Change	(8)	(5)	7	30	(14)	(2)	8
As of 12/31/2017	1,835	41	96	1,809	576	23	4,380

ACTIVE PARTICIPANTS AS OF DECEMBER 31, 2017

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+	
<25		8								8
		\$61,514								\$61,514
25-29	9	39	6	1						55
	\$63,129	\$71,957	\$87,801	\$82,722						\$72,437
30-34	11	66	32	14						123
	\$71,634	\$72,307	\$92,707	\$107,252						\$81,531
35-39	9	55	37	63	12					176
	\$80,660	\$81,596	\$99,939	\$104,987	\$112,485					\$95,883
40-44	5	51	40	62	34	11				203
	\$79,085	\$87,631	\$93,215	\$105,744	\$111,783	\$127,724				\$100,271
45-49	5	50	35	52	68	49	20	2		281
	\$68,236	\$86,672	\$94,061	\$98,088	\$108,136	\$117,311	\$107,326	\$96,938		\$101,457
50-54	7	42	38	52	55	44	74	11		323
	\$74,181	\$85,695	\$92,888	\$96,042	\$102,561	\$122,233	\$120,631	\$124,700		\$105,139
55-59	6	35	26	68	53	47	81	28	1	345
	\$71,171	\$86,785	\$95,754	\$97,027	\$116,213	\$114,102	\$117,803	\$129,209	\$88,192	\$108,180
60-64	3	19	25	36	52	28	42	9	3	217
	\$82,583	\$90,142	\$89,737	\$93,283	\$103,954	\$120,334	\$109,541	\$104,694	\$130,749	\$102,637
65-69		4	4	14	24	10	15	6	3	80
		\$63,811	\$97,761	\$90,120	\$107,450	\$118,157	\$104,207	\$108,915	\$130,932	\$103,471
70+				5	6	8	2	2	1	24
				\$102,188	\$85,316	\$103,192	\$106,743	\$82,238	\$82,722	\$96,211
Total	55	369	243	367	304	197	234	58	8	1835
	\$72,959	\$81,208	\$94,098	\$99,667	\$107,895	\$118,125	\$115,353	\$119,718	\$119,494	\$100,482

ACTUARIAL ASSUMPTIONS AND METHODS

Below is a summary of the actuarial assumptions for the December 31, 2017 valuation. An experience study was performed in September of 2014 based on data for the period December 31, 2008 through December 31, 2013. The assumptions below are based on the experience study and were adopted effective December 31, 2014.

Interest Rate	7.50%
Salary Increases	See Table 1
Cost-of-Living Adjustment - Annuitants	
Members Hired On Or After January 1, 2011	1.25%
Members Hired Before January 1, 2011	3.00%
Payroll Growth	3.70%
Retirement Rates	See Table 2
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
Termination Rates	See Table 3
Disability Rates	See Table 4
Asset Method	5-year Smoothing Method
Load for Reciprocal Benefits	1.5% of active member costs and liabilities.
Assumed Administrative Expenses	Administrative expenses paid from the trust during the prior year.
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.

Actuarial Cost Method	Entry Age Normal, with costs allocated on basis of earnings. Actuarial gains and losses are reflected in the unfunded actuarial liability.
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.
Source of Data	Data and audited financial information is provided by the Plan.
Valuation Date	December 31, 2017.

Changes in Funding Assumptions/Methods Since the Prior Valuation

Method Changes

- None.

Assumption Changes

- None.

Table 1 – Salary Increase Rates

Service	Salary Increase Rate
0	7.00%
1	6.25%
2	5.75%
3	5.50%
4	5.25%
5	5.00%
6	4.75%
7	4.50%
8	4.50%
9+	4.25%

Table 2 – Retirement Rates

Age	Retirement Rate
50 - 59	6%
60 - 64	13%
65	15%
66 - 67	19%
68 - 69	20%
70 - 74	25%
75	100%

Table 3 – Termination Rates

Service	Male Rate	Female Rate
0	4.000%	5.733%
1	3.480%	4.973%
2	3.089%	5.064%
3	2.604%	4.759%
4	2.245%	4.518%
5	1.780%	4.490%
6	1.561%	4.193%
7	1.500%	3.945%
8	1.500%	3.646%
9	1.500%	2.342%
10	1.502%	2.054%
11	1.391%	1.946%
12	1.343%	1.898%
13	1.244%	1.859%
14	1.189%	1.772%
15	1.111%	1.772%
16	0.985%	1.772%
17+	0.500%	1.772%

Table 4 – Disability Rates

Sample rates are as follows:

Age	Disability Rates
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%

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	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

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.

Member with less than 10 years of service: \$250 per month.

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

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.

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.

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.

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.
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, 2017

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Pending Trades Receivable	42,172,013
Pending Trades Payable	(17,036,969)
Cash	1,990,166
Total Cash and Equivalents	27,125,210
Receivables:	
District Contributions	89,604,000
Forward Foreign Currency Exchange Contracts	123,332,605
Accounts Receivable	42,498
Accrued Income	3,660,222
Total Receivables	216,639,325
Investments:	
Fixed Income	249,811,744
Common Stocks	919,072,146
Securities Lending Collateral	27,447,849
Pooled/Commingled Funds:	
Fixed Income	214,888,966
Total Investments	1,411,220,705
Other Assets	0
Total Assets	1,654,985,240
<u>LIABILITIES</u>	
Liabilities:	
Payable:	
Securities Lending Collateral	27,447,849
Forward Foreign Currency Exchange Contracts	124,383,722
Accounts Payable	1,359,693
Total Liabilities	153,191,264
Net Assets:	
Active and Retired Members' Equity	1,501,793,976
Net Assets	
Active and Retired Members' Equity	1,501,793,976
NET POSITION RESTRICTED FOR PENSIONS	1,501,793,976
TOTAL LIABILITIES AND NET ASSETS	1,654,985,240

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED December 31, 2017
Market Value Basis

ADDITIONS

Contributions:

Member	20,839,829
District	89,858,224

Total Contributions	110,698,053
---------------------	-------------

Investment Income:

Interest & Dividends	21,754,457
Net Increase in Fair Value of Investments	177,341,970
Securities Lending Income	434,994
Less Investment Expense ¹	(4,709,962)

Net Investment Income	194,821,459
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Other Income	3,100
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Total Additions	305,522,612
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DEDUCTIONS

Distributions to Members:

Benefit Payments	152,152,914
Termination Payments	2,560,129

Total Distributions	154,713,043
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Administrative Expenses	1,613,976
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Other Deductions	0
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Total Deductions	156,327,019
------------------	-------------

Net Increase in Net Position	149,195,593
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NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year	1,352,598,383
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End of the Year	1,501,793,976
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¹Investment related expenses include investment management, investment consulting, custodial and securities lending bank fees.

NOTES TO THE FINANCIAL STATEMENTS
(For the Year Ended December 31, 2017)

Plan Description

Plan Administration

The Plan is administered by a Board of Trustees comprised of:

- a.) Two members appointed by the Board of Commissioners of the Water Reclamation District
- b.) Four active members elected by the Membership, and
- c.) One retired member recommended by the Board of Commissioners and approved by the Board of Trustees.

Plan Membership as of December 31, 2017:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	2,408
Inactive Plan Members Entitled to but Not Yet Receiving Benefits	137
Active Plan Members	1,835
	4,380

Benefits Provided

The Plan provides retirement, termination, disability and death benefits.

Normal Retirement:

Age: Tier 1: Age 60 and 5 years of service or age 55 (50 if hired before June 13, 1997) with 30 years.

Tier 2: Age 67 with 10 years of service

Benefit: 2.2% of Average Final Salary for each year of service up to 20 years, plus 2.4% of Average Final Salary for each year of service over 20 years. Maximum benefit of 80% of Average Final Salary

Early Retirement:

Age: Tier 1: Age 55 (50 if hired before June 13, 1997) and 10 years of service.

Tier 2: Age 62 with 10 years of service

Benefit: Determined as for Normal Retirement; Reduced as follows:

Tier 1: 0.5% for each full month the member is less than age 60 or service is less than 30 years, whichever is less.

Tier 2: 0.5% per month the member is less than age 67.

Vesting (Termination):

Tier 1: Upon termination an employee over age 60 with less than 5 years of service, or an employee under age 55 (50 if hired before June 13, 1997) with any service, or an employee over age 55 (50 if hired before June 13, 1997) but less than 60 having less than 20 years of service may take a refund of accumulated contributions without interest upon termination of employment.

Tier 2: Upon termination an employee of any age with less than 10 years of service or an employee under age 62 may take a refund of accumulated contributions without interest upon termination of employment.

Duty Disability:

Eligibility: Member incurs injury or sickness due to employment with the District and is compensable under the Worker's Compensation Act or the Occupational Disease Act.

Benefit: 75% of salary earned on the date of disability (50% if due to physical defect or disease in existence at time of injury), less the amount paid by Worker's Compensation. Payable to age 65, or for 5 years if disablement occurs after age 60.

Ordinary Disability:

Eligibility: A member incurs injury or sickness as the result of any cause other than injury or illness incurred in the performance of duty for the employer or any other employer

Benefit: 50% of the salary at the date of disability. Member may receive ordinary disability benefits for a maximum period of the lesser of 25% of his actual service prior to disability or 5 years.

Pre-Retirement Death Benefits:

Tier 1: 60% of retirement annuity earned at the time of death, plus 1% for each year of service, maximum 85%.

Tier 2: 66 2/3% of retirement annuity earned at the time of death.

Cost-of-Living Adjustments:

Tier 1: 3% per year on anniversary of retirement.

Tier 2: An annual increase equal to the lesser of 3% per year or 1/2 the annual unadjusted percentage increase in the consumer price index-u during the previous calendar year, of the original pension.

Contributions

The District's funding policy is to contribute Normal (current year's) Cost and amortization of the accrued past service liability over a period ending in 2050. The contributions come from taxes levied by the District per state statutes (40ILCS 5). The tax levied is sufficient to meet actuarially determined contribution requirements and shall not exceed an amount equal to the total amount of contributions by the employees to the Fund made in the calendar year 2 years prior to the year for which the tax is levied, multiplied by 4.19.

Investments

Investment Policy:

The following was the Board's adopted asset allocation policy as of December 31, 2017:

<u>Asset Class</u>	<u>Target Allocation</u>
Domestic Equity	42%
International Equity	23%
Bonds	30%
Hedge Funds	0%
Private Real Estate	5%
Cash	<u>0%</u>
Total	100%

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.

Rate of Return:

For the year ended December 31, 2017 the annual money-weighted rate of return on Pension Plan investments, net of pension plan investment expense, was 15.62%.

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

NET PENSION LIABILITY OF THE SPONSOR

The components of the net pension liability of the sponsor on December 31, 2017 were as follows:

Total Pension Liability	\$ 2,486,868,107
Plan Fiduciary Net Position	<u>\$ (1,501,793,976)</u>
Sponsor's Net Pension Liability	<u>\$ 985,074,131</u>
Plan Fiduciary Net Position as a percentage of Total Pension Liability	60.39%

Actuarial Assumptions:

The total pension liability was determined by an actuarial valuation as of December 31, 2017 using the following actuarial assumptions applied to all measurement periods.

Inflation	2.50%
Salary Increases	Varies by Service
Investment Rate of Return	7.50%

Healthy Members: RP-2000 Combined Healthy Mortality Table, with Generational Mortality Improvements (Scale AA)
 Disabled Members: RP-2000 Disabled Retiree Mortality Table

The demographic assumptions used in the December 31, 2017 valuation were based on the results of an actuarial experience study performed by Foster & Foster, Inc. on September 23, 2014.

The long-term expected rate of return on pension plan investments was 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 the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2017 are summarized in the following table:

<u>Asset Class</u>	<u>Long Term Expected Real Rate</u>
Domestic Equity	5.6%
International Equity	5.8%
Bonds	0.9%
Hedge Funds	N/A
Private Real Estate	5.6%
Cash	N/A

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Discount Rate:

The discount rate used to measure the total pension liability was 7.50 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 For purpose of this valuation, the expected rate of return on pension plan investments is 7.50 percent; the municipal bond rate is 3.44 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 The Bond Buyer); and the resulting single discount rate is 7.50 percent.

	1% Decrease 6.50%	Current Discount Rate 7.50%	1% Increase 8.50%
Sponsor's Net Pension Liability	\$ 1,269,993,791	\$ 985,074,131	\$ 745,011,954

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
Last 10 Fiscal Years

	12/31/2017	12/31/2016	12/31/2015	12/31/2014
Total Pension Liability				
Service Cost	32,370,187	32,057,687	32,228,341	31,602,226
Interest	179,038,283	173,861,700	168,530,178	163,338,376
Changes of Benefit Terms	-			
Differences Between Expected and Actual Experience	(1,990,761)	13,813,742	14,421,984	10,861,109
Changes of Assumptions	-	-	-	-
Contributions - Buy Back	-	-	-	-
Benefit Payments, Including Refunds of Employee Contributions	<u>(154,713,043)</u>	<u>(147,336,015)</u>	<u>(140,509,756)</u>	<u>(133,897,848)</u>
Net Change in Total Pension Liability	54,704,666	72,397,114	74,670,747	71,903,863
Total Pension Liability - Beginning	2,432,163,441	2,359,766,327	2,285,095,580	2,213,191,717
Total Pension Liability - Ending (a)	<u>\$ 2,486,868,107</u>	<u>\$ 2,432,163,441</u>	<u>\$ 2,359,766,327</u>	<u>\$ 2,285,095,580</u>
Plan Fiduciary Net Position				
Contributions - Employer	89,858,224	80,259,713	71,041,361	73,906,168
Contributions - Employee	20,839,829	20,830,779	21,385,212	18,974,954
Contributions - Buy Back	-	-	-	-
Net Investment Income	194,821,459	113,585,872	(1,427,839)	81,600,566
Benefit Payments, Including Refunds of Employee Contributions	(154,713,043)	(147,336,015)	(140,509,756)	(133,897,848)
Administrative Expense	(1,613,976)	(1,502,639)	(1,659,917)	(1,406,507)
Other	<u>3,100</u>	<u>107,175</u>	<u>28,817</u>	<u>4,460</u>
Net Change in Plan Fiduciary Net Position	149,195,593	65,944,885	(51,142,122)	39,181,793
Plan Fiduciary Net Position - Beginning	1,352,598,383	1,286,653,498	1,337,795,620	1,298,613,827
Plan Fiduciary Net Position - Ending (b)	<u>\$ 1,501,793,976</u>	<u>\$ 1,352,598,383</u>	<u>\$ 1,286,653,498</u>	<u>\$ 1,337,795,620</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 985,074,131</u>	<u>\$ 1,079,565,058</u>	<u>\$ 1,073,112,829</u>	<u>\$ 947,299,960</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	60.39%	55.61%	54.52%	58.54%
Covered Employee Payroll	\$ 184,385,188	\$ 182,640,163	\$ 177,792,309	\$ 176,183,941
Net Pension Liability as a Percentage of covered Employee Payroll	534.25%	591.09%	603.58%	537.68%

SCHEDULE OF CONTRIBUTIONS
Last 10 Fiscal Years

	12/31/2017	12/31/2016	12/31/2015	12/31/2014
Actuarially Determined Contribution	65,727,912	64,596,066	62,603,576	64,477,662
Contributions in Relation to the Actuarially Determined Contributions	89,858,224	80,259,713	71,041,361	73,906,168
Contribution Deficiency (Excess)	\$ (24,130,312)	\$ (15,663,647)	\$ (8,437,785)	\$ (9,428,506)
Covered Employee Payroll	\$ 184,385,188	\$ 182,640,163	\$ 177,792,309	\$ 176,183,941
Contributions as a Percentage of Covered Employee Payroll	48.73%	43.94%	39.96%	41.95%

Notes to Schedule

Valuation Date: 12/31/2016

Actuarially determined contribution is calculated as of December 31 prior to the fiscal year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Funding Method:	Entry Age Normal
Amortization Method:	Level percentage of pay, closed.
Remaining Amortization Period:	34 Years (as of 1/1/2017).
Actuarial Asset Method:	Assets are valued with an adjustment to expected assets to uniformly spread actuarial investment gains and losses (measured by the difference in actual market value investment return and expected market value investment return) over a 5 year period.
Inflation:	2.50% per year.
Salary Increases:	Vary by Service.
Payroll Growth:	3.70% per year.
Interest Rate:	7.50% per year compounded annually, net of investment related expenses.
Retirement Rates	See Table on next page.
Termination Rates:	Termination rates vary by age and gender. The full table of rates for males and females is in the December 31, 2016 actuarial report.

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Disability Rates: See Table Below.
Mortality: Healthy Members: RP-2000 Combined Healthy Mortality Table, with Generational Mortality Improvements (Scale AA)
Disabled Members: RP-2000 Disabled Retiree Mortality Table

Other Information: Retirement Rate Table (sample rates)

<u>Age</u>	<u>% Retiring During the Year</u>
50	6.0%
55	6.0%
60	13.0%
65	15.0%
70	25.0%
75	100.0%

Disability Rate Table (sample rates)

<u>Age</u>	<u>% Becoming Disabled During the Year</u>
20	0.002%
30	0.006%
40	0.033%
50	0.120%

SCHEDULE OF INVESTMENT RETURNS
Last 10 Fiscal Years

	<u>12/31/2017</u>	<u>12/31/2016</u>	<u>12/31/2015</u>	<u>12/31/2014</u>
Annual Money-Weighted Rate of Return Net of Investment Expense	15.62%	9.43%	-0.15%	6.67%

NOTES TO THE FINANCIAL STATEMENTS
(For the Year Ended December 31, 2018)

General Information about the Pension Plan

Plan Administration

The Plan is administered by a Board of Trustees comprised of:

- a.) Two members appointed by the Board of Commissioners of the Water Reclamation District
- b.) Four active members elected by the Membership, and
- c.) One retired member recommended by the Board of Commissioners and approved by the Board of Trustees.

Plan Membership as of December 31, 2017:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	2,408
Inactive Plan Members Entitled to but Not Yet Receiving Benefits	137
Active Plan Members	<u>1,835</u>
	<u>4,380</u>

Benefits Provided

The Plan provides retirement, termination, disability and death benefits.

Normal Retirement:

Age: Tier 1: Age 60 and 5 years of service or age 55 (50 if hired before June 13, 1997) with 30 years.

Tier 2: Age 67 with 10 years of service

Benefit: 2.2% of Average Final Salary for each year of service up to 20 years, plus 2.4% of Average Final Salary for each year of service over 20 years. Maximum benefit of 80% of Average Final Salary

Early Retirement:

Age: Tier 1: Age 55 (50 if hired before June 13, 1997) and 10 years of service.

Tier 2: Age 62 with 10 years of service

Benefit: Determined as for Normal Retirement; Reduced as follows:

Tier 1: 0.5% for each full month the member is less than age 60 or service is less than 30 years, whichever is less.

Tier 2: 0.5% per month the member is less than age 67.

Vesting (Termination):

Tier 1: Upon termination an employee over age 60 with less than 5 years of service, or an employee under age 55 (50 if hired before June 13, 1997) with any service, or an employee over age 55 (50 if hired before June 13, 1997) but less than 60 having less than 20 years of service may take a refund of accumulated contributions without interest upon termination of employment.

Tier 2: Upon termination an employee of any age with less than 10 years of service or an employee under age 62 may take a refund of accumulated contributions without interest upon termination of employment.

Duty Disability:

Eligibility: Member incurs injury or sickness due to employment with the District and is compensable under the Worker's Compensation Act or the Occupational Disease Act.

Benefit: 75% of salary earned on the date of disability (50% if due to physical defect or disease in existence at time of injury), less the amount paid by Worker's Compensation. Payable to age 65, or for 5 years if disablement occurs after age 60.

Ordinary Disability:

Eligibility: A member incurs injury or sickness as the result of any cause other than injury or illness incurred in the performance of duty for the employer or any other employer

Benefit: 50% of the salary at the date of disability. Member may receive ordinary disability benefits for a maximum period of the lesser of 25% of his actual service prior to disability or 5 years.

Pre-Retirement Death Benefits:

Tier 1: 60% of retirement annuity earned at the time of death, plus 1% for each year of service, maximum 85%.

Tier 2: 66 2/3% of retirement annuity earned at the time of death.

Cost-of-Living Adjustments:

Tier 1: 3% per year on anniversary of retirement.

Tier 2: An annual increase equal to the lesser of 3% per year or 1/2 the annual unadjusted percentage increase in the consumer price index-u during the previous calendar year, of the original pension .

Contributions

The District's funding policy is to contribute Normal (current year's) Cost and amortization of the accrued past service liability over a period ending in 2050. The contributions come from taxes levied by the District per state statutes (40ILCS 5). The tax levied is sufficient to meet actuarially determined contribution requirements and shall not exceed an amount equal to the total amount of contributions by the employees to the Fund made in the calendar year 2 years prior to the year for which the tax is levied, multiplied by 4.19.

Net Pension Liability

The Sponsor's net pension liability was measured as of December 31, 2017.

The total pension liability used to calculate the net pension liability was determined as of that date.

Actuarial Assumptions:

The total pension liability was determined by an actuarial valuation as of December 31, 2017 using the following actuarial assumptions applied to all measurement periods.

Inflation	2.50%
Salary Increases	Varies by Service
Investment Rate of Return	7.50%

Healthy Members: RP-2000 Combined Healthy Mortality Table, with Generational Mortality Improvements (Scale AA)

The demographic assumptions used in the December 31, 2017 valuation were based on the results of an actuarial experience study performed by Foster & Foster, Inc. on September 23, 2014.

The long-term expected rate of return on pension plan investments was 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 the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2017 are summarized in the following table:

Asset Class	Target Allocation	Long Term Expected Real Rate of Return
Domestic Equity	42%	5.6%
International Equity	23%	5.8%
Bonds	30%	0.9%
Hedge Funds	0%	N/A
Private Real Estate	5%	5.6%
Cash	0%	N/A
Total	100%	

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Discount Rate:

The discount rate used to measure the total pension liability was 7.50 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 was applied to all periods of projected benefit payments to determine the total pension liability.

For purpose of this valuation, the expected rate of return on pension plan investments is 7.50 percent; the municipal bond rate is 3.44 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 The Bond Buyer); and the resulting single discount rate is 7.50 percent.

CHANGES IN NET PENSION LIABILITY

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
	(a)	(b)	(a)-(b)
Balances at December 31, 2016	\$ 2,432,163,441	\$ 1,352,598,383	\$ 1,079,565,058
Changes for a Year:			
Service Cost	32,370,187		32,370,187
Interest	179,038,283		179,038,283
Differences Between Expected and Actual Experience	(1,990,761)		(1,990,761)
Changes of Assumptions	-		-
Changes of Benefit Terms	-		-
Contributions - Employer		89,858,224	(89,858,224)
Contributions - Employee		20,839,829	(20,839,829)
Contributions - Buy Back	-	-	-
Net Investment Income		194,821,459	(194,821,459)
Benefit Payments, Including Refunds of Employee Contributions	(154,713,043)	(154,713,043)	-
Administrative Expense		(1,613,976)	1,613,976
Other Changes	-	3,100	(3,100)
New Changes	<u>54,704,666</u>	<u>149,195,593</u>	<u>(94,490,927)</u>
Balances at December 31, 2017	<u>\$ 2,486,868,107</u>	<u>\$ 1,501,793,976</u>	<u>\$ 985,074,131</u>

Sensitivity of the net pension liability to changes in the discount rate.

	Current Discount		
	1% Decrease	Rate	1% Increase
	6.50%	7.50%	8.50%
Sponsor's Net Pension Liability	\$ 1,269,993,791	\$ 985,074,131	\$ 745,011,954

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 ENDED DECEMBER 31, 2017

For the year ended December 31, 2017 the Sponsor will recognize a pension expense of \$117,336,621. On December 31, 2017 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 Expected and Actual Experience	26,556,660	-
Changes of Assumptions	-	-
Net Difference Between Projected and Actual Earnings on Pension Plan Investments	50,518,195	-
Employer contributions subsequent to measurement date	89,858,224	-
Total	\$ 166,933,079	\$ -

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	\$ 25,561,005
2019	\$ 25,561,005
2020	\$ 22,720,084
2021	\$ 930,471
2022	\$ 2,302,290
Thereafter	\$ -

PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS
OF RESOURCES RELATED TO PENSIONS
YEAR ENDED 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 Expected and Actual Experience	20,040,521	1,658,970
Changes of Assumptions	-	-
Net Difference Between Projected and Actual Earnings on Pension Plan Investments	-	(44,596,803)
Employer contributions subsequent to measurement date ¹	TBD ¹	-
Total	TBD ¹	\$ (42,937,833)

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:	
2019	\$ 6,211,678
2020	\$ 3,370,757
2021	\$ (18,418,856)
2022	\$ (17,047,037)
2023	\$ (331,794)
Thereafter	\$ -

¹ Employer contributions subsequent to the measurement date made after December 31, 2017 but on or before December 31, 2018 need to be added.

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
Last 10 Fiscal Years

	12/31/2017	12/31/2016	12/31/2015	12/31/2014
Total Pension Liability				
Service Cost	32,370,187	32,057,687	32,228,341	31,602,226
Interest	179,038,283	173,861,700	168,530,178	163,338,376
Changes of Benefit Terms	-	-	-	-
Differences Between Expected and Actual Experience	(1,990,761)	13,813,742	14,421,984	10,861,109
Changes of Assumptions	-	-	-	-
Contributions - Buy Back	-	-	-	-
Benefit Payments, Including Refunds of Employee Contributions	<u>(154,713,043)</u>	<u>(147,336,015)</u>	<u>(140,509,756)</u>	<u>(133,897,848)</u>
Net Change in Total Pension Liability	54,704,666	72,397,114	74,670,747	71,903,863
Total Pension Liability - Beginning	2,432,163,441	2,359,766,327	2,285,095,580	2,213,191,717
Total Pension Liability - Ending (a)	<u>\$ 2,486,868,107</u>	<u>\$ 2,432,163,441</u>	<u>\$ 2,359,766,327</u>	<u>\$ 2,285,095,580</u>
Plan Fiduciary Net Position				
Contributions - Employer	89,858,224	80,259,713	71,041,361	73,906,168
Contributions - Employee	20,839,829	20,830,779	21,385,212	18,974,954
Contributions - Buy Back	-	-	-	-
Net Investment Income	194,821,459	113,585,872	(1,427,839)	81,600,566
Benefit Payments, Including Refunds of Employee Contributions	(154,713,043)	(147,336,015)	(140,509,756)	(133,897,848)
Administrative Expense	(1,613,976)	(1,502,639)	(1,659,917)	(1,406,507)
Other	<u>3,100</u>	<u>107,175</u>	<u>28,817</u>	<u>4,460</u>
Net Change in Plan Fiduciary Net Position	149,195,593	65,944,885	(51,142,122)	39,181,793
Plan Fiduciary Net Position - Beginning	1,352,598,383	1,286,653,498	1,337,795,620	1,298,613,827
Plan Fiduciary Net Position - Ending (b)	<u>\$ 1,501,793,976</u>	<u>\$ 1,352,598,383</u>	<u>\$ 1,286,653,498</u>	<u>\$ 1,337,795,620</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 985,074,131</u>	<u>\$ 1,079,565,058</u>	<u>\$ 1,073,112,829</u>	<u>\$ 947,299,960</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	60.39%	55.61%	54.52%	58.54%
Covered Employee Payroll	\$ 184,385,188	\$ 182,640,163	\$ 177,792,309	\$ 176,183,941
Net Pension Liability as a Percentage of covered Employee Payroll	534.25%	591.09%	603.58%	537.68%

SCHEDULE OF CONTRIBUTIONS
Last 10 Fiscal Years

	12/31/2017	12/31/2016	12/31/2015	12/31/2014
Actuarially Determined Contribution	65,727,912	64,596,066	62,603,576	64,477,662
Contributions in Relation to the Actuarially Determined Contributions	89,858,224	80,259,713	71,041,361	73,906,168
Contribution Deficiency (Excess)	\$ (24,130,312)	\$ (15,663,647)	\$ (8,437,785)	\$ (9,428,506)
Covered Employee Payroll	\$184,385,188	\$182,640,163	\$177,792,309	\$176,183,941
Contributions as a Percentage of Covered Employee Payroll	48.73%	43.94%	39.96%	41.95%

Notes to Schedule

Valuation Date: 12/31/2016

Actuarially determined contribution is calculated as of December 31 prior to the fiscal year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Funding Method:	Entry Age Normal
Amortization Method:	Level percentage of pay, closed.
Remaining Amortization Period:	34 Years (as of 1/1/2017).
Actuarial Asset Method:	Assets are valued with an adjustment to expected assets to uniformly spread actuarial investment gains and losses (measured by the difference in actual market value investment return and expected market value investment return) over a 5 year period.
Inflation:	2.50% per year.
Salary Increases:	Vary by Service.
Payroll Growth:	3.70% per year.
Interest Rate:	7.50% per year compounded annually, net of investment related expenses.
Retirement Rates	See Table on next page.
Termination Rates:	Termination rates vary by age and gender. The full table of rates for males and females is in the December 31, 2016 actuarial report.

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Disability Rates: See Table Below.
Mortality: Healthy Members: RP-2000 Combined Healthy Mortality Table, with
Generational Mortality Improvements (Scale AA)
Disabled Members: RP-2000 Disabled Retiree Mortality Table

Other Information: Retirement Rate Table (sample rates)

<u>Age</u>	<u>% Retiring During the Year</u>
50	6.0%
55	6.0%
60	13.0%
65	15.0%
70	25.0%
75	100.0%

Disability Rate Table (sample rates)

<u>Age</u>	<u>% Becoming Disabled During the Year</u>
20	0.00%
30	0.01%
40	0.03%
50	0.12%

FINAL COMPONENTS OF PENSION EXPENSE
FISCAL YEAR ENDED DECEMBER 31, 2017

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning Balance	\$ 1,073,112,829	\$ -	\$187,959,247	
Employer contributions made after 12/31/2016	-	-	89,858,224	
Total Pension Liability Factors:				
Service Cost	32,057,687			32,057,687
Interest	173,861,700			173,861,700
Changes in Benefit Terms	-			-
Contributions - Buy Back	-			-
Differences Between Expected and Actual Experience With Regard to Economic or Demographic Assumptions	13,813,742	-	13,813,742	
Current Year Amortization		-	(6,516,141)	6,516,141
Changes in Assumptions About Future Economic or Demographic Factors or Other Inputs	-	-	-	
Current Year Amortization		-	-	-
Benefit Payments	(147,336,015)	-	-	-
Net Change	<u>72,397,114</u>	<u>-</u>	<u>97,155,825</u>	<u>212,435,528</u>
Plan Fiduciary Net Position:				
Contributions - Employer	80,259,713		(80,259,713)	
Contributions - Employee	20,830,779			(20,830,779)
Contributions - Buy Back	-			-
Net Investment Income	94,708,456			(94,708,456)
Difference Between Projected and Actual				
Earnings on Pension Plan Investments	18,877,416	18,877,416	-	
Current Year Amortization		(3,775,484)	(22,820,348)	19,044,864
Benefit Payments	(147,336,015)			
Administrative Expenses	(1,502,639)			1,502,639
Other	107,175	-	-	(107,175)
Net Change	<u>65,944,885</u>	<u>15,101,932</u>	<u>(103,080,061)</u>	<u>(95,098,907)</u>
Ending Balance	<u>\$ 1,079,565,058</u>	<u>\$ 15,101,932</u>	<u>\$182,035,011</u>	<u>\$117,336,621</u>

PRELIMINARY COMPONENTS OF PENSION EXPENSE
FISCAL YEAR ENDING 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 12/31/2016	-	-	TBD ¹	
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	<u>54,704,666</u>	<u>1,658,970</u>	<u>(6,516,139)</u>	<u>217,592,818</u>
Plan Fiduciary Net Position:				
Contributions - Employer	89,858,224		(89,858,224)	
Contributions - Employee	20,839,829			(20,839,829)
Contributions - Buy Back	-			-
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	<u>149,195,593</u>	<u>72,294,649</u>	<u>(112,678,573)</u>	<u>(118,935,414)</u>
Ending Balance	<u>\$ 985,074,131</u>	<u>\$ 89,055,551</u>	<u>TBD¹</u>	<u>\$ 98,657,404</u>

¹ Employer contributions subsequent to the measurement date made after December 31, 2016 but on or before December 31, 2017 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							
			2018	2019	2020	2021	2022	2023	2024	
2017	\$ (1,990,761)	6	\$ (331,791)	\$ (331,794)	\$ (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	2,302,290	-	-	-
2015	\$ 14,421,984	6	2,403,664	2,403,664	2,403,664	2,403,664	-	-	-	-
2014	\$ 10,861,109	6	1,810,185	1,810,185	1,810,184	-	-	-	-	-
Net Increase (Decrease) in Pension Expense			\$ 6,184,348	\$6,184,345	\$6,184,344	\$4,374,160	\$1,970,496	\$ (331,794)	\$ -	

AMORTIZATION SCHEDULE - CHANGES OF ASSUMPTIONS

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

Year Base Established	Change of Assumptions	Recognition Period (Years)	2018	2019	2020	2021	2022	2023	2024
2017	\$ -	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ -	6	-	-	-	-	-	-	-
2015	\$ -	6	-	-	-	-	-	-	-
2014	\$ -	6	-	-	-	-	-	-	-
Net Increase (Decrease) in Pension Expense			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

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)	2018	2019	2020	2021	2022	2023	2024
2017	\$ (95,087,666)	5	\$ (19,017,534)	\$ (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)	(3,775,483)	-	-	-
2015	\$ 99,897,144	5	19,979,429	19,979,429	19,979,429	-	-	-	-
2014	\$ 14,204,600	5	<u>2,840,920</u>	<u>2,840,920</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Net Increase (Decrease) in Pension Expense			<u>\$ 27,332</u>	<u>\$ 27,333</u>	<u>\$ (2,813,587)</u>	<u>\$ (22,793,016)</u>	<u>\$ (19,017,533)</u>	<u>\$ -</u>	<u>\$ -</u>