

Big Spring Firemen's Relief and Retirement Fund

GASB 67 ACTUARIAL DISCLOSURES

for the

Plan Year January 1, 2020 through December 31, 2020

August 9, 2021

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Introduction

This report for the Big Spring Firemen’s Relief and Retirement Fund presents the financial disclosures required under GASB Statement 67 for the Plan’s financials for the year ended December 31, 2020. GASB 67 disclosures were first required for the 2014.

GASB 67 is effective for trust years beginning after June 15, 2013 (the 2014 year for this plan). GASB 68 is effective for the City’s fiscal years beginning after June 15, 2014 (i.e., FY2015).

The report is presented in the following sections:

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NET PENSION LIABILITY

The Total Pension Liability (TPL) of the plan is the actuarial accrued liability measured using the Entry Age Normal Cost Method

Under the *Entry Age Normal Cost Method* the actuarial present value of the projected benefits of each individual included in the actuarial valuation is allocated on a level basis over the earnings (or service) of the individual between entry age and assumed exit ages. The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the actuarial accrued liability. It is equal to the theoretical asset accumulation had the plan always been in effect, all actuarial assumptions were perfectly met and the employer contributed the normal cost each year.

The *Net Pension Liability* is the Total Pension Liability less the market value of plan assets (referred to as the Fiduciary Net Position)

The Net Pension Liability as of December 31, 2020 is:

Total Pension Liability	
Active employees	\$ 11,624,447
Retirees and beneficiaries	13,745,988
	<hr/>
Total Pension Liability	\$ 25,370,435
Plan Fiduciary Net Position	<hr/>
	\$ (15,021,388)
Net Pension Liability	\$ 10,349,047
Plan fiduciary net position as a percentage of total pension liability	59.21%

Basis

Census date	1/1/2021
Valuation date	12/31/2020
Actuarial cost method	Entry Age Normal
Asset valuation method	Market value for GASB 67 & 68
Actuarial assumptions	
Interest rate	7.75% (before admin expense)
Pay increases	4.5%
Mortality	Pub2010PS with MP2020 projection
Retirement rates	Age and service-related
Turnover	Age and service-related

DEVELOPMENT OF THE ACTUARIAL LIABILITY AT THE END OF THE YEAR

1	Total Pension Liability (entry age normal method) as of 1/1/2020	
a	Active employees	\$ 10,244,313
b	Retired, survivors and deferred vested	\$ 13,279,609
c	Total	\$ 23,523,921
2	Annual Service Cost for 2020	\$ 728,142
3	Benefit payments for 2020	\$ (1,329,918)
4	Interest at the valuation rate (7.75%)	
a	One year's interest on the Total Pension Liability	\$ 1,823,104
b	One half year's interest on the Normal Cost and Benefit Payments	\$ (22,884)
5	Projected Total Pension Liability as of 12/31/2020 1c+2+3+4a+4b	\$ 24,722,366
6	Demographic (Gain)/Loss	\$ 721,784
7	Assumption Change (Gain)/Loss (mortality update)	\$ (73,715)
8	Total Pension Liability as of 12/31/2020	\$ 25,370,435
9	Total Pension Liability (entry age normal method) as of 12/31/2020	
a	Active employees	\$ 11,624,447
b	Retired, survivors and deferred vested	\$ 13,745,988
c	Total	\$ 25,370,435

LONG-TERM RATE OF RETURN

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 expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation (3.0%) and deducting expenses. 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, 2018 are summarized in the following table:

	<u>Target Allocation</u>	<u>Real Return</u>
Large cap stocks S&P 500	30%	5.50%
Mid/small cap stocks Russell 2000	30%	6.30%
International stocks MSCI EAFE	5%	5.20%
Bonds Barclays US	10%	2.50%
Multi-sector bonds	20%	3.50%
Real Estate	5%	4.80%
Cash equivalents 3 month Treasury	<u>0%</u>	0.00%
	100%	

The GASB 67/68 discount rate includes no allowance for administrative expenses, which are expensed separately.

SENSITIVITY OF THE NET PENSION LIABILITY TO CHANGES IN THE DISCOUNT RATE

This exhibit presents the net pension liability of the Plan, calculated using the discount rate of 7.75 percent, as well as what the City's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.75 percent) or 1-percentage-point higher (8.75 percent) than the current rate:

	<i>As of December 31, 2020</i>		
	1% Decrease 6.75%	Current Discount Rate	1% Increase 8.75%
City's Total Pension Liability			
Active employees	\$ 13,729,609.24	\$ 11,624,447	\$ 9,995,662.56
Retirees and beneficiaries	14,837,659.88	13,745,988	12,760,548.84
Total Pension Liability	\$ 28,567,269	\$ 25,370,435	\$ 22,756,211
Plan Fiduciary Net Position	\$ (15,021,388)	\$ (15,021,388)	\$ (15,021,388)
City's Net Pension Liability	\$ 13,545,881	\$ 10,349,047	\$ 7,734,823
Percentage of base	112.6%	100.0%	89.7%

SCHEDULE OF CHANGES IN NET PENSION LIABILITY

	Year Ended 12/30/2020	Year Ended 12/30/2019	Year Ended 12/30/2018	Year Ended 12/30/2017	Year Ended 12/31/2016
Pension Liability					
Service Cost	\$ 728,142	\$ 696,787	\$ 569,984	\$ 545,439	\$ 506,260
Interest	1,800,220	1,710,324	1,633,082	1,562,998	1,598,125
Change of benefit terms	-	-	-	-	-
Differences between expected and actual experience	721,784	(520,414)	-	-	(736,630)
Change of assumptions	(73,715)	450,572	-	392,133	-
Benefit payments including contribution refunds	<u>(1,329,918)</u>	<u>(1,197,642)</u>	<u>(1,199,873)</u>	<u>(1,231,846)</u>	<u>(1,930,220)</u>
Net change in Total Pension Liability	\$ 1,846,514	\$ 1,139,626	\$ 1,003,194	\$ 1,268,724	\$ (562,465)
Pension Liability - beginning of year	<u>23,523,921</u>	<u>22,384,295</u>	<u>21,381,101</u>	<u>20,112,377</u>	<u>20,674,842</u>
Pension Liability - end of year	<u>\$ 25,370,435</u>	<u>\$ 23,523,921</u>	<u>\$ 22,384,295</u>	<u>\$ 21,381,101</u>	<u>\$ 20,112,377</u>
Fiduciary Net Position					
Contributions - employer	\$ 710,010	\$ 650,969	\$ 633,568	\$ 488,555	\$ 519,911
Contributions - members (transfers)	615,342	565,707	549,091	488,555	519,911
Net investment income	1,866,297	2,370,032	(670,804)	1,655,622	691,060
	-	-	-	-	-
Benefit payments and contribution refunds	(1,329,918)	(1,197,642)	(1,199,873)	(1,231,846)	(1,930,220)
Administrative expense	<u>(88,258)</u>	<u>(44,110)</u>	<u>(101,346)</u>	<u>(107,814)</u>	<u>(100,928)</u>
Net change in plan fiduciary net position	\$ 1,773,473	\$ 2,344,957	\$ (789,364)	\$ 1,293,072	\$ (300,267)
Fiduciary Net Position - beginning of year	<u>13,247,915</u>	<u>10,902,958</u>	<u>11,692,322</u>	<u>10,399,250</u>	<u>10,699,517</u>
Fiduciary Net Position - end of year	<u>\$ 15,021,388</u>	<u>\$ 13,247,915</u>	<u>\$ 10,902,958</u>	<u>\$ 11,692,322</u>	<u>\$ 10,399,250</u>
Net Pension Liability - ending	\$ 10,349,047	\$ 10,276,006	\$ 11,481,337	\$ 9,688,779	\$ 9,713,127
Fiduciary net position as a percentage of total pension liability	59.21%	56.32%	48.71%	54.69%	51.71%
Covered employee payroll	\$ 4,502,000	\$ 4,030,000	\$ 4,030,000	\$ 3,879,000	\$ 3,766,262
Pension Liability as a percentage of covered employee payroll	229.88%	254.99%	284.90%	249.78%	257.90%

SUMMARY OF PLAN PROVISIONS

Credited Service The number of years of continuous employment with the Fire Department of the City of Big Spring, Texas.

Final average compensation: The monthly average salary during the five years in which the member earned the highest salary (or the three year average as of December 31, 2006, if higher). Members hired after 1/12/2018 include only base pay, certificate pay, longevity pay and FLSA required overtime in the calculation.

Service retirement eligibility: Attained age 50 with 20 years of service

Monthly accrued benefit: A monthly benefit equal to 2.55% times years of service times final average compensation (not to exceed 100% of adjusted final average pay considering only base pay, longevity pay and certificate pay).

Contributions: 13% of compensation for member and (effective in 2018) 15% of salary for the City.

Interest credited on employee contributions None

Vested benefits: The monthly accrued benefit multiplied by the following percentages:

<u>Years of Service</u>	<u>Percentage Vested</u>
10	50%
11	55
12	60
13	65
14	70
15	75
16	80
17	85
18	90
19	95
20 or more	100

Deferred to the service retirement date (the later of age 50 and the date the member would have had 20 years of service had he continued his employment with the Big Spring Fire Department).

Separation Benefit:	Return of member contributions without interest for members terminating with less than 10 years of service.
Disability benefit	<p>A disabled member with 10 or more years of service receives his or her vested monthly accrued benefit without reduction for early payments.</p> <p>However, if the disability is the result of a pre-existing condition, the maximum monthly benefit is \$100 regardless of service.</p>
Normal form of benefit:	Monthly annuity payable for life with a guarantee that total monthly benefit paid shall not be less than the employee's accumulated contributions (installment refund guaranteed). Two thirds of the monthly benefit continues to the spouse of a deceased member until the spouse's death or remarriage.
Death Benefits:	<p>Spouse 66 2/3% continuation of benefits to spouse (in the event of the death of an active employee, the benefit amount is determined as for a Disability pension).</p> <p>Minor Children With spouse in payment status \$100 a month; with no spouse in payment status \$200 a month; the total of spousal and children's benefits may not exceed the employee's amount.</p>
Benefit Enhancement Limitation	Plan benefits may not be materially increased unless the funded level of the plan is at least 80% and plan funding is sufficient to amortize the unfunded actuarial liability over 25 years or less.

DROP
(Deferred Retirement Option)

Option 1

- The Firefighter must retire within 5 years of a DROP election.

- The monthly benefit he will receive from the Plan will be determined based upon his salary and Service at the time of his DROP election.

- At the conclusion of the DROP period, the Firefighter will be paid an amount which is the sum of 1) his Employee contributions from the DROP period including interest at 4% compounded annually, plus 2) the product of his monthly benefit amount times the number of months of the DROP period. This amount must be paid within three (3) years in no more than three (3) installments.

Option 2

- Upon retirement, a Firefighter may elect to receive 85% of his regular monthly benefit (with all survivor benefits appropriately reduced) for life and a lump sum equal to 24 times this reduced benefit. This amount must be paid over three years in no more than three installments.

DROP benefits will be actuarially converted to a life only benefit for purposes of determining the "Maximum Service Retirement Benefit."

RECONCILIATION OF PLAN ASSETS

December 31, 2019 to December 31, 2020

Receipts	2020	
Contributions		
Employer	\$ 710,010	
Employee	615,342	
Interest and Dividends	372,249	
Net Realized Appreciation/(Depreciation)	367,925	
Total	\$ 2,065,526	
 Disbursements		
Benefit Payments	\$ 1,119,185	
DROP contribution refunds	0	
Return of member contributions	210,733	
Expenses	88,258	
Total	1,418,176	
 Reconciliation		
Market Value as of December 31, prior year	\$13,247,915	
Excess of Receipts over Disbursements	647,350	
Unrealized Appreciation /(Depreciation) during the year	1,126,123	
Market Value of Invested Assets as of December 31	\$15,021,388	
Contributions Receivable	0	
Payables	0	
Market Value as of December 31	\$15,021,388	
Average return on assets (BAI method)	before expense	14.14%
	net of expense	13.42%

SCHEDULE OF INVESTMENT RETURNS

SCHEDULE OF INVESTMENT RETURNS

Last 10 Fiscal Years

	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
Average money-weighted rate of return net of investment expenses	-0.17%	11.58%	15.14%	5.54%	-0.98%
	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
Average money-weighted rate of return net of investment expenses	6.77%	16.20%	-5.77%	21.76%	14.14%

SCHEDULE OF CITY CONTRIBUTIONS

Last 10 Fiscal Years

	2020	2019	2018	2017	2016
Actuarially determined contribution	\$ 1,328,042	\$ 1,256,658	\$ 1,028,667 *	\$ 1,028,667	\$ 934,058 *
Contribution in relation to the actuarially determined contribution	\$ 1,325,352	\$ 1,216,677	\$ 1,182,659	\$ 977,110	\$ 1,039,822
Contribution deficiency (excess)	\$ 2,690	\$ 39,981	\$ (153,992)	\$ 51,557	\$ (105,764)
Covered employee payroll	\$ 4,501,839	\$ 4,259,859	\$ 4,030,000	\$ 3,766,262	\$ 3,766,262
Contributions as a percentage of covered payroll	29.44%	28.56%	29.35%	25.94%	27.61%
	2015	2014	2013	2012	2011
Actuarially determined contribution	\$ 934,058	\$ 799,962 *	\$ 799,962	\$ 813,985	\$ 731,789 *
Contribution in relation to the actuarially determined contribution	\$ 1,051,143	\$ 992,091	\$ 904,532	\$ 838,246	\$ 843,726
Contribution deficiency (excess)	\$ (117,085)	\$ (192,129)	\$ (104,570)	\$ (24,262)	\$ (111,937)
Covered employee payroll	\$ 3,634,001	\$ 3,403,526 **	\$ 3,173,050	\$ 3,356,918	\$ 3,334,774
Contributions as a percentage of covered payroll	28.93%	29.15%	28.51%	24.97%	25.30%

* No valuation for the year; actuarially determined contribution is the same as for the most recent valuation

** No valuation for the year; covered employee payroll is interpolated from adjoining valuation years.

Basis of the Actuarially Determined Contribution

Valuation date	January 1 of year shown
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar (for funding purposes)
Remaining amortization period	30 years fixed (for funding)
Asset valuation method	5 year amortization of investment
Actuarial assumptions	
Interest rate	8% (before admin expense) 7.75% effective 12/31/2017
Inflation	3%
Pay increases	5% 4.5% effective 12/31/2017 plus additional for first 10 years
Mortality	Pub2010-PS projected by MP2020 after 2018
Retirement rates	Age and service-related
Turnover	Age and service-related

PARTICIPANT CENSUS DATA

This section summarizes the census data used in the actuarial valuation and provides plan membership statistics. We maintain a database of participant information for the Retirement System which is available to the City for ad hoc queries and special reports.

Census used in this valuation:

Summary of Active Census Data				
	Count	Pay	Ave Age	Ave Service
Beyond full ret age	0	0	0.00	0.00
100% vested	9	878,860	46.34	22.76
Partially vested	35	2,543,284	37.28	9.86
Not vested	21	1,079,695	29.63	2.01
Total	65	4,501,839	36.06	9.11

AGE AND SERVICE OF ACTIVE PARTICIPANTS

1/1/2021

Age Group	Years of Service						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - All Service
20 - 24	5	1					6
25 - 29	5	4					9
30 - 34	8	9	2				19
35 - 39	3	8	2	1			14
40 - 44		1	1		2		4
45 - 49			2	3	5	2	12
50 - 54							
55 - 59							
60 - 64							
65 - 69				1			1
Totals	21	23	7	5	7	2	65

SUMMARY OF NONACTIVE PARTICIPANTS

January 1, 2021

Age Group	Males			Females			Total		
	Count	Benefit	Weighted Ave Age	Count	Benefit	Weighted Ave Age	Count	Benefit	Weighted Ave Age
Retired Participants in Payment Status									
50 - 54	2	1,541,814	52.23				2	1,541,814	52.23
55 - 59	6	221,872	57.99				6	221,872	57.99
60 - 64	8	305,224	62.56				8	305,224	62.56
65 - 69	9	288,807	66.80				9	288,807	66.80
70 - 74	7	140,782	72.20				7	140,782	72.20
75 - 79	1	19,689	77.23				1	19,689	77.23
80 - 84	1	14,863	82.46				1	14,863	82.46
85 - 89									
90 - 110									
110									
Totals	34	2,533,052	57.12	0	0		34	2,533,052	57.12
Ave amount		74,501.52			0.00			74,501.52	
Survivors in Payment Status									
55 - 59									
60 - 64									
65 - 69				2	31,807	67.32	2	31,807	67.32
70 - 74									
75 - 79				3	46,887	77.55	3	46,887	77.55
80 - 84				1	9,608	82.29	1	9,608	82.29
85 - 89									
90 - 110									
Totals	0	0		6	88,302	74.38	6	88,302	74.38
Ave amount		0.00			14,717.04			14,717.04	
Disabled Participants									
50 - 54									
55 - 59									
60 - 64									
65 - 69	1	4,842	68.79				1	4,842	68.79
70 - 74									
75 - 79									
80 - 84	1	14,820	80.29				1	14,820	80.29
85 - 89									
90 - 110									
Totals	2	19,662	77.46	0	0		2	19,662	77.46
Ave amount		9,831.00			0.00			9,831.00	
Deferred Vested Former Employees									
30 - 39									
40 - 49	1	10,500	49.02				1	10,500	49.02
50 - 54									
Totals	1	10,500	49.02	0	0		1	10,500	49.02
Ave amount		10,500.48			0.00			10,500.48	
Grand Totals	37	2,563,214	57.25	6	88,302	74.38	43	2,651,517	57.82
Ave amount		69,276.06			14,717.04			61,663.17	

ACTUARIAL METHOD AND ASSUMPTIONS

This report assumes the plan will exist as an ongoing entity. All numbers presented are based on this ongoing plan concept with costs and liabilities determined under the projected unit credit actuarial cost method.

Entry Age Normal Cost Method

Under the entry age normal cost method, the normal cost is computed as the level dollar amount which, if paid from the time each employee became a participant until his assumed retirement, would accumulate with interest at the assumed valuation rate to a fund sufficient to pay his retirement benefits

Experience gains (decreases in cost due to favorable experience), or experience losses (increases in cost due to adverse experience), attributable to deviations between the assumed and actual experience of the Plan, are reflected as increases or decreases in the unfunded actuarial liability and, through the amortization amount, the contribution required for the plan.

Valuation of Liabilities

All active participants included in the valuation are assumed to earn one full year of credited service for each year of future participation. Employees terminating with vested benefits are assumed to elect either a refund of their contributions with interest or a deferred annuity, which ever has the larger economic value.

Costs for ancillary benefits provided by the System have been determined in the same manner and on the same basis as costs for normal retirement benefits.

Valuation of Assets

For plan funding: Smoothed market value based on 5 year amortization of gains or losses for each of the 5 trailing years measured against the expected rate of return using the actuarial discount rate.

For GASB 67 disclosures: Fair market value.

SUMMARY OF ACTUARIAL ASSUMPTIONS

Interest Rates		Age	Rates per Thousand				
			Mortality		Turnover	Disability	Retirement
			Male	Female			
Purpose	Rate						
before retirement	7.75%	20	0.410	0.130	173.86	0.60	0
after retirement	7.75%	21	0.410	0.130	167.66	0.66	0
		22	0.400	0.120	161.90	0.71	0
Mortality Tables		23	0.390	0.120	156.57	0.76	0
Not in pay status	Pub2010PS employee	24	0.380	0.110	151.71	0.81	0
Healthy annuitants	Pub2010PS annuitant	25	0.370	0.120	146.99	0.85	0
Disabled annuitants	Pub2010PS disabled	26	0.380	0.130	142.51	0.90	0
<i>Mortality rates are projected by scale MP-2020</i>		27	0.390	0.140	137.97	0.95	0
		28	0.400	0.160	133.51	1.00	0
Pay Increase Assumption		29	0.410	0.170	129.19	1.05	0
Annual rates of pay increase		30	0.410	0.190	125.01	1.10	0
as shown		31	0.420	0.210	121.00	1.16	0
		32	0.430	0.220	117.16	1.22	0
Turnover		33	0.440	0.250	103.48	1.30	0
Age-related rates as shown		34	0.450	0.270	89.95	1.38	0
		35	0.470	0.300	76.56	1.47	0
Retirement Age		36	0.490	0.320	63.31	1.58	0
Rates of retirement as shown		37	0.500	0.360	50.18	1.71	0
Rates are only applied if the employee is eligible to retire.		38	0.530	0.390	47.15	1.85	0
		39	0.560	0.430	44.22	2.01	0
		40	0.590	0.470	41.38	2.20	0
Form of payment		41	0.620	0.510	38.58	2.42	0
mandatory cashouts	Lump sum	42	0.670	0.550	35.81	2.66	0
other benefits	Normal form	43	0.710	0.600	33.05	2.93	0
		44	0.760	0.660	30.30	3.24	0
Other Assumptions		45	0.820	0.720	27.54	3.60	0
Percent married	90%	46	0.880	0.780	24.79	3.99	0
Husband/wife age difference	3	47	0.950	0.840	22.01	4.43	0
		48	1.020	0.910	19.22	4.92	0
Increase in Social Security		49	1.110	0.990	16.39	5.46	0
Wage Base	3.00%	50	1.200	1.070	13.53	6.06	0
		51	1.290	1.150	10.61	6.72	0
		52	1.400	1.240	7.64	7.45	1000
		53	1.510	1.340	4.59	8.25	1000
		54	1.620	1.450	1.67	9.13	1000
		55	1.750	1.570	0.00	10.09	1000

Interest Rate	7.75% per annum effective for the 2017 and later years (8.0% for prior years)
Pay Increases	4.5% per year plus additional percentages for the first 10 years of service (5% before 2017)
Retirement Rates	Upon the attainment of age 52 or, if later, 20 years of service
Mortality	RP 2000 fully projected for cohort mortality improvement (appropriate versions of this table for employees, annuitants and disabled individuals)
Disability	Rates by age as shown below
Turnover	Rates by age and years of service as shown below
Percent Married	90%

Additional turnover rates for first five years of service (added to attained age rates)

<u>Year</u>	<u>Rate/thousand</u>
1	50
2	40
3	30
4	20
5	10

Additional pay increases for the first ten years of service (added to basic 5% assumed pay increases)

<u>Year</u>	<u>Additional Percentage</u>	<u>Year</u>	<u>Additional Percentage</u>
1	5.0%	6	2.5%
2	4.5	7	2.0
3	4.0	8	1.5
4	3.5	9	1.0
5	3.0	10	0.5

CERTIFICATION

This report presents the actuarial position of the Big Spring Firemen's Relief and Retirement Fund as of December 31, 2020, in accordance with our understanding of GASB Statement 67.

The results shown in this report are based on an actuarial valuation as of January 1, 2021 for a measurement date of December 31, 2020. Actuarial assumptions were revised from the prior valuation as follows:

Actuarial assumptions were changed for this valuation by updating the mortality projection scale from the MP2018 table to the MP2020 table (latest release). The effect of this change is shown in the exhibit on page 2 of the report. The base mortality table remains the mortality table for public safety employees developed by the Society of Actuaries including full cohort mortality improvement.

Plan provisions were unchanged from the prior valuation. The most recent plan changes were effective January 2018 to limit the types of pay included in the calculation for employees hired after January 2018, to increase the City's contribution from 13% to 15% of pay and to limit any future benefit enhancements depending on the funding level of the plan.

The valuation results in this report are based on participant and financial data provided by the plan administrator and the trustee.

In our opinion, each assumption used in combination to calculate GASB 67 disclosure values represents our best estimate of anticipated experience under the plan and is reasonably related to the plan experience and to reasonable expectations. However, the most appropriate assumption for different purposes may vary and use of the values in this report for purposes other than those stated should be avoided or discussed with the actuary.

The undersigned are independent actuaries. Both are Fellows of the Society of Actuaries and are experienced in performing actuarial valuations for governmental retirement plans

DEAN ACTUARIES, LLC



Charles E. Dean, FSA, FCA
Enrolled Actuary 20-01249

8/9/2021

Date



Sean M. Sullivan, FSA
Enrolled Actuary 20-03649

8/39/2021

Date