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City of Rockledge

Fire Employees Retirement Plan

Actuarial Valuation as of October 1, 2017

January 25, 2018

REPORT TO DETERMINE MINIMUM FUNDING REQUIREMENTS
FOR THE PLAN AND FISCAL YEAR
BEGINNING OCTOBER 1, 2018

January 25, 2018

Board of Trustees
City of Rockledge Fire Employees Retirement Plan
Rockledge, Florida

RE: Actuarial Valuation as of October 1, 2017

Dear Board Members:

We are pleased to present the actuarial valuation as of October 1, 2017 for the City of Rockledge Fire Employees Retirement Plan (the Plan). This report provides a review of the current funded status of the Plan, establishes the minimum funding requirements for the fiscal years ending September 30, 2019, and provides an analysis of experience since the last valuation. In addition to providing the summary and derivation of actuarial findings, this report describes the data, assumptions, and methods used to create these results.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

Statement by Enrolled Actuary:

"This actuarial valuation and/or cost determination was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material increase in plan costs or required contribution rates have been taken into account in the valuation."

We look forward to the presentation of these results to you in person and we are always available to answer any questions you may have.

Sincerely,

Chad M. Little, ASA, EA
Partner, Consulting Actuary
Enrollment Number 17-6619

Paula C. Freiman, ASA, EA
Partner, Consulting Actuary
Enrollment Number 17-5796

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Section 1 Board Summary

A summary of the key valuation findings are compared with the results of the prior valuation below.

Summary of Principal Valuation Results

Fiscal Year Ending September 30,	**2018**	**2019**
Minimum Funding Requirements		
As a Dollar Amount		
Estimated Minimum Required City Contribution	$469,389	$498,650
Estimated State Contribution	154,239	138,409
Total Minimum Funding Requirement (City plus State)	$623,628	$637,059
As a Percent of Valuation Payroll		
Estimated Minimum Required City Contribution	31.59%	33.70%
Estimated State Contribution	10.38%	9.36%
Total Minimum Funding Requirement (City plus State)	41.97%	43.06%

Note: $623,628 is the minimum funding requirement for fiscal 2018 including both contributions from the City and those from the State of Florida. We have estimated the City portion as $469,389 which must be deposited on December 15, 2017. The annual contribution paid by the City should take into account the actual amount of premium tax revenues received from the State of Florida that may be applied toward the actuarially determined contribution so that the total deposit for fiscal 2018 is $623,628.

Note: $637,059 is the minimum funding requirement for fiscal 2019 including both contributions from the City and those from the State of Florida. We have estimated the City portion as $498,650 which must be deposited on December 15, 2018. The annual contribution paid by the City should take into account the actual amount of premium tax revenues received from the State of Florida that may be applied toward the actuarially determined contribution so that the total deposit for fiscal 2019 is $637,059.

Funded Status

Valuation as of October 1,	**2016**	**2017**
Accrued Liability (AL)	$14,425,910	$15,054,589
Actuarial Value of Assets	(10,779,413)	(11,514,438)
Unfunded Accrued Liability (UAL)	$3,646,497	$3,540,151
Funded Percentage	74.72%	76.48%

Key Assumptions

Valuation as of October 1,	**2016**	**2017**
Assumed Investment Return, Net of Expenses	7.90%	7.90%
Salary Increase Assumption	6.00%	6.00%

Summary of Significant Events

Determination of the funded status of the Plan and minimum funding requirements are based on funding policy, participant data, asset information, Plan provisions, actuarial methods and assumptions, as well as contributions made to the Plan by the State of Florida. Any significant events associated with these items are discussed in the following.

In preparing our report we relied, without audit, on information (some oral and some written) supplied by the Plan Administrator and the City. This information includes, but is not limited to, statutory provisions, employee census, and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

Participant Data

During the year active membership changed from 33 to 32 members due to 2 new hires, 1 non-vested termination, 1 vested termination, and 1 DROP entrant. The following provides a summary comparing the actual and expected pay increases for the 12-month periods ending on the date specified.

Year Ended September 30,	Individual Actual	Individual Expected	Total Payroll Increase
2017	5.2%	6.0%	4.1%
2016	5.8%	6.0%	7.1%
2015	6.4%	6.0%	0.8%
2014	4.7%	6.0%	8.9%
2013	3.4%	6.0%	(8.4%)
2012	(3.0%)	6.0%	(2.6%)
2011	3.0%	6.0%	(10.9%)
2010	1.6%	6.0%	(12.4%)
2009	5.3%	6.0%	0.7%
2008	4.2%	6.0%	2.6%
Average:	3.6%	6.0%	(1.3%)

Total payroll decreased 1.3% on average over the last 10 years. Level dollar amortization is already in place for the amortization of unfunded accrued liability.

Overall, there was a small demographic gain. Should a pattern of consistent gains or losses develop, assumptions will be adjusted as needed. We recommend a review of actuarial experience be conducted.

Assets

The investment return on the Market Value of Assets was 12.17% and the return on the Actuarial Value of Assets was 7.44%, each in comparison to the 7.9% rate of return assumed for the fiscal year ending September 30, 2017. Because the return on the Actuarial Value of Assets was less than the assumed rate of net investment return, there was an actuarial investment loss for the year ending September 30, 2017.

Note only a portion of actual investment gains or losses are recognized in the current year Actuarial Value of Assets with the remainder recognized over the next four years. Even if all assumptions are realized in the next several years, the Plan will experience changes in the required contribution rate until prior gains and losses are fully recognized.

The table below provides a comparison of the investment return on the Market Value of Assets and the Actuarial Value of Assets in comparison to the investment return assumed in the valuation of the Plan.

12-Month Period Ended September 30,	% Market Return	% Actuarial Return	% Assumed Return
2017	12.17 %	7.44 %	7.90 %
2016	9.14 %	6.98 %	8.00 %
2015	0.23 %	4.67 %	8.00 %
2014	8.75 %	7.19 %	8.00 %
2013	8.07 %	5.85 %	8.00 %
2012	11.41 %	1.26 %	8.00 %
2011	(2.67%)	0.92 %	8.00 %
2010	7.82 %	1.69 %	8.00 %
2009	1.44 %	1.17 %	8.00 %
2008	(13.93)%	(14.42)%	8.00 %
Average	3.94 %	2.08 %	7.99 %

Investment returns less than the assumed rate of return result in increased annual minimum required contributions in the future.

Plan Provisions

Ordinance 1709-2017 was adopted effective June 7, 2017. The ordinance created a defined contribution (DC) component which will be funded by a portion of the premium tax revenues if the City and the collective bargaining representative do not reach mutual consent to use the premium tax revenues for an alternative means. In years when the DC component is funded, moneys that would have been used toward offsetting the City's portion of the actuarially determined minimum required contribution are used toward funding benefits under this DC component. The increase in cost to the City would be equal to the contributions made to the DC component. However, we understand that the City and International Association of Firefighters Local 3138 have reached mutual consent to allow all of the premium tax revenues to offset the City's minimum required contribution. Our statement of no impact dated March 13, 2017 indicated that as currently all of the premium tax revenues are used to offset the City's minimum required contributions, there is no impact on the funding of the Plan at this time. We understand the current collective bargaining agreement is set to expire September 30, 2018.

Methods

There have been no changes in Methods since the prior valuation of the Plan.

Assumptions

In the prior valuation, the mortality table was that used for special risk employees in the valuation of the Florida Retirement System (FRS) as of July 1, 2015, as required by state statute. The mortality table has been revised to that used for special risk employees in the valuation of FRS as of July 1, 2016 and 2017, as required by state statute. While healthy post-retirement mortality and disabled mortality rates were unchanged, healthy pre-retirement was revised.

As directed by the Board, we have continued to use an assumed investment return of 7.90% net of investment expenses. We recommend additional discussions regarding lowering the net assumed return further.

State Contributions

The Estimated Minimum Required City Contribution shown on page 1 assumes that the premium tax money received from the State will be in the same amount received in the prior year. Should the amount received in the fiscal year ending September 30, 2018 or 2019 be less than expected, or should a portion of the State contribution be used towards the DC component of the Plan, the City will need to contribute any potential shortfall to the Plan.

Section 2 Results Derivation

In this section, the assets and liabilities of the Plan are shown in detail. Assets and liabilities are then compared to determine the funded status and minimum funding requirements.

While asset information is based on the fair market value of assets, along with any techniques used to smooth out market fluctuations, liabilities are determined through a combination of the benefit provisions, participant census data which contains information for the members who will receive those benefits, and the methods and assumptions used with regard to how benefits will be paid to members. A summary of participant data, an outline of the benefit provisions, and a description of the methods and assumptions used in this valuation are described in Section 4.

Financial Information

Over the life of the Plan, the majority of assets are typically generated from investment return. In this section, we describe how the assets of the Plan are invested, show how the actuarial value of assets is derived, and review the investment results since the prior valuation.

Investment Allocation

Valuation Date	**October 1, 2016**		**October 1, 2017**	
Stocks	$7,369,630	70%	$8,468,583	72%
Fixed Income Securities	2,095,815	20%	2,324,140	20%
Cash and Cash Equivalents	193,023	2%	301,298	3%
Real Estate	522,071	5%	534,171	5%
Net Receivables	269,453	3%	24,406	0%
Fair Market Value of Assets	$10,449,992	100%	$11,652,598	100%

Reconciliation of Market Value of Assets

Year Ending September 30,			**2016**	**2017**
1.	**Market Value of Assets at Beginning of Year**		$9,790,114	$10,449,992
2.	Contributions			
	a.	Employer	$390,264	$434,969
	b.	State	154,239	138,409
	c.	Plan Members	104,923	105,910
	d.	Total Contributions	$649,426	$679,288
3.	Investment Income			
	a.	Realized Appreciation (Depreciation)	$29,385	$4,042
	b.	Unrealized Appreciation (Depreciation)	667,088	1,052,181
	c.	Interest plus Dividends	236,994	247,532
	d.	Investment Expense	(48,722)	(36,332)
	e.	Net Investment Income	$884,745	$1,267,423
4.	Deductions			
	a.	Benefits	$(518,370)	$(593,970)
	b.	Refund of Contributions	(9,260)	(1,565)
	c.	DROP Balance Disbursement	(287,383)	(80,003)
	d.	Administrative Expense	(59,280)	(68,567)
	e.	Total Deductions	$(874,293)	$(744,105)
5.	Net Increase		$659,878	$1,202,606
6.	**Market Value of Assets at End of Year**		$10,449,992	$11,652,598
7.	**Return on Market Value of Assets = 2I / (A + B – I)**		9.14 %	12.17 %

Development of Actuarial Value of Assets

The Market Value of Assets is adjusted to recognize investment earnings greater than (or less than) the assumed net investment return over a five-year period. The Actuarial Value of Assets is no more than 120% and no less than 80% of the Market Value of Assets.

1.	Market Value of Assets as of October 1, 2017				$11,652,598
2.	Phase-In Gains (Losses) Over Five Year Period				
		Year Ending	Original Gain (Loss)	Percent Unrecognized	Unrecognized Gain (Loss)
	a.	September 30, 2017	$446,193	80%	$356,954
	b.	September 30, 2016	116,700	60%	70,020
	c.	September 30, 2015	(760,973)	40%	(304,389)
	d.	September 30, 2014	77,873	20%	15,575
	e.	Total			$138,160
3.	Preliminary Actuarial Value of Assets				$11,514,438
4.	Corridor Around Market Value				
	a.	Minimum = 80% of Market Value of Assets			$9,322,078
	b.	Maximum = 120% of Market Value of Assets			$13,983,118
	c.	Corridor Adjustment to Preliminary Actuarial Value			$0
5.	Actuarial Value of Assets as of October 1, 2017				$11,514,438

Development of Historical Gain or Loss on Market Value of Assets

Fiscal Year End		2017	2016
1.	Market Value of Assets - Beginning of Year	$10,449,992	$9,790,114
2.	Expected Interest on Assets	825,549	783,209
3.	Contributions	679,288	649,426
4.	Benefit Payments + Administrative Expenses	(744,105)	(874,293)
5.	Interest on items (3) and (4)	(4,319)	(15,164)
6.	Expected Value of Assets at End of Year	$11,206,405	$10,333,292
7.	Market Value of Assets - End of Year	$11,652,598	$10,449,992
8.	Gain (Loss) for Plan Year = (7) - (6)	$446,193	$116,700

Fiscal Year End		2015	2014
1.	Market Value of Assets - Beginning of Year	$10,008,057	$9,600,740
2.	Expected Interest on Assets	800,645	768,059
3.	Contributions	636,621	665,730
4.	Benefit Payments + Administrative Expenses	(877,661)	(1,004,398)
5.	Interest on items (3) and (4)	(16,575)	(20,947)
6.	Expected Value of Assets at End of Year	$10,551,087	$10,009,184
7.	Market Value of Assets - End of Year	$9,790,114	$10,087,057
8.	Gain (Loss) for Plan Year = (7) - (6)	$(760,973)	$77,873

Historical Asset Values

Year Ending September 30,	Actuarial Value of Assets	Market Value of Assets	% Market Return	% Actuarial Return	% Assumed Return
2017	$11,514,438	$11,652,598	12.17 %	7.44 %	7.90 %
2016	10,779,413	10,449,992	9.14 %	6.98 %	8.00 %
2015	10,293,985	9,790,114	0.23 %	4.67 %	8.00 %
2014	10,070,624	10,087,057	8.75 %	7.19 %	8.00 %
2013	9,298,953	9,600,740	8.07 %	5.85 %	8.00 %
2012	8,466,891	8,568,635	11.41 %	1.26 %	8.00 %
2011	8,065,659	7,408,817	(2.67%)	0.92 %	8.00 %
2010	7,819,188	7,354,559	7.82 %	1.69 %	8.00 %
2009	7,426,015	6,551,286	1.44 %	1.17 %	8.00 %
2008	7,042,077	6,117,865	(13.93)%	(14.42)%	8.00 %

Historical Contribution Amounts

Year Ending September 30,	Employer	State	Members	Total
2017	$434,969	$138,409	$105,910	$679,288
2016	390,264	154,239	104,923	649,426
2015	362,979	173,333	100,309	636,621
2014	381,796	185,014	98,920	665,730
2013	325,124	178,961	105,128	609,213
2012	269,266	175,451	109,945	554,662
2011	256,606	169,439	111,309	537,354
2010	119,320	162,886	119,320	401,526
2009	131,410	258,987	131,410	521,807
2008	130,288	123,083	130,288	383,659

Historical Deductions from Fund

Year Ending September 30,	Benefits	Refunds	Administrative Expense	Total
2017	$673,973	$1,565	$68,567	$744,105
2016	805,753	9,260	59,280	874,293
2015	722,075	84,308	71,278	877,661
2014	936,323	0	68,075	1,004,398
2013	193,660	21,167	66,980	281,807
2012	184,815	43,270	28,737	256,822
2011	231,470	0	52,247	283,717
2010	75,850	0	45,978	121,828
2009	141,441	6,605	31,198	179,244
2008	37,144	74,227	39,755	151,126

Historical State Contributions

Year Ending September 30	State Contributions		
	Regular	Supplemental	Total
2017	$134,986	$3,423	$138,409
2016	133,157	21,082	154,249
2015	135,220	38,113	173,333
2014	133,388	51,626	185,014
2013	134,063	44,898	178,961
2012	133,555	41,896	175,451
2011	138,034	31,405	169,439
2010	129,388	33,498	162,886
2009	125,721	133,266	258,987
2008	123,083	0	123,083
2007	114,831	66,820	181,651
2006	110,777	26,327	137,104
2005	107,444	14,272	121,716
2004	96,823	9,247	106,070
2003	89,380	2,684	92,064
2002	86,480	0	86,480
2001	75,807	0	75,807
2000	74,000	0	74,000
1999	69,146	0	69,146
1998	59,994	0	59,994

Present Value of Benefits

Valuation as of October 1,			2016	2017
1.	**Active Members**			
	a.	Retirement Benefits	$5,967,691	$6,020,322
	b.	Deferred Benefits	296,169	301,703
	c.	Survivor Benefits	240,886	108,321
	d.	Disability Retirement	162,848	167,469
	e.	Total for Active Members	$6,667,594	$6,597,815
2.	**Inactive Members**			
	a.	Retired Members	$9,813,895	$10,508,042
	b.	Terminated members	62,629	117,100
	c.	Beneficiaries	154,215	152,939
	d.	Disability Retirement	79,788	78,805
	e.	Total for Inactive Members	$10,110,527	$10,856,886
3.	**Present Value of Benefits**		$16,778,121	$17,454,701

Accrued Liability

Valuation as of October 1,			2016	2017
1.	**Active Members**			
	a.	Retirement Benefits	$4,117,529	$4,051,544
	b.	Deferred Benefits	12,547	18,545
	c.	Survivor Benefits	110,995	50,812
	d.	Disability Retirement	74,312	76,802
	e.	Total for Active Members	$4,315,383	$4,197,703
2.	**Inactive Members**			
	a.	Retired Members	$9,813,895	$10,508,042
	b.	Terminated members	62,629	117,100
	c.	Beneficiaries	154,215	152,939
	d.	Disability Retirement	79,788	78,805
	e.	Total for Inactive Members	$10,110,527	$10,856,886
3.	**Accrued Liability**		$14,425,910	$15,054,589

Normal Cost

Valuation as of October 1,			2016	2017
1.	**Preliminary Normal Cost**			
	a.	Retirement Benefits	$215,974	$231,583
	b.	Deferred Benefits	32,572	32,818
	c.	Survivor Benefits	15,496	6,952
	d.	Disability Retirement	10,650	10,978
	e.	Total	$274,692	$282,331
2.	**Total Normal Cost**			
	a.	Preliminary Normal Cost	$274,692	$282,331
	b.	Estimated Administrative Expense	59,280	68,567
	c.	Total Normal Cost	$333,972	$350,898
	d.	Total Normal Cost as a Percent of Pay	21.8%	22.0%
3.	**Employer Normal Cost**			
	a.	Preliminary Normal Cost	$274,692	
	b.	Actual Administrative Expense	68,567	
	c.	Actual Employee Contributions	(105,910)	
	d.	Employer Normal Cost	$237,349	
4.	**Valuation Payroll**		$1,528,548	$1,591,649

Unfunded Accrued Liability

Derivation of Unfunded Accrued Liability (UAL)

Unfunded Accrued Liability

1.	Accrued Liability	$15,054,589
2.	Actuarial Value of Assets	(11,514,438)
3.	Unfunded Accrued Liability	$3,540,151

Determination of Expected Unfunded Accrued Liability

1.	Unfunded Accrued Liability as of Prior Year	$3,646,497
2.	Interest for a full year on (1)	288,073
3.	Employer Normal Cost (Including Administrative Expenses) as of Prior Yr.	237,349
4.	Interest for a full year on (3)	18,751
5.	City Plus State Contribution	(573,378)
6.	Interest on Contribution for Time on Deposit	(20,890)
7.	Change in Plan, Methods or Assumptions	(59)
8.	Expected Unfunded Accrued Liability	$3,596,343

Calculation of (Gain) or Loss

1.	Actual Unfunded Accrued Liability	$3,540,151
2.	Expected Unfunded Accrued Liability	3,596,343
3.	Total (Gain) or Loss	$(56,192)

Reconciliation of Unfunded Accrued Liability

1.	Unfunded Accrued Liability as of Prior Year	$3,646,497
2.	Total Change in Unfunded Accrued Liability	
	a. Expected Change in Unfunded Accrued Liability	$(50,095)
	b. Change in Plan, Methods or Assumptions	(59)
	c. Change Due to (Gain) or Loss	
	i. Portion of (Gain) / Loss Due to Investments	$47,413
	ii. Portion of (Gain) / Loss Due to Demographic Experience	(103,605)
	iii. Total (Gain) or Loss	$(56,192)
	d. Total Change in Unfunded Accrued Liability	$(106,346)
3.	Unfunded Accrued Liability	$3,540,151

Amortization of Unfunded Liability

The Unfunded Actuarial Accrued Liability is being amortized as a level dollar amount based on the interest assumption. Changes in the Unfunded Actuarial Accrued Liability due to plan changes, assumption changes, method changes, or gains and losses are all amortized over a 25 year period.

Amortization Bases

	Effective 10/1	Source	Original Balance	Remaining Balance	Adjusted Remaining Balance	Years Remain	Level $ Amortization
1.	2005	Method Change	$712,901	$601,650	$602,818	18	$59,200
2.	2006	Actuarial Gain	(389,008)	(328,180)	(328,817)	19	(31,504)
3.	2007	Actuarial Loss	146,070	122,862	123,100	20	11,534
4.	2007	Assumption Change	109,095	91,765	91,943	20	8,614
5.	2008	Actuarial Loss	1,281,746	1,072,389	1,074,470	21	98,651
6.	2008	Method Change	(1,048)	(874)	(876)	21	(80)
7.	2008	Method Change	(1,111,615)	(930,045)	(931,850)	21	(85,556)
8.	2009	Actuarial Loss	332,686	276,289	276,825	22	24,952
9.	2010	Actuarial Loss	717,799	590,586	591,732	23	52,450
10.	2011	Actuarial Loss	668,509	551,835	552,906	24	48,264
11.	2011	Assumption Change	436,124	360,007	360,706	24	31,486
12.	2012	Actuarial Gain	(149,835)	(124,320)	(124,561)	25	(10,722)
13.	2012	Asmp/Method Chg	905,104	750,980	752,438	25	64,770
14.	2013	Actuarial Loss	173,126	144,725	145,006	26	12,324
15.	2013	Assumption Change	10,903	9,113	9,131	26	776
16.	2014	Actuarial Experience	(56,425)	(54,337)	(54,442)	27	(4,573)
17.	2014	Assumption Change	11,756	11,321	11,343	27	953
18.	2015	Actuarial Experience	100,723	97,121	97,310	23	8,625
19.	2015	Assumption Change	12,388	11,945	11,968	23	1,061
20.	2016	Actuarial Experience	31,933	31,490	31,551	24	2,754
21.	2016	Assumption Change	307,379	303,113	303,701	24	26,510
22.	2017	Actuarial Experience	(56,192)	(56,192)	(56,192)	25	(4,837)
23.	2017	Assumption Change	(59)	(59)	(59)	25	(5)

Scheduled Amortization Payment			$315,647
Outstanding Bases	$3,533,184	$3,540,151	
Unfunded Accrued Liability	3,540,151		

Projected Unfunded Accrued Liability and Amortization Payments

Plan Year Beginning October 1	Total Outstanding Bases	Total Amortization Payment
2017	$3,540,151	$315,647
2018	3,479,240	315,646
2019	3,413,518	315,646
2020	3,342,604	315,646
2021	3,266,087	315,644
2022	3,183,528	315,647
2023	3,094,444	315,645
2024	2,998,324	315,645
2025	2,894,611	315,646
2026	2,782,703	315,644
2027	2,661,956	315,645
2028	2,531,670	315,646
2029	2,391,090	315,639
2030	2,239,412	315,647
2031	2,075,742	315,643
2032	1,899,147	315,642
2033	1,708,602	315,642
2034	1,503,004	315,645
2035	1,281,159	256,443
2036	1,105,669	287,950
2037	882,318	267,796
2038	663,069	254,788
2039	440,536	229,835
2040	227,346	167,698
2041	64,360	58,684
2042	6,124	9,480
2043	(3,621)	(3,621)
2044	0	0

Actions Taken to Reduce Unfunded Actuarial Accrued Liability

The required contributions calculated each year include a payment for the amortization of the unfunded actuarial accrued liability. This payment is designed to reduce the unfunded actuarial accrued liability in an orderly fashion over the next 25 years.

Minimum Funding Requirements

Determination of Required Contribution

Valuation as of October 1, Funding for Year Ending September 30,		2016 2018	2017 2019
1.	**Minimum Required Contribution**		
a.	Total Normal Cost	$333,972	$350,898
b.	Amortization of Unfunded Accrued Liability	319,867	315,647
c.	Beginning of Year Contribution	$653,839	$666,545
d.	Interest	73,800	74,067
e.	Minimum Required Contribution	$727,639	$740,612
f.	Percent of Pay	48.97 %	50.06 %
2.	**Expected Member Contributions**		
a.	Expected Member Contributions	$104,011	$103,553
b.	Percent of Pay	7.00 %	7.00 %
3.	**Expected Contributions from State**		
a.	Expected State Contribution	$154,239	$138,409
b.	Percent of Pay	10.38 %	9.36 %
4.	**City Policy Contribution**		
a.	City Policy Contribution	$469,389	$498,650
b.	Percent of Valuation Payroll	31.59 %	33.70 %
5.	**Valuation Payroll**	$1,485,877	$1,479,325

Note: The $469,389 minimum funding requirement for fiscal 2018 must be deposited on December 15, 2017. The $498,650 minimum funding requirement for fiscal 2019 must be deposited on December 15, 2018. The actual premium tax distributions for the fiscal years ending September 30, 2018 and 2019 are not yet known. If state contributions are less than expected the City contributions must be increased to make up the difference.

Reconciliations

Reconciliation of Funded Status

	Unfunded Accrued Liability	Funded Percentage	Change in Unfunded Accrued Liability	Change in Funded Percentage
As of Prior Valuation	**$3,646,497**	**74.72 %**		
Changes in due to:				
Normal Operation of Plan	3,596,402	76.27 %	$(50,095)	1.55 %
Investment Experience	3,643,815	75.96 %	47,413	(0.31)%
Demographic Experience	3,540,210	76.48 %	(103,605)	0.52 %
Required Mortality Change	3,540,151	76.48 %	(59)	0.00 %
Total Changes			$(106,346)	1.76 %
As of Current Valuation	**$3,540,151**	**76.48 %**		

Reconciliation of City Minimum Funding Requirement

	Dollar Amount	% of Pay
City Required Contribution for Fiscal 2018	**$469,389**	**31.59 %**
Changes in Contribution due to:		
Normal Operation of Plan	$(27,182)	0.20 %
Change in Expenses	10,174	0.73 %
Change in State $	14,895	1.07 %
Investment Experience	4,470	0.33 %
Demographic Experience	28,642	(0.10)%
Required Mortality Change	(1,738)	(0.12)%
Total Changes	$29,261	2.11 %
City Required Contribution for Fiscal 2019	**$498,650**	**33.70 %**

Note: The City required contributions shown above must be deposited on December 15.

Section 3 Accounting Information

Information Required by GASB 67/68

A supplemental report provides information under the Governmental Accounting Standards Board No. 67/68.

Statement of Accumulated Plan Benefits

The following table is based on prior accounting standards and is required by the State. The present value of accrued benefits is an estimate of the liability for all benefits accrued to date.

Valuation as of October 1,	**2016**	**2017**
1. Actuarial present value of accumulated benefits		
a. Participants currently receiving benefits	$10,047,898	$10,739,786
b. Other participants	2,618,285	2,563,141
c. Vested participants	$12,666,183	$13,302,927
d. Nonvested participants	448,609	440,447
e. Total	$13,114,792	$13,743,374
2. Change in actuarial present value of accumulated benefits		
a. Actuarial present value of accumulated benefits beginning of year		$13,114,792
b. Increase (decrease) during year attributable to:		
i. Plan amendment		$0
ii. Change in assumptions or methods		(22,602)
iii. Increase for interest and probability of payment due to decrease in discount period and benefits accrued		1,326,722
iv. Benefits paid		(675,538)
v. Other		0
vi. Net increase (decrease)		$628,582
c. Actuarial present value of accumulated benefits end of year		$13,743,374

Other Disclosures Required by the State of Florida

Valuation as of October 1,	**2016**	**2017**
Present value of active member:		
Future salaries (attained age)	$13,118,607	$13,617,051
Future contributions (attained age)	$918,302	$953,194
Balance of contributions with interest for actives	$1,074,101	$1,063,398

Required Disclosure Under F.S. 112.664(1)

As required under F.S. Section 112.664(1) we have produced the following information:

(a) Total pension liability calculated based on mortality used in one of the last two Florida Retirement System (FRS) valuations. This actuarial valuation assumes mortality as used in the July 1, 2016 and 2017 actuarial valuations for special risk members of FRS.

(b) Total pension liability calculated using an assumed interest rate that is 200 basis points lower than that assumed in the valuation of the Plan.

(c) Determination of the number of months or years for which the current market value of assets is adequate to sustain the payment of expected retirement benefits.

(d) Recommended contribution to the Plan using the most recent valuation and the contributions necessary prepared pursuant to (a) and (b) stated as a dollar amount and % of payroll.

	2% Decrease (5.90%)	Current Discount Rate (7.90%)	2% Increase (9.90%)
Total pension liability	$18,731,044	$15,054,589	$12,484,145
Plan fiduciary net position	(11,652,598)	(11,652,598)	(11,652,598)
Net pension liability	$7,078,446	$3,401,991	$831,547
Plan fiduciary net position as a percentage of the total pension liability	62.21%	77.40%	93.34%
Years of benefit payments:			
Expected for current members:	98	98	98
Paid for with current assets:	13.39	16.11	21.05
City Plus State Contribution Requirement, Plus Expected Employee Contributions			
Dollar Amount	$1,131,726	$740,612	$419,712
Percent of Payroll	76.50%	50.06%	28.37%

Required Disclosure Under F.S. 112.664(2)(b)2.

F.S. Section 112.664(2)(b)2. - For the previous five years, beginning with 2013, a side-by-side comparison of the plan's assumed rate of return compared to the actual rate of return, as well as the percentages of cash, equity, bond and alternative investments in the plan portfolio.

Year Ending September 30,	**2017**	**2016**	**2015**	**2014**	**2013**
Assumed rate of return	7.9%	8.0%	8.0%	8.0%	8.0%
Actual rate of return	12.2%	9.1%	0.2%	8.7%	8.1%
Percentages of assets in:					
Cash	3%	2%	2%	4%	0%
Equity	72%	70%	67%	65%	58%
Bond	20%	20%	28%	26%	37%
Alternative	5%	8%	3%	5%	5%
Total	100%	100%	100%	100%	100%

Section 4 Supplementary Information

Summary of Participant Data

Member Statistics

Valuation as of October 1,	**2016**	**2017**
Active Participants		
Number	33	32
Average Age	37.6	37.4
Average Credited Service	8.2	8.2
Percent Male	90.9	87.5
Average Valuation Salary	$48,293	$49,739
Total Valuation Salary	$1,593,672	$1,591,649
Payroll Covered in Valuation	$1,528,548	$1,591,649
Terminated With Rights to Deferred Benefits		
Number	1	2
Average Age	37.0	39.7
Percent Male	100.0	100.0
Average Monthly Benefit	$1,931	$1,523
Retirements (DROP and Service Retirees)		
Number	20	21
Average Age	57.6	58.4
Percent Male	100.0	100.0
Average Monthly Benefit	$3,279	$3,311
Total of DROP Account Balances September 30	$739,532	$976,765
Beneficiaries		
Number	1	1
Average Age	56.4	57.4
Percent Male	0.0	0.0
Average Monthly Benefit	$1,120	$1,120
Disability Retirements		
Number	1	1
Average Age	55.7	56.7
Percent Male	100.0	100.0
Average Monthly Benefit	$722	$722

Number of Active Members by Age and Service as of October 1, 2017

	Service								
Age	< 1	< 5	< 10	< 15	< 20	< 25	< 30	< 35	Total
< 25		2							2
< 30	2	4	1						7
< 35		2	1						3
< 40		2	2	2	1				7
< 45		2	1	2	1				6
< 50			1		1	1	1		4
< 55			1	1			1		3
< 60									
Total	2	12	7	5	3	1	2		32

Active Valuation Pay by Age and Service as of October 1, 2017

	Service								
Age	<1	<5	<10	<15	<20	<25	<30	<35	Total
< 25		35,850							35,850
< 30	40,000	37,745	45,790						39,539
< 35		42,260	43,290						42,603
< 40		40,395	55,120	63,430	52,980				52,981
< 45		41,580	46,750	53,197	63,110				49,902
< 50			41,770		67,550	69,916	75,643		63,720
< 55			44,250	72,096			73,861		63,402
< 60									
Total	40,000	39,263	47,441	61,070	61,213	69,916	74,752		49,739

Reconciliation of Plan Participants

	Active	Retired	DROP	Deferred Vested	Disabled	Survivor	Total
October 1, 2016	**33**	**15**	**5**	**1**	**1**	**1**	**56**
Active							
To DROP	(1)		1				0
To Deferred Vested	(1)			1			0
To Nonvested Termination	(1)						(1)
Additions	2	0	0	0	0	0	2
October 1, 2017	**32**	**15**	**6**	**2**	**1**	**1**	**57**

Outline of Plan Provisions

Plan Type: Single-employer Defined Benefit Pension Plan

Effective Date: November 1, 1969. Amended and restated effective October 1, 1999 and subsequently amended by Ordinance No. 1223-2000, 1336-2004, 1366-2005, 1475-2008, 1492-2008, 1509-2008, 1520-2009, 1545-2010, 1546-2010, 1565-2010, 1566-2010, 1568-2010, 1630-2013, 1643-2014, 1662-2014, 1672-2015, 1687-2016, and 1709-2017.

Plan Administrator: The Board of Trustees

Board Composition: Two members are elected from among the fire employees of the City, who are members of the plan, two city residents appointed by the Commission and one person is chosen by a majority of the previous four members.

Funding Requirements: Employer contributions are actuarially determined and subject to State statute. Employee contributions are as described below and may be amended by ordinance.

Plan Year: The 12-month period from October 1st to the next September 30th.

Member: Full-time firefighters participate in the Plan immediately upon hire.

Credited Service: Employee service computed in years and completed calendar months. Military service purchases are allowed.

Vesting: Members become 100% vested after earning 10 years of Credited Service.

Basic Compensation: Total compensation actually paid in a Plan Year by the City including tax deferred compensation and excluding overtime, commissions, bonuses, expense allowances and payment for accrued annual leave, accrued sick leave, and accrued compensatory leave.

Employee Contributions: 7.0% of Basic Compensation credited with 5% interest compounded annually. Members receive benefits under the Plan no less than the value of their accumulated Employee Contributions with interest.

Members who terminate non-vested are entitled to the return of Employee Contributions accumulated with interest at 5% to the first day of the month in which termination occurs.

Average Monthly Compensation: The sum of the highest five successive Plan Years of Basic Compensation in the last ten Plan Years of employment divided by 60.

Normal Retirement Date: The first day of the month coincident with or next following the earlier of attainment of age 52 and 25 years of Credited Service or age 55 and 10 years of Credited Service.

Accrued Benefit: The amount of monthly retirement income payable at the Normal Retirement Date is determined according to the following formulas, but no less than 2% x Average Monthly Compensation x Credited Service. For Members hired before October 1, 2012, the amount of monthly retirement income payable at the Normal Retirement Date is determined according to the following formula:

3% x Average Monthly Compensation x Credited Service up to 25 years

Plus

1.5% x Average Monthly Compensation x Credited Service between 25 and 30 years

For Members hired on or after October 1, 2012, the amount of monthly retirement income payable at the Normal Retirement Date is determined according to the following formula:

2.75% x Average Monthly Compensation x Credited Service up to 25 years

Plus

1.25% x Average Monthly Compensation x Credited Service between 25 and 30 years

The Accrued Benefit is payable in the form of a 10-year certain and continuous annuity. However, any member with a spouse shall receive an actuarially equivalent 50% joint and survivor annuity unless the member chooses another Optional Form of Retirement Income with spousal consent.

Members who terminate employment 100% vested prior the Normal Retirement Date are eligible to receive their Accrued Benefit once the age requirements for the Normal Retirement Date are met, provided Employee Contributions remain in the Plan.

Late Retirement Benefit: The amount of monthly retirement income payable to a Member who retires after the Normal Retirement Date is the greater of (i) the monthly retirement income which can be provided by the single-sum value of the Accrued Benefit payable if he had retired at the Normal Retirement Date, accumulated with interest from the Normal Retirement Date to the date the monthly retirement income payments are to commence, and (ii) the monthly retirement income computed as described for the Accrued Benefit using Credited Service and Average Monthly Compensation determined at the Member's actual retirement date.

Early Retirement Date: The first day of the month coincident with or next following the date an employee retires prior to the Normal Retirement Date after the earlier of attainment of age 45 and 25 years of Credited Service or age 50 and 10 years of Credited Service.

Early Retirement Benefit: The Accrued Benefit is reduced for commencement earlier than the Normal Retirement Date at a rate of 0.25% per month. However, the minimum monthly retirement income for a Member who retires before the Normal Retirement Date with 25 years Credited Service is 50% x Average Monthly Compensation.

Members who terminate employment 100% vested prior to reaching the Early Retirement Date age requirements may elect to receive an Early Retirement Benefit once the age requirements are met, provided Employee Contributions remain in the Plan.

Members who terminate employment 100% vested prior the Normal Retirement Date but on or after their Early Retirement Date but do not commence receipt of an Early Retirement Benefit at that time will receive a monthly retirement income not less than the monthly retirement income which can be provided by the single-sum value of the monthly early retirement income which would have been payable if he had retired immediately upon termination, accumulated with interest from termination to the date the monthly retirement income payments are to commence.

Members who recover from Disability Retirement and who were eligible for an Early Retirement Benefit at the date of disability may elect to receive this benefit upon recovery from disability.

Disability Retirement: This benefit is payable from the first day of the month coincident with or next following the date the Retirement Committee approves the Member's Disability Retirement. The benefit is payable in the form of a 10 year certain and continuous annuity. The last payment is that due next preceding the earlier of (1) the date of recovery prior to the Normal Retirement Date and (2) the later of the date of death or the 120th payment. The amount of monthly retirement income is determined as follows:

(a) Non-Line of Duty: Members with less than 10 years of Credited Service upon disability receive a monthly retirement income which can be provided by the greater of (i) the single-sum value of the Accrued Benefit and (ii) 2 x Basic Compensation paid in the Plan Year immediately preceding disability. The monthly retirement income which can be provided by (ii) is limited to 60% x Anticipated Monthly Retirement Income at the Normal Retirement Date. In no event shall the benefit payable be less than the benefit required under section 175.191 of the Florida Statutes.

(b) Non-Line of Duty: Members with 10 years of Credited Service or more upon disability receive a monthly retirement income which is the greater of (i) the monthly retirement income which can be provided by the single-sum value of the Accrued Benefit and (ii) 30% x Basic Compensation paid in the Plan Year immediately preceding disability where the single-sum value of this monthly amount does not exceed 100 x the Anticipated Monthly Retirement Income at the Normal Retirement Date. In no event shall the benefit payable be less than the benefit required under section 175.191 of the Florida Statutes.

(c) Line of Duty: Members receive a monthly retirement income which is 50% x Basic Compensation paid in the Plan Year immediately preceding disability where the single-sum value of this monthly amount does not exceed 100 x the Anticipated Monthly Retirement Income at the Normal Retirement Date. In no event shall the benefit payable be less than the benefit required under section 175.191 of the Florida Statutes.

Members who recover from disability and re-enter the service of the City within 30 days of recovery will be deemed to have continuous service except that the period beginning with the first month for which Disability Retirement income was received and ending with the date of service re-entry is not considered as Credited Service.

<u>Anticipated Monthly Retirement Income at the Normal Retirement Date:</u> Determined as described for the Accrued Benefit, but instead using Anticipated Credited Service and Anticipated Average Monthly Compensation. Anticipated Credited Service is employee service computed in years and completed calendar months as if the member remains employed to the Normal Retirement Date. Anticipated Average Monthly Compensation is computed assuming that the last complete Plan Year of Basic Compensation is paid in each Plan Year, without change, to the Normal Retirement Date.

<u>Survivor Benefit at Death of Disabled Member Prior to Disability Retirement:</u> The designated beneficiary of a disabled Member who dies prior to receipt of Disability Retirement benefits is eligible to receive a monthly retirement income payable in the form of a 10 year certain and continuous annuity payable commencing on the first of the month coincident with or next following the date of the disabled Member's death. The designated beneficiary will receive a monthly retirement income which can be provided by the greater of (i) the single-sum value of the Accrued Benefit and (ii) 2 x Basic Compensation paid in the Plan Year immediately preceding disability not more than 100 x Anticipated Monthly Retirement Income at the Normal Retirement Date.

<u>Survivor Benefit at Death of Vested Terminated Members:</u> The designated beneficiary of vested Member who dies prior to retirement is eligible to receive a monthly retirement income payable in the form of a 10 year certain and continuous annuity payable commencing on the first of the month coincident with or next following the Member's death, which can be provided by the single-sum value of the Member's Accrued Benefit or Early Retirement Benefit.

<u>Survivor Benefit at Death of Active Employee Prior to Normal Retirement Date:</u> The designated beneficiary of a Member who dies while in active service prior to the Normal Retirement Date is eligible to receive, commencing on the first of the month coincident with or next following the Member's death, a monthly retirement income (payable in the form of a 10 year certain and continuous annuity) which can

be provided by the greater of (i) the single-sum value of the Accrued Benefit as of the date of death, not less than the single-sum value of the Early Retirement Benefit which would have been payable if the Member had retired early on the date of death, and (ii) 2 x Basic Compensation paid in the Plan Year immediately preceding death not more than 100 x Anticipated Monthly Retirement Income at the Normal Retirement Date.

<u>Survivor Benefit at Death of Active Employee After Normal Retirement Date:</u> The designated beneficiary of a Member who dies while in active service after the Normal Retirement Date is eligible to receive, commencing on the first of the month coincident with or next following the Member's death, a monthly retirement income (payable in the form of a 10 year certain and continuous annuity) which can be provided by the single-sum value of the Late Retirement Benefit.

<u>Optional Forms of Retirement Income:</u> In addition to the 10 year certain and continuous form of annuity, also available under the terms of the Plan are the life only annuity and the joint and 50%, 66 2/3%, 75%, or 100% survivor annuity. With the joint and survivor options, the member may also elect the pop-up feature. The Plan also allows for other amounts and forms of retirement income that will meet the circumstances of the Participant, in the opinion of the Retirement Committee, and will not substantially affect the actuarial soundness of the Plan.

<u>Deferred Retirement Option Program (DROP):</u> Members are eligible to enter the DROP at the Normal Retirement Date. The Accrued Benefit is frozen and no further Employee Contributions are payable at DROP entry. The Accrued Benefit accumulates with interest in the DROP account and is payable as a single-lump sum (or as an actuarially equivalent annuity) upon DROP exit. The DROP account earns interest at a rate equal to the funds net rate of investment return minus 1% in administration fees, unless the DROP participant, as a one-time irrevocable option, elects a self-directed DROP as approved by the board of trustees. The maximum DROP participation duration is 5 years and participation will end if the employee resigns, dies or is terminated with cause prior to completion of the 5 years.

<u>Defined Contribution (DC) Component:</u> Ordinance 1709-2017 was adopted effective June 7, 2017 creating a DC component which will be funded by a portion of the premium tax revenues if the City and the collective bargaining representative do <u>not</u> reach mutual consent to use the premium tax revenues for an alternative means.

Description of Assumptions and Methods

Assumed Rate of Investment Return: 7.9% per year, net of investment expenses

Inflation: 2.5% per year

Salary Increase – Individual: 6.0% per year

Salary Increase – Total Payroll: Based on individual salary increase assumptions and other decrements assumed in the valuation of Plan liabilities.

Mortality: In the prior valuation, the mortality table was that used for special risk employees in the valuation of the Florida Retirement System (FRS) as of July 1, 2015, as required by state statute. The mortality table has been revised to that used for special risk employees in the valuation of FRS as of July 1, 2016 and 2017, as required by state statute. While healthy post-retirement mortality and disabled mortality rates were unchanged, healthy pre-retirement was revised. The mortality rates are as follows:

Healthy mortality (Pre-retirement):

Males: 10% RP-00 Combined Healthy White Collar +
90% RP-00 Combined Healthy Blue Collar

Females: 100% RP-00 Combined Healthy White Collar

Both male and female rates fully generational using Scale BB

Healthy mortality (Post-retirement):

Males: 10% RP-00 Annuitant White Collar +
90% RP-00 Annuitant Blue Collar

Females: 100% RP-00 Annuitant White Collar

Both male and female rates fully generational using Scale BB

Disabled mortality:

Males: 60% RP-00 Disabled Retiree Set Back 4 Years +
40% RP-00 Annuitant White Collar

Females: 60% RP-00 Disabled Retiree Set Forward 2 Yrs +
40% RP-00 Annuitant White Collar

No mortality improvement is assumed for disabled lives.

Retirement: 100% at the earlier of age 55 with 10 years of service or age 52 with 25 years of service.

Termination: Unisex rates based on the experience of the Rockledge firefighters from 1999 through 2005, as follows:

Service	Rate	Service	Rate	Service	Rate	Service	Rate
0	0.2000	7	0.0500	14	0.0175	21	0.0100
1	0.2000	8	0.0250	15	0.0175	22	0.0100
2	0.2000	9	0.0250	16	0.0175	23	0.0100
3	0.2000	10	0.0250	17	0.0150	24	0.0100
4	0.1000	11	0.0200	18	0.0150	>=25	0.0000
5	0.0500	12	0.0200	19	0.0150		
6	0.0500	13	0.0200	20	0.0100		

Disability: Sex distinct rates as used for special risk employees in the Florida Retirement System actuarial valuation report as of July 1, 2005. Linear interpolation has been used between the rates shown in five year age increments, as follows:

	Line-of-Duty			Not Line-of-Duty	
Age	Male	Female	Age	Male	Female
20	0.012%	0.008%	20	0.037%	0.036%
25	0.012%	0.008%	25	0.037%	0.036%
30	0.017%	0.016%	30	0.043%	0.046%
35	0.029%	0.037%	35	0.055%	0.075%
40	0.051%	0.068%	40	0.087%	0.118%
45	0.087%	0.106%	45	0.140%	0.259%
50	0.138%	0.153%	50	0.292%	0.318%
55	0.215%	0.230%	55	0.446%	0.492%
60	0.301%	0.285%	60	0.628%	0.597%
65+	0.231%	0.143%	65+	0.698%	0.380%

Funding Method: Entry Age Normal (level percent of salary)

Glossary of Actuarial Terms

Present Value of Benefits (PVB): The present value, as of the valuation date, of all benefits that will become payable by the Plan for the current group of members in the census.

Normal Cost (NC): The value of the portion of the total benefit for active members which accrues in the year following the valuation date. Under the Entry Age Normal (Level Percent of Salary) funding method, the NC is a constant fraction of salary from the member's date of entry into the Plan to the member's assumed date of termination, retirement, disability or death.

Accrued Liability (AL): This is the portion of the PVB attributable to the past at the valuation date. For active members, AL is the annual NC accumulated from date of entry to the valuation date for each member. For retired and terminated members, the PVB and the AL are equal. The AL is the estimated liability owed by the pension fund at the valuation date.

Unfunded Accrued Liability (UAL): Any excess of the Accrued Liability over the fund assets. A negative UAL indicates fund assets are greater than the Accrued Liability, otherwise known as a surplus.

Actuarial Value of Assets: The value of assets used in the actuarial valuation of the Plan which is compared to the AL to determine the UAL and minimum funding requirements. A method may be used to smooth out short term volatility in the fair market value of assets.