City of Vero Beach General Employee Retirement Plan

Actuarial Valuation and Review as of October 1, 2017

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February 23, 2018

Board of Trustees
City of Vero Beach General Employee Retirement Plan
1053 20th Place
Vero Beach, FL 32960-5359

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of October 1, 2017. The census information on which our calculations were based was prepared by the City's Finance Department in conjunction with the Human Resources Department, and the financial information was provided by the City's Finance Department. That assistance is gratefully acknowledged.

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.

The actuarial calculations were directed under the supervision of Malichi S. Waterman, FCA, MAAA, EA. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By:  

Leon F. (Rocky) Joyner, Jr. FCA, ASA, MAAA, EA
Vice President and Consulting Actuary

Malichi S.Waterman, FCA, MAAA, EA
Consulting Actuary
Enrolled Actuary No. 17-7141

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City of Vero Beach General Employee Retirement Plan Actuarial Valuation and Review as of October 1, 2017

Section 1: Actuarial Valuation Summary

Purpose and Basis

This report was prepared by Segal Consulting to present a valuation of the Plan as of October 1, 2017. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The measurements shown in this actuarial valuation may not be applicable for other purposes. In particular, the measures herein are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations. 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; and changes in plan provisions or applicable law.

Certain disclosure information required by GASB Statements No 67 and 68 as of September 30, 2017 for the Plan is provided in a separate report.

The contribution requirements presented in this report are based on:

- The benefit provisions of the Pension Plan, as administered by the Board;
- The characteristics of covered active participants, inactive vested participants, and retired participants and beneficiaries as of September 30, 2017, provided by the City's Finance Department and Human Resources Department.
- The assets of the Plan as of September 30, 2017, provided by the City's Finance Department;
- Economic assumptions regarding investment earnings; and
- Other actuarial assumptions regarding employee terminations, retirement, death, etc.

Significant Issues

1. Segal Consulting ("Segal") strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the unfunded actuarial accrued liability and the principal balance.
2. Effective June 30, 2015, the accrued benefits of all participants of the Plan were frozen, with no future accruals and no new entrants, and all eligible participants at that time became fully vested.
3. The total contributions made during the fiscal year ending September 30, 2017 were sufficient to reduce the unfunded actuarial accrued liability. The unfunded actuarial accrued liability is $31,266,136, which is a decrease of $3,171,278 since the prior valuation.
4. Actual contributions made during the fiscal year ending September 30, 2017 were $4,499,935, 100% of the actuarially determined contribution. In the prior fiscal year, actual contributions were $4,274,277, 100% of the prior year actuarially determined contribution.
5. The funded ratio (the ratio of the actuarial value of assets to actuarial accrued liability) is 71.99%, compared to the prior year funded ratio of 68.90%. This ratio is one measure of funding status, and its history is a measure of funding progress. Using the market value of assets, the funded ratio is 74.87%, compared to 69.47% as of the prior valuation date. These measurements are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.
6. The actuarially determined contribution for the upcoming year is $4,377,313, a decrease of $122,622 from last year. The contribution is based on a ten-year level dollar amortization of the unfunded actuarial accrued liability.
7. The actuarial gain from investment and other experience is $784,697, or 0.70% of actuarial accrued liability.
8. The net experience loss from sources other than investment experience was 0.54% of the actuarial accrued liability and was insignificant compared to that liability.
9. The rate of return on the market value of assets was 11.69% for the 2016 to 2017 plan year. The return on the actuarial value of assets was 8.35% for the same period due to the recognition of prior years' investment gains and losses. This resulted in an actuarial gain when measured against the assumed rate of return of 6.50%. This actuarial investment gain decreased the average employer contribution rate by $193,591. Given the low fixed income interest rate environment, target asset allocation and expectations of future investment returns for various classes, we advise the Board to continue to monitor actual and anticipated investment returns relative to the assumed long-term rate of return on investments of 6.50%.
10. The administrative expense assumption of $20,457, assumed to be payable monthly, was updated in accordance with Florida law to be the prior year's reported administrative expenses of $27,102. As a result of this assumption change, the employer normal cost increased by $6,457. After adjusting for timing the total impact was an increase in the actuarially determined contribution of $6,877.

11. The Plan uses the Entry Age Cost Method with the normal cost determined on a "replacement life" basis. This methodology allows changes in the plan of benefits for new hires to be reflected in the normal cost for current employees even though the plan of benefits for current employees is unchanged. As a result, the actuarial accrued liability increases to offset the decrease in normal cost, and the actuarially determined contribution is less than it would be if the "replacement life" approach was not used.
12. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution under the Plan's funding policy and measuring the progress of that funding policy. The Net Pension Liability (NPL) and Pension Expense under Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68, for inclusion in the plan and employer's financial statements as of September 30, 2017, will be provided separately. The accounting disclosures will utilize different methodologies from those employed in the funding valuation, as determined by the GASB. However, the actuarially determined contribution in this valuation is expected to be used as the actuarially determined contribution (ADC) for GASB financial reporting.
13. This actuarial report as of October 1, 2017 is based on financial and demographic data as of September 30, 2017. Changes subsequent to that date are not reflected and will affect future actuarial costs of the plan.
14. Since the actuarial valuation results are dependent on a given set of assumptions, there is a risk that emerging results may differ significantly as actual experience proves to be different from the assumptions. We have included a discussion of various risks that may affect the Plan in Section 2.

Summary of Key Valuation Results

		2017	2016
Contributions for plan year beginning October 1:	• Actuarially determined contribution (ADC)	$4,377,313	$4,499,935
	• Actual employer contribution	--	$4,499,935
Actuarial accrued liability for plan year beginning October 1:	• Retired participants and beneficiaries	$73,759,544	$71,637,361
	• Inactive vested participants	3,908,302	4,228,649
	• Active participants	33,942,013	34,868,581
	• Total	111,609,859	110,734,591
Normal cost including administrative expenses for plan year beginning October 1		26,335	19,878
Assets for plan year beginning October 1:	• Market value of assets (MVA)	$83,566,338	$76,932,732
	• Actuarial value of assets (AVA)	80,343,723	76,297,177
	• Actuarial value of assets as a percentage of market value of assets	96.14%	99.17%
Funded status for plan year beginning October 1:	• Unfunded actuarial accrued liability on market value of assets	$28,043,521	$33,801,859
	• Funded percentage on MVA basis	74.87%	69.47%
	• Unfunded actuarial accrued liability on actuarial value of assets	$31,266,136	$34,437,414
	• Funded percentage on AVA basis	71.99%	68.90%
	• Amortization period on an AVA basis	10	11
Demographic data for plan year beginning October 1	• Number of retired participants and beneficiaries	386	375
	• Number of inactive vested participants	95	96
	• Number of active participants	272	299

Important Information About Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal Consulting ("Segal") relies on a number of input items. These include:

Plan of benefits	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Participant data	An actuarial valuation for a plan is based on data provided to the actuary by the City. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Assets	The valuation is based on the market value of assets as of the valuation date, as provided by the City. The Plan uses an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of the City. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- Actuarial results in this report are not rounded, but that does not imply precision.
- If the City is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The City should look to their other advisors for expertise in these areas.

As Segal Consulting has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

Section 2: Actuarial Valuation Results

A. Participant Data

The Actuarial Valuation and Review considers the number and demographic characteristics of covered participants, including active participants, inactive vested participants, retired participants and beneficiaries. The Plan was closed to new entrants in 2015. Therefore the number of active participants is declining and the ratio of non-actives to actives is increasing.

This section presents a summary of significant statistical data on these participant groups.

More detailed information for this valuation year and the preceding valuation can be found in *Section 3*, *Exhibits A*, *B*, and *C*.

PARTICIPANT POPULATION: 2008 – 2017

Year Ended September 30	Active Participants	Inactive Vested Participants*	Retired Participants and Beneficiaries	Total Non-Actives	Ratio of Non-Actives to Actives
2008	356	84	243	327	0.92
2009	386	83	249	332	0.86
2010	407	84	275	359	0.88
2011	405	88	281	369	0.91
2012	379	95	309	404	1.07
2013	350	91	324	415	1.19
2014	339	87	348	435	1.28
2015	323	92	356	448	1.39
2016	299	96	375	471	1.58
2017	272	95	386	481	1.77

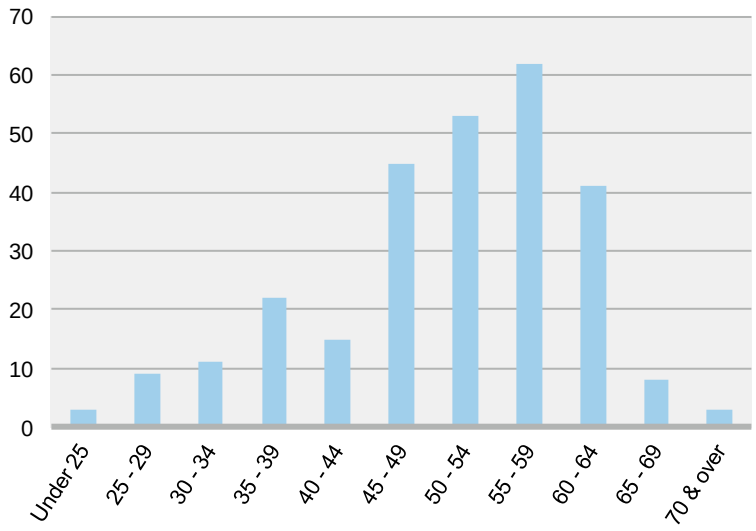
*Includes beneficiaries entailed to deferred benefits if applicable

Active Participants

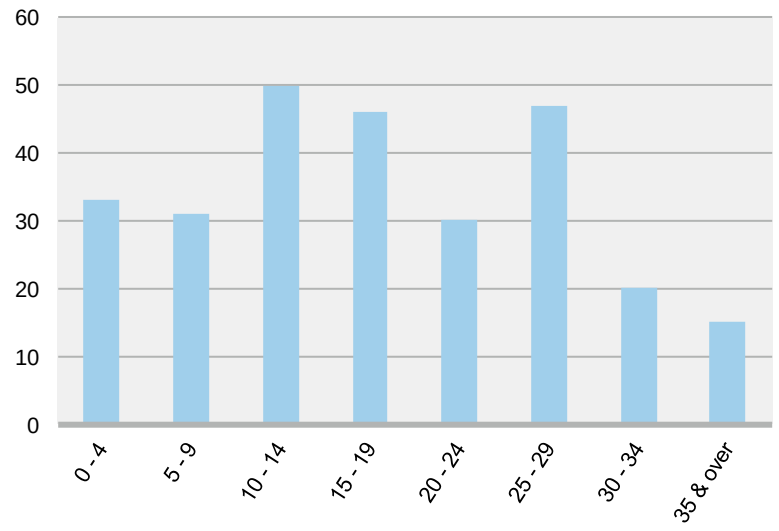
In this year's valuation, there were 272 active participants with an average age of 51.2, average years of service of 18.0 years and average payroll of $47,376. The 299 active participants in the prior valuation had an average age of 49.7, average service of 16.7 years and average payroll of $46,959.

Distribution of Active Participants as of September 30, 2017

ACTIVES BY AGE



ACTIVES BY YEARS OF SERVICE



Inactive Participants

In this year's valuation, there were 95 participants with a vested right to a deferred or immediate vested benefit.

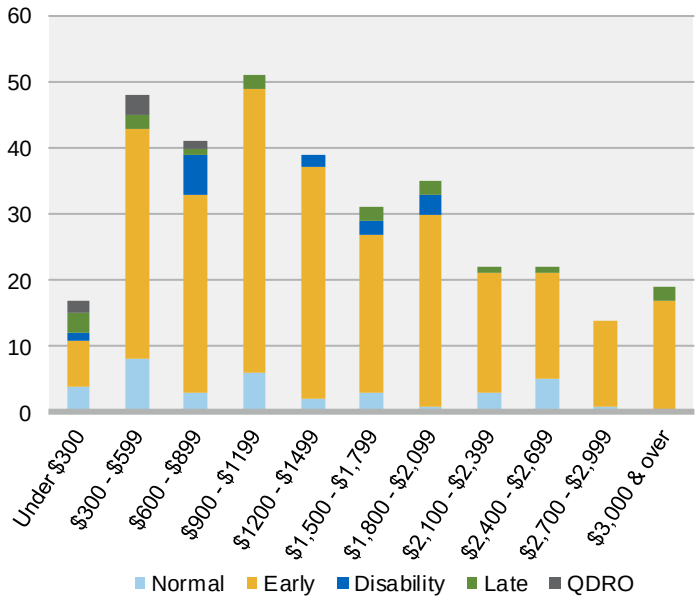
Retired Participants and Beneficiaries

As of September 30, 2017, 339 retired participants and 47 beneficiaries were receiving total monthly benefits of $549,354. For comparison, in the previous valuation, there were 330 retired participants and 45 beneficiaries receiving monthly benefits of $530,287.

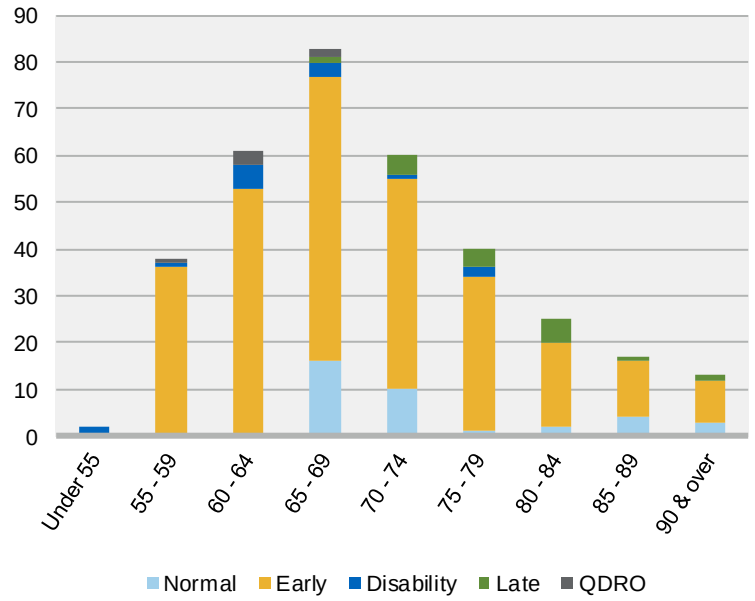
As of September 30, 2017, the average monthly benefit for retired participants is $1,423, compared to $1,414 in the previous valuation. The average age for retired participants is 69.9 in the current valuation, compared with 69.5 in the prior valuation.

Distribution of Pensioners as of September 30, 2017

PENSIONERS BY TYPE AND BY MONTHLY AMOUNT



PENSIONERS BY TYPE AND BY AGE



Historical Plan Population

The chart below demonstrates the progression of the active population over the last ten years. The chart also shows the growth among the retired population over the same time period.

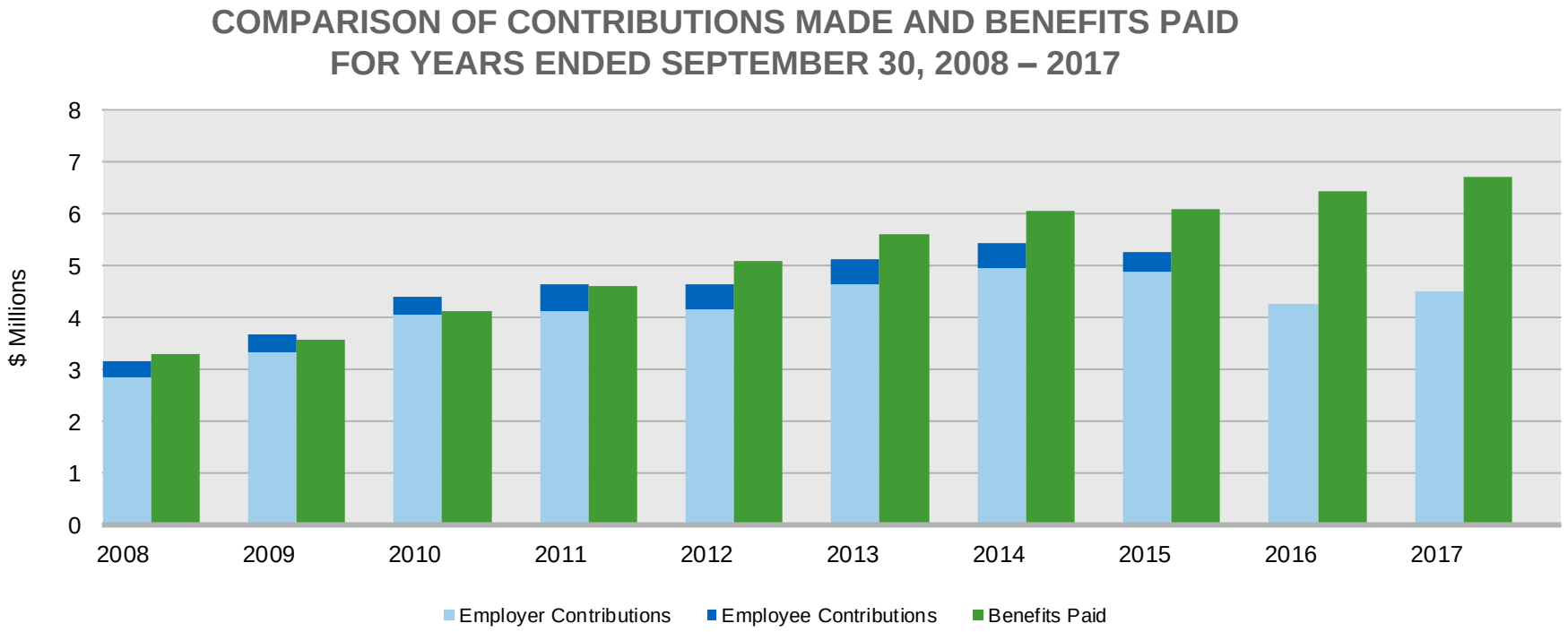
PARTICIPANT DATA STATISTICS: 2008 – 2017

	Active Participants			Retired Participants and Beneficiaries		
Year Ended September 30	Count	Average Age	Average Service	Count	Average Age	Average Monthly Amount
2008	356	48.9	16.3	243	70.5	$1,174
2009	386	48.7	15.8	249	70.7	1,201
2010	407	47.4	14.0	275	70.0	1,268
2011	405	48.0	14.0	281	70.0	1,279
2012	379	48.3	14.1	309	69.6	1,365
2013	350	49.2	15.1	324	69.6	1,382
2014	339	49.2	15.2	348	69.4	1,378
2015	323	49.5	15.8	356	69.8	1,410
2016	299	49.7	16.7	375	69.5	1,414
2017	272	51.2	18.0	386	69.9	1,423

B. Financial Information

Retirement plan funding anticipates that, over the long term, both contributions (less administrative expenses) and investment earnings (less investment fees) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components. Since June 30, 2015, employee contributions are no longer required.

Additional financial information, including a summary of transactions for the valuation year, is presented in *Section 3, Exhibits D, E* and *F*.



It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

DETERMINATION OF ACTUARIAL VALUE OF ASSETS FOR YEAR ENDED SEPTEMBER 30, 2017

1.	Market value of assets, September 30, 2017				$83,566,338
		Original Amount *	**Percent Deferred**	**Unrecognized Amount****	
2.	Calculation of unrecognized return				
	(a) Year ended September 30, 2017	$3,937,441	80%	$3,149,953	
	(b) Year ended September 30, 2016	2,602,414	60	1,561,449	
	(c) Year ended September 30, 2015	-4,680,845	40	-1,872,338	
	(d) Year ended September 30, 2014	1,917,756	20	383,551	
	(e) Year ended September 30, 2013	2,975,144	0	0	
	(f) Total unrecognized return				3,222,615
3.	Preliminary actuarial value: **(1) - (2f)**				$80,343,723
4.	Adjustment to be within 20% corridor				0
5.	Final actuarial value of assets as of September 30, 2017: **(3) + (4)**				80,343,723
6.	Actuarial value as a percentage of market value: **(5) ÷ (1)**				96.1%
7.	Amount deferred for future recognition: **(1) - (5)**				$3,222,615

*Total return minus expected return on a market value basis

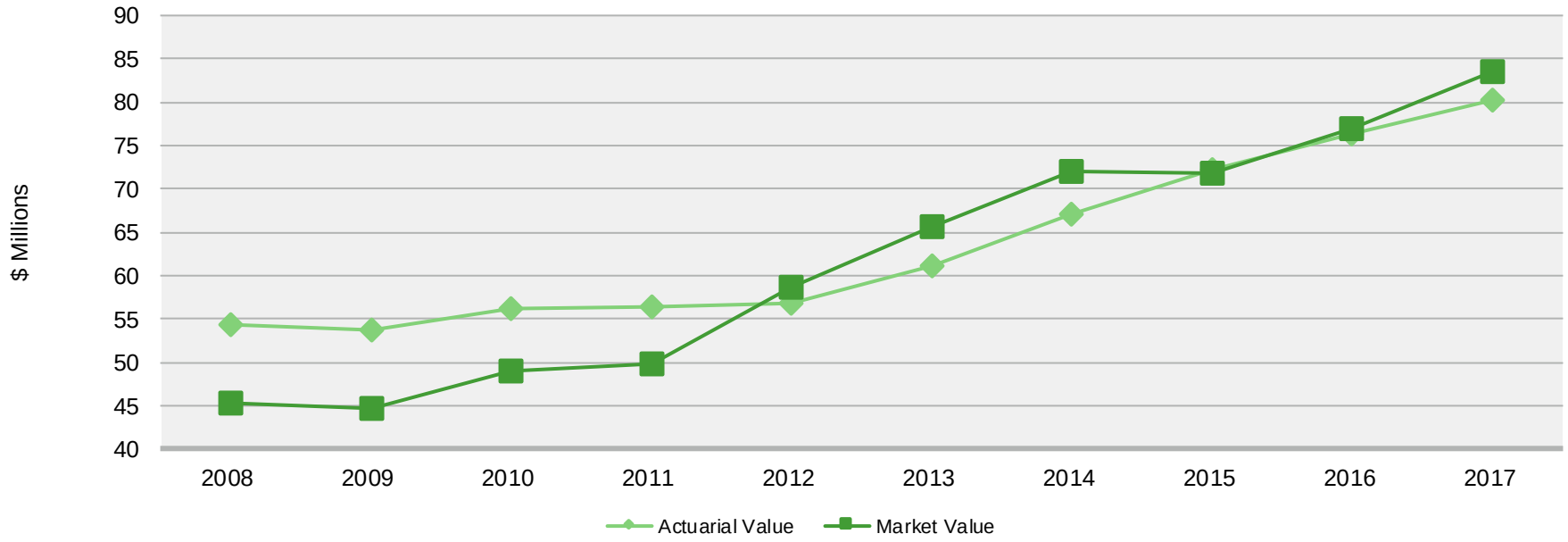
**Recognition at 20% per year over five years

***Deferred return as of September 30, 2017 recognized in each of the next four years:

(a) Amount recognized on September 30, 2018	$755,353
(b) Amount recognized on September 30, 2019	371,802
(c) Amount recognized on September 30, 2020	1,307,971
(d) Amount recognized on September 30, 2021	787,489

Both the actuarial value and market value of assets are representations of the Plan's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the Plan's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

ACTUARIAL VALUE OF ASSETS VS. MARKET VALUE OF ASSETS AS OF SEPTEMBER 30, 2008 – 2017



C. Actuarial Experience

To calculate any actuarially determined contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), any contribution requirement will decrease from the previous year. On the other hand, any contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total gain is $784,697, which includes $1,391,692 from investment gains and $606,995 in losses from all other sources. The net experience variation from individual sources other than investments was 0.5% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

ACTUARIAL EXPERIENCE FOR YEAR ENDED SEPTEMBER 30, 2017

1	Net gain from investments*	$1,391,692
2	Net loss from administrative expenses	-5,932
3	Net loss from other experience	-601,063
4	Net experience gain: 1 + 2 + 3	$784,697

* Details on next page.

Investment Experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Plan's investment policy. The rate of return on the market value of assets was 11.69% for the year ended September 30, 2017.

For valuation purposes, the assumed rate of return on the actuarial value of assets is 6.50%. The actual rate of return on an actuarial basis for the 2017 plan year was 8.35%. Since the actual return for the year was greater than the assumed return, the Plan experienced an actuarial gain during the year ended September 30, 2017 with regard to its investments.

INVESTMENT EXPERIENCE

		Year Ended September 30, 2017		Year Ended September 30, 2016	
		Market Value	Actuarial Value	Market Value	Actuarial Value
1	Net investment income	$8,865,531	$6,278,471	$7,205,701	$6,253,914
2	Average value of assets	75,816,770	75,181,215	70,819,794	71,136,025
3	Rate of return: 1 ÷ 2	11.69%	8.35%	10.17%	8.79%
4	Assumed rate of return	6.50%	6.50%	6.50%	6.50%
5	Expected investment income: 2 x 4	4,928,090	4,886,779	4,603,287	4,623,842
6	Actuarial gain/(loss): 1 – 5	$3,937,441	$1,391,692	$2,602,414	$1,630,072

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the actual market value investment return for the last 20 years, including averages over select time periods.

INVESTMENT RETURN – ACTUARIAL VALUE VS. MARKET VALUE: 1998 - 2017

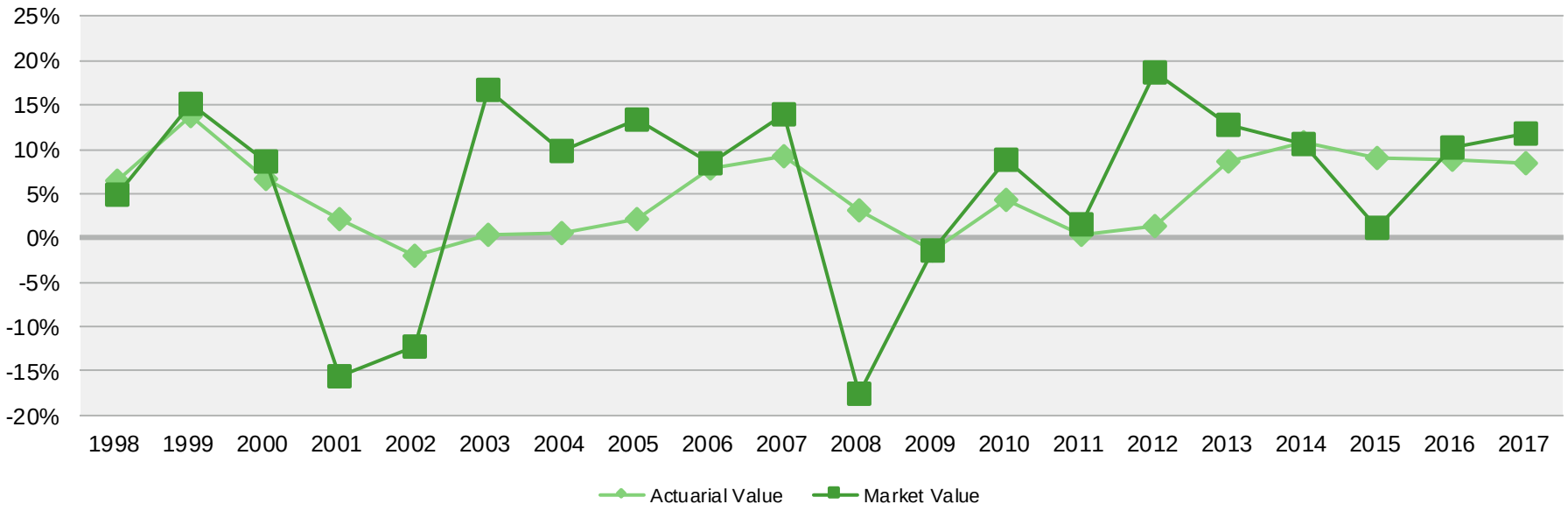
Year Ended September 30	Actuarial Value Investment Return		Market Value Investment Return		Year Ended September 30	Actuarial Value Investment Return		Market Value Investment Return	
	Amount	Percent	Amount	Percent		Amount	Percent	Amount	Percent
1998	$1,846,754	6.53%	$1,538,226	4.93%	2008	$1,675,076	3.18%	-$9,681,175	-17.62%
1999	4,100,928	13.68	4,953,154	15.19	2009	-719,568	-1.33	-614,363	-1.36
2000	2,275,185	6.71	3,198,136	8.56	2010	2,317,502	4.31	3,965,519	8.85
2001	761,703	2.12	-6,269,366	-15.58	2011	181,955	0.32	782,364	1.60
2002	-730,271	-2.01	-4,112,516	-12.18	2012	735,791	1.31	9,274,615	18.74
2003	104,196	0.29	4,982,098	16.78	2013	4,829,509	8.55	7,494,369	12.85
2004	216,706	0.60	3,444,832	9.86	2014	6,598,330	10.86	6,975,362	10.69
2005	810,587	2.21	5,187,288	13.38	2015	6,068,838	9.11	859,603	1.20
2006	2,992,573*	7.89	3,767,338	8.49	2016	6,253,914	8.79	7,205,701	10.17
2007	4,443,025	9.20	6,757,891	13.99	2017	6,278,471	8.35	8,865,531	11.69
Total	$16,821,386		$23,447,081			$34,219,818		$35,127,526	
					Most recent five-year average return		9.10%		9.19%
					Most recent ten-year average return		5.67%		6.00%
					Most recent 15-year average return		6.27%		7.59%
					Most recent 20-year average return		5.96%		6.14%

Note: Each year's yield is weighted by the average asset value in that year.

* Does not include change in asset valuation method.

Subsection B described the actuarial asset valuation method that gradually recognizes fluctuations in the market value rate of return. The goal of this is to stabilize the actuarial rate of return and to produce more level pension plan costs.

MARKET AND ACTUARIAL RATES OF RETURN FOR YEARS ENDED SEPTEMBER 30, 1998 - 2017



Administrative Expenses

Administrative expenses for the year ended September 30, 2017 totaled $27,102 compared to the assumption of $19,878. This resulted in a loss of $5,932 for the year. We have changed the assumption from $19,878 to the prior year's reported amount $26,335 for the current year, in accordance with Florida Law.

Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among participants,
- retirement experience (earlier or later than projected),
- mortality (more or fewer deaths than projected), and
- the number of disability retirements (more or fewer than projected).

The net loss from this other experience for the year ended September 30, 2017 amounted to $601,063, which is 0.5% of the actuarial accrued liability.

LIABILITY CHANGES DUE TO DEMOGRAPHIC EXPERIENCE FOR YEAR ENDED SEPTEMBER 30, 2017

Turnover experience	$150,445
Disability retirement experience	56,231
Retirement experience for active and terminated vested participants	56,145
Pre-retirement mortality	-30,792
Post-retirement mortality experience	-1,210,577
Other demographic experience	-377,485
Total	-$601,063

D. Changes in the Actuarial Accrued Liability

The actuarial accrued liability as of October 1, 2017 is $111,609,859, an increase of $875,268, or 0.8%, from the actuarial accrued liability as of the prior valuation date. The liability is expected to grow each year with interest, and to decline due to benefit payments made. Additional fluctuations can occur due to actuarial experience (as discussed in the previous subsection).

Actuarial Assumptions

- The administrative expense assumption was increased from $20,457 payable monthly to $27,102 payable monthly.
- Details on actuarial assumptions and methods are in *Section 4, Exhibit I*.

Plan Provisions

- There were no changes in plan provisions since the prior valuation.
- A summary of plan provisions is in *Section 4, Exhibit II*.

E. Development of Unfunded Actuarial Accrued Liability

DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITY FOR YEAR ENDED SEPTEMBER 30, 2017

1	Unfunded actuarial accrued liability at beginning of year		$34,437,414
2	Normal cost at beginning of year		19,878
3	Total contributions		-4,499,935
4	Interest		
	• For whole year on 1 + 2	$2,239,724	
	• For half year on 3	-146,248	
	Total interest		2,093,476
5	Expected unfunded actuarial accrued liability		$32,050,833
6	Changes due to net experience gains and losses		-$784,697
7	Unfunded actuarial accrued liability at end of year		$31,266,136

F. Actuarially Determined Contribution

The actuarially determined contribution is equal to the employer normal cost payment and a payment on the unfunded actuarial accrued liability. There are ten years remaining on the amortization schedule for the unfunded liability. As of October 1, 2017, the actuarially determined contribution is $4,377,313.

The contribution requirement as of October 1, 2017 is based on the data previously described, the actuarial assumptions and Plan provisions described in *Section 4*, including all changes affecting future costs adopted at the time of the actuarial valuation, actuarial gains and losses, and changes in the actuarial assumptions.

ACTUARIALLY DETERMINED CONTRIBUTION FOR YEAR BEGINNING OCTOBER 1

		2017	2016
1.	Total normal cost, including administrative expenses	$26,335	$19,878
2.	Expected employee contributions	0	0
3.	Employer normal cost: (1) - (2)	26,335	19,878
4.	Actuarial accrued liability	111,609,859	110,734,591
5.	Actuarial value of assets	80,343,723	76,297,177
6.	Unfunded actuarial accrued liability: (4) - (5)	31,266,136	34,437,414
7.	Payment on unfunded actuarial accrued liability	4,110,153	4,225,291
8.	Total recommended contribution: (3) + (7), adjusted for timing*	4,377,313	$4,499,935

*Actuarially determined contributions are assumed to be paid at the end of every year.

Reconciliation of Actuarially Determined Contribution

The chart below details the changes in the actuarially determined contribution from the prior valuation to the current year's valuation.

RECONCILIATION OF ACTUARIALLY DETERMINED CONTRIBUTION FROM OCTOBER 1, 2016 TO OCTOBER 1, 2017

	Amount
Actuarially Determined Contribution as of October 1, 2016	$4,499,935
• Effect of change in administrative expense assumption	6,877
• Effect of investment gain	-193,591
• Effect of other gains and losses on accrued liability	64,092
Total change	-$122,622
Actuarially Determined Contribution as of October 1, 2017	$4,377,313

G. History of Employer Contributions

A history of the most recent years of contributions is shown below.

HISTORY OF EMPLOYER CONTRIBUTIONS: 2009 – 2018

Fiscal Year Ended September 30	Actuarially Determined Employer Contribution (ADEC)*	Actual Employer Contribution	Percent Contributed
2009	$3,347,010	$3,347,010	100.00%
2010	4,028,814	4,050,000	100.53%
2011	4,115,761	4,115,761	100.00%
2012	4,153,621	4,153,621	100.00%
2013	4,641,428	4,641,428	100.00%
2014	4,972,378	4,972,378	100.00%
2015	4,889,995	4,889,995	100.00%
2016	4,274,277	4,274,277	100.00%
2017	4,499,935	4,499,935	100.00%
2018	4,377,313	--	N/A

*Prior to 2012, this amount was the Annual Required Contribution (ARC)

H. Risk

Since the actuarial valuation results are dependent on a given set of assumptions and data as of a specific date, there is a risk that emerging results may differ significantly as actual experience differs from the assumptions.

This report does not contain a detailed analysis of the potential range of future measurements, but does include a brief discussion of some risks that may affect the Plan. Upon request, a more detailed assessment of the risks can be provided to enable a better understanding of the risks specific to your Plan.

- Investment Risk (the risk that returns will be different than expected)

  The market value rate of return over the last 20 years has ranged from a low of -17.62% to a high of 18.74%.

- Longevity Risk (the risk that mortality experience will be different than expected)

  The actuarial valuation includes an expectation of future improvement in life expectancy. Emerging plan experience that does not match these expectations will result in either an increase or decrease in the actuarially determined contribution.

- Contribution Risk (the risk that actual contributions will be different from actuarially determined contribution)

  The Plan's funding policy requires payment of the actuarially determined contribution. As long as this policy is adhered to, contribution risk is negligible.

- Demographic Risk (the risk that participant experience will be different than assumed)

  Examples of this risk include:

  - Actual retirements occurring earlier or later than assumed. The value of retirement plan benefits is sensitive to the rate of benefit accruals and any early retirement subsidies that apply.
  - More or less active participant turnover than assumed.

- Maturity Measures

  As pension plans mature, the cash need to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities.

  Currently the Plan has a non-active to active participant ratio of 1.77. For the prior year benefits paid were $2,219,284 more than contributions received. As the Plan matures, more cash will be needed from the investment portfolio to meet benefit payments.

I. Actuarial Balance Sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, first the amount and timing of all future payments that will be made by the Plan for current participants is determined. Then these payments are discounted at the valuation interest rate to the date of the valuation, thereby determining the present value, referred to as the "liability" of the Plan.

Second, this liability is compared to the assets. The "assets" for this purpose include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments for the unfunded actuarial accrued liability.

ACTUARIAL BALANCE SHEET

	Year Ended	
	September 30, 2017	**September 30, 2016**
Liabilities		
• Present value of benefits for retired participants and beneficiaries	$73,759,544	$71,637,361
• Present value of benefits for inactive vested participants	3,908,302	4,228,649
• Present value of benefits for active participants	33,942,013	34,868,581
Total liabilities	**$111,609,859**	**$110,734,591**
Assets		
• Total valuation value of assets	$80,343,723	$76,297,177
• Present value of future contributions by members	0	0
• Present value of future employer contributions for:		
» Entry age cost	0	0
» Unfunded actuarial accrued liability	31,266,136	34,437,414
Total of current and future assets	**$111,609,859**	**$110,734,591**

Section 3: Supplemental Information

EXHIBIT A – TABLE OF PLAN COVERAGE

Category	Year Ended September 30		Change From Prior Year
	2017	2016	
Active participants in valuation:			
• Number	272	299	-9.0%
• Average age	51.2	49.7	1.5
• Average years of service	18.0	16.7	1.3
• Account balances	4,801,021	4,878,585	-1.6%
Inactive vested participants	92	93	-1.1%
Beneficiaries with rights to a deferred benefit	3	3	0.0%
Retired participants:			
• Number in pay status	325	315	3.2%
• Average age	70.4	70.0	0.4
• Average monthly benefit	$1,471	$1,457	1.0%
Disabled participants:			
• Number in pay status	14	15	-6.7%
• Average age	63.2	62.4	0.8
• Average monthly benefit	$1,129	$1,207	-6.5%
Beneficiaries:			
• Number in pay status	47	45	4.4%
• Average age	77.4	78.2	-0.8
• Average monthly benefit	$1,182	$1,186	-0.3%

EXHIBIT B – PARTICIPANTS IN ACTIVE SERVICE AS OF SEPTEMBER 30, 2017
BY AGE AND YEARS OF SERVICE

		Years of Service								
Age	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	3	3	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	9	6	2	1	- -	- -	- -	- -	- -	- -
30 - 34	11	4	2	5	- -	- -	- -	- -	- -	- -
35 - 39	22	5	5	9	3	- -	- -	- -	- -	- -
40 - 44	15	- -	1	6	4	4	- -	- -	- -	- -
45 - 49	45	5	6	8	13	4	8	1	- -	- -
50 - 54	53	1	3	4	13	9	14	7	2	- -
55 - 59	62	6	5	9	8	3	14	10	5	2
60 - 64	41	1	6	6	4	7	10	1	5	1
65 - 69	8	1	1	1	- -	3	1	1	- -	- -
70 & over	3	1	- -	1	1	- -	- -	- -	- -	- -
Total	272	33	31	50	46	30	47	20	12	3

EXHIBIT C – RECONCILIATION OF PARTICIPANT DATA

	Active Participants	Inactive Vested Participants*	Disableds	Retired Participants	Beneficiaries	Total
Number as of October 1, 2016	**299**	**96**	**15**	**315**	**45**	**770**
• New participants	0	N/A	N/A	N/A	N/A	0
• Terminations – with vested rights	-7	7	0	0	0	0
• Terminations – without vested rights	0	N/A	N/A	N/A	N/A	0
• Retirements	-7	-8	N/A	15	N/A	0
• New disabilities	0	0	0	N/A	N/A	0
• Died with beneficiary	0	0	-1	-3	4	0
• Died without beneficiary	0	0	0	-2	-1	-3
• Lump sum cash-outs	-11	0	0	0	0	-11
• Certain period expired	N/A	N/A	0	0	-1	-1
• Data adjustments	-2	0	0	-1	0	-3
• New QDRO	0	0	0	1	0	1
Number as of October 1, 2017	**272**	**95**	**14**	**325**	**47**	**753**

*Includes beneficiaries entitled to deferred benefits.

EXHIBIT D – SUMMARY STATEMENT OF INCOME AND EXPENSES ON A MARKET VALUE BASIS

	Year Ended September 30 , 2017		Year Ended September 30 , 2016	
Net assets at market value at the beginning of the year		$76,932,732		$71,912,556
Contribution income:				
• Employer contributions	$4,499,935		$4,274,277	
• Employee contributions	0		0	
• Less administrative expenses	-27,102		-20,457	
Net contribution income		*$4,472,833*		*$4,253,820*
Other income*		$14,461		$0
Investment income:				
• Interest, dividends and other income	$1,861,574		$1,850,699	
• Asset appreciation	7,415,969		5,752,488	
• Less investment fees	-412,012		-397,486	
Net investment income		*$8,865,531*		*$7,205,701*
Total income available for benefits		**$13,352,825**		**$11,459,521**
Less benefit payments:				
• Pension Payments	-$6,710,602		-$6,408,133	
• Refunds	-8,617		-31,212	
Net benefit payments		*-$6,719,219*		*-$6,439,345*
Change in reserve for future benefits		**$6,633,606**		**$5,020,176**
Net assets at market value at the end of the year		**$83,566,338**		**$76,932,732**

*Income from purchase of prior military service.

EXHIBIT E – SUMMARY STATEMENT OF PLAN ASSETS

	September 30 , 2017	September 30 , 2016
Investments:		
• Equities	$43,022,534	$40,037,493
• International equities	8,990,884	7,445,164
• Fixed income	27,440,084	25,487,499
• Real estate	4,114,674	3,990,980
Total assets	$83,568,176	$76,961,136
Total accounts payable	-1,838	-28,404
Net assets at market value	**$83,566,338**	**$76,932,732**
Net assets at actuarial value	**$80,343,723**	**$76,297,177**

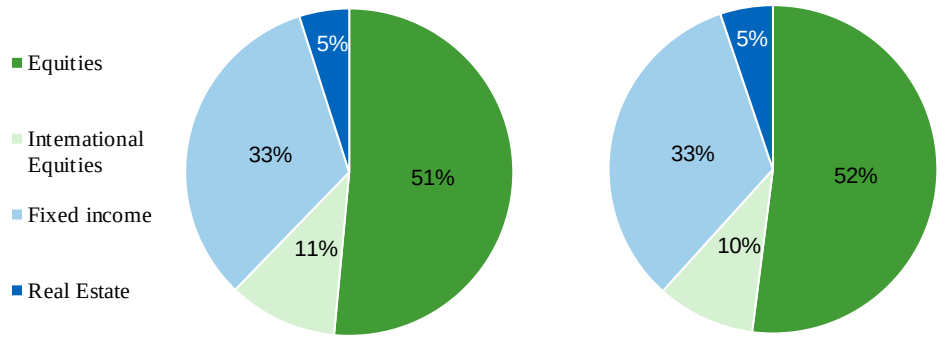


EXHIBIT F – DEVELOPMENT OF THE FUND THROUGH SEPTEMBER 30, 2017

Year Ended September 30	Employer Contributions	Employee Contributions	Net Investment Return*	Admin. Expenses	Benefit Payments	Market Value of Assets at Year-End	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Market Value
2008	$2,866,308	$295,394	-$9,681,175	$0	$3,283,957	$45,206,720	$54,248,064	120.0%
2009	3,347,010	321,102	-614,363	0	3,579,773	44,680,696	53,616,835	120.0%
2010	4,050,000	339,504	3,965,519	0	4,133,241	48,902,478	56,190,600	114.9%
2011	4,115,761	520,384	782,364	0	4,605,651	49,715,336	56,403,049	113.5%
2012	4,153,621	507,866	9,274,615	0	5,099,786	58,551,652	56,700,541	96.8%
2013	4,641,428	483,024	7,494,369	0	5,602,587	65,567,886	61,051,915	93.1%
2014	4,972,378	461,199	6,975,362	0	6,050,479	71,926,346	67,033,343	93.2%
2015	4,889,995	373,250	859,603	32,265	6,104,373	71,912,556	72,228,788	100.4%
2016	4,274,277	0	7,205,701	20,457	6,439,345	76,932,732	76,297,177	99.2%
2017	4,499,935	14,461**	8,865,531	27,102	6,719,219	83,566,338	80,343,723	96.1%

* On a market basis, net of investment fees and administrative expenses prior to fiscal 2015

** Income from purchase of prior military service

EXHIBIT G - TABLE OF AMORTIZATION BASES

Type*	Date Established	Years Remaining	Outstanding Balance	Annual Payment*
Unfunded actuarial accrued liability	10/1/2017	10	$31,266,136	$4,083,818

**Effective October 1, 2015, as a result of the plan freeze, the unfunded actuarial accrued liability was amortized on a level dollar basis over twelve years to approximate the average future-working lifetime of the remaining active population. As of October 1, 2017, the remaining period has been reduced to ten years. The period will be evaluated annually and adjusted as necessary. New gains and losses are added to the outstanding balance each year.*

EXHIBIT H – DEFINITION OF PENSION TERMS

The following list defines certain technical terms for the convenience of the reader:

Actuarial Accrued Liability for Actives:	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial Accrued Liability for Pensioners and Beneficiaries:	The single-sum value of lifetime benefits to existing pensioners and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Cost Method:	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.
Actuarial Gain or Loss:	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield in actuarial liabilities that are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.
Actuarially Equivalent:	Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Actuarial Present Value of Future Plan Benefits:	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB, such as the Actuarially Determined Contribution (ADC) and the Net Pension Liability (NPL).
Actuarial Value of Assets (AVA):	The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ADC.
Actuarially Determined:	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization Payment:	The portion of the pension plan contribution, or ADC, that is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
Assumptions or Actuarial Assumptions:	The estimates upon which the cost of the Fund is calculated, including: Investment return - the rate of investment yield that the Fund will earn over the long-term future;

	Mortality rates - the death rates of employees and pensioners; life expectancy is based on these rates; Retirement rates - the rate or probability of retirement at a given age or service; Disability rates – the probability of disability retirement at a given age; Withdrawal rates - the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; Salary increase rates - the rates of salary increase due to inflation and productivity growth.
Closed Amortization Period:	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Open Amortization Period.
Decrements:	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
Defined Benefit Plan:	A retirement plan in which benefits are defined by a formula applied to the member's compensation and/or years of service.
Defined Contribution Plan:	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Employer Normal Cost:	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Experience Study:	A periodic review and analysis of the actual experience of the Fund that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.
Funded Ratio:	The ratio of the actuarial value of assets (AVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the market value of assets (MVA), rather than the AVA.
GASB 67 and GASB 68:	Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.

Investment Return:	The rate of earnings of the Fund from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.
Net Pension Liability (NPL):	The Net Pension Liability is equal to the Total Pension Liability minus the Plan Fiduciary Net Position.
Normal Cost:	That portion of the Actuarial Present Value of pension plan benefits and expenses allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated.
Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period with level percentage of payroll is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never decrease, but will become smaller each year, in relation to covered payroll, if the actuarial assumptions are realized.
Plan Fiduciary Net Position:	Market value of assets.
Total Pension Liability (TPL):	The actuarial accrued liability under the entry age normal cost method and based on the blended discount rate as described in GASB 67 and 68.
Unfunded Actuarial Accrued Liability:	The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.

EXHIBIT I – SUPPLEMENTARY STATE OF FLORIDA INFORMATION
RECENT HISTORY OF RECOMMENDED AND ACTUAL CONTRIBUTIONS

Fiscal Year Ended September 30	Valuation Date September 30	Recommended Contribution	Actual Contribution
2008	2007	$2,866,308	$2,866,308
2009	2008	3,347,010	3,347,010
2010	2009	4,028,814	4,050,000
2011	2010	4,115,761	4,115,761
2012	2011	4,153,621	4,153,621
2013	2012	4,641,428	4,641,428
2014	2013	4,972,378	4,972,378
2015	2014	4,889,995	4,889,995
2016	2015	4,274,277	4,274,277
2017	2016	4,499,935	4,499,935
2018	2017	4,377,313	--

EXHIBIT I (CONTINUED) – SUPPLEMENTARY STATE OF FLORIDA INFORMATION
COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	Year Ended September 30, 2017	Year Ended September 30, 2016
Participant data		
• Active members	272	299
• Retired members and beneficiaries	386	375
• Total annualized benefit	$6,592,243	$6,363,444
• Terminated vested members	95	96
• Total annualized benefit	$729,807	$802,812
Actuarial value of assets	$80,343,723	$76,297,177
Present value of all future expected benefit payments:		
• Active members:		
» Retirement benefits	$26,461,961	$26,971,348
» Vesting benefits	650,635	791,712
» Disability benefits	1,283,481	1,423,561
» Death benefits	744,915	803,375
» Return of contributions	4,801,021	4,878,585
» Total	$33,942,013	$34,868,581
• Terminated vested members	3,906,032	4,228,649
• Retired members and beneficiaries	73,759,544	71,637,361
Total	$111,609,859	$110,734,591

EXHIBIT I (CONTINUED) – SUPPLEMENTARY STATE OF FLORIDA INFORMATION
COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	Year Ended September 30, 2017		
	Old Plan New Assumptions	Old Plan Old Assumptions	Year Ended September 30, 2016
Unfunded actuarial accrued liability	$31,266,136	$31,266,136	$34,437,414
Actuarial present value of accrued benefits			
Vested accrued benefits			
Active members	$33,846,641	$33,846,641	$34,753,034
Inactive members	3,908,302	3,908,302	4,228,649
Pensioners and beneficiaries	73,759,544	73,759,544	71,637,361
Nonvested active members	162,066	162,066	198,988
Total	$111,676,553	$111,676,553	$110,818,032
Pension cost			
Normal cost, including administrative expenses	$26,335	$19,878	$19,878
Expected employee contributions	- -	- -	- -
Payment to amortize unfunded actuarial accrued liability	4,083,818	4,083,818	4,205,413
Total minimum annual cost payable monthly at valuation date	4,377,313	4,370,436	4,499,935

EXHIBIT I (CONTINUED) – SUPPLEMENTARY STATE OF FLORIDA INFORMATION
ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS

Factors	Change in Actuarial Present Value of Accumulated Plan Benefits	
Actuarial present value of accumulated benefits as of October 1, 2016		$110,818,032
Benefits accumulated, net experience gain or loss, changes in data	$611,141	
Benefits paid	-6,719,219	
Interest	6,966,599	
Changes in assumptions		
Plan changes		
Net increase	$858,521	
Actuarial present value of accumulated benefits as of October 1, 2017		$111,676,553

Section 4: Actuarial Valuation Basis

EXHIBIT I – ACTUARIAL ASSUMPTIONS AND ACTUARIAL COST METHOD

Rationale for Assumptions	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the Actuarial Experience Study for the five year period ending September 30, 2008. Current data is reviewed in conjunction with each annual valuation. Based on professional judgment, no assumption changes are warranted at this time.	
Net Investment Return:	6.50%. The net investment return assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio's asset classes as provided by Segal Marco Advisors, as well as the Plan's target asset allocation.	
Payroll Growth:	N/A	
Cost-of-Living Adjustments:	1% per year to all retirees and beneficiaries	
Mortality Rates:	*Healthy pre-retirement:*	50% RP2000 Combined Healthy White Collar and 50% RP2000 Combined Healthy Blue Collar, projected generationally with Scale BB for males; RP2000 Combined Healthy White Collar, projected generationally with Scale BB for females.
	Healthy post-retirement:	50% RP2000 White Collar Annuitant and 50% RP2000 Blue Collar Annuitant, projected generationally with Scale BB for males; RP2000 White Collar Annuitant, projected generationally with Scale BB for females.
	Disabled:	RP-2000 Disabled Retiree Mortality Table, set back four years for males and forward two years for females. Per Florida Statute Section 112.63(f), the mortality tables were updated in the October 1, 2016 actuarial valuation.

Termination Rates before Retirement:

Age	Rate (%)			
	Mortality*			
	Male	Female	Disability	Withdrawal**
20	0.03	0.02	0.03	15.57
25	0.04	0.02	0.04	11.44
30	0.04	0.03	0.05	10.27
35	0.06	0.05	0.07	8.06
40	0.09	0.06	0.10	5.59
45	0.13	0.10	0.16	3.38
50	0.20	0.16	0.27	1.43
55	0.33	0.26	0.45	0.65
60	0.56	0.47	0.73	0.00
65	1.11	0.87	0.00	0.00

** Tabular rates do not include generational projection.*

*** Withdrawal rates cut off at Early Retirement Age.*

Retirement Rates:

Retirement Age	Rate (per year)
55	22.00%
56-57	2.50%
58	8.00
59-61	10.00%
62	40.00
63	10.00
64	17.50
65	25.00
66-69	35.00
70	100.00

Retirement Age for Inactive Vested Participants:	65
Unknown Data for Participants:	Same as those exhibited by Participants with similar known characteristics. If not specified, Participants are assumed to be male.
Percent Married:	80%
Age of Spouse:	Females three years younger than males
Salary Increases:	N/A
Administration Expenses:	$27,102, paid monthly
Actuarial Value of Assets:	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five-year period. The actuarial value of assets is further adjusted, if necessary, to be within 20% of the market value.
Actuarial Cost Method:	Entry Age Normal Cost Method. Entry Age is the age at the time the participant commenced employment. Normal Cost and Actuarial Accrued Liability is calculated on an individual basis and are allocated by service, with Normal Cost determined as if the current benefit accrual rate had always been in effect.
Changes in Actuarial Assumptions:	The administrative expense assumption was increased to $27,102, payable monthly.

EXHIBIT II – SUMMARY OF PLAN PROVISIONS

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	October 1 through September 30	
Plan Status:	Frozen, with no future accruals as of July 1, 2015	
Normal Retirement:	Participants with 25 years of service or vested participants who have reached age 65 by September 30, 2010:	
	Age Requirement	65
	Service Requirement	5 years of continuous service
	Amount	2.25% of Average Basic Monthly Compensation for each of the first 25 years of continuous service plus 0.5% of Average Basic Monthly Compensation for each year thereafter
	Basic Monthly Compensation	The average salary of the Member's highest five consecutive years within the last 10 years of consecutive service preceding retirement. The salary in effect on each January 1st shall be used as the basis for this computation.
	Normal Annuity Form	Single life
	Participants with less than 25 years of service or employees younger than age 65 on October 1, 2010:	
	Age Requirement	65
	Service Requirement	5 years of continuous service
	Amount	2.25% of Average Basic Monthly Compensation for each year of service accrued before October 1, 2010 plus 1.60% of Average Basic Monthly Compensation for each year of service accrued after September 30, 2010
	Basic Monthly Compensation	The average salary of the Member's highest five consecutive years within the last 10 years of consecutive service preceding retirement. The salary in effect on each January 1st shall be used as the basis for this computation.
	Normal Annuity Form	Single life

Early Retirement:	Participants with 25 years of service or vested participants who have reached age 65 by September 30, 2010: *Age Requirement*: 55 *Service Requirement*: 5 years of continuous service *Amount*: Normal pension accrued reduced by 1.5% for each year preceding normal retirement. Participants with less than 25 years of service or employees younger than age 65 on October 1, 2010: *Age Requirement*: 55 *Service Requirement*: 5 years of continuous service *Amount*: Normal pension accrued reduced by 1.5% for each year preceding normal retirement for benefits accrued before October 1, 2010 and 3% for each year preceding normal retirement for benefits accrued after September 30, 2010.
Disability:	*Age Requirement*: None *Service Requirement*: 5 years of continuous service *Amount*: Normal pension accrued, but not less than 25% of Basic Monthly Compensation at date of disability. The monthly benefit payable when combined with any benefit payable under workers compensation and social security, shall not exceed 100% of the participants final basic monthly salary at the time of disability.
Vesting:	All participants vested as of July 1, 2015. *Age Requirement*: None *Service Requirement*: 5 years of continuous service *Amount*: Refund of contributions or the Normal retirement benefit, payable at Normal retirement date. If participant elects an earlier commencement date, early retirement reduction factors apply.

Pre-Retirement Death Benefit	*Requirement*	Death while in active service or on total and permanent disability.
	Amount	a. Before Vesting If a member dies before becoming Vested, the spouse (or designated beneficiary, if not married) receives 100% of the member's contributions without interest. b. After Vesting A benefit payable to the spouse (or designated beneficiary, if not married) as though participant had retired on his date of death and chosen the 66 2/3% joint and survivor option; benefit begins when the participant would have reached age 55.
Participation:	Effective October 1, 2010, an employee begins participation on the first day of the month following date of hire. For employees hired prior to October 1, 2010 who had not met the previous eligibility requirement for participation in the Plan, participation began on October 1, 2010.	
Contributions:	Members no longer pay contributions, but some have balances remaining in the plan.	
Military Service Buy Back:	Vested employees with prior military service may elect to purchase up to 4 years of retirement credit. The cost of purchase shall be determined by the employee's current contribution rate at the time of purchase, multiplied by the number of months being purchased.	
Cost of Living Adjustment:	Benefits will be increased 1% each year on October 1st for all retirees and beneficiaries receiving benefits at the time of each increase and who retired on or after October 1, 1998. The Board may grant the COLA to annuitants who retired prior to October 1, 1998 at their discretion.	
Changes in Plan Provisions:	There were no changes in Plan provisions since the prior valuation.	

Segal Consulting

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VIA EMAIL

February 23, 2018

Ms. Cindy Lawson
Finance Director
City of Vero Beach
1053 20th Place
Vero Beach, FL 32960

Re: GASB Statements 67 & 68 Disclosures for the City of Vero Beach General Employee Retirement Plan for Fiscal Year Ending September 30, 2017

Dear Cindy:

We are pleased to submit these updated Governmental Accounting Standards Board Statements 67 and 68 disclosures for the City of Vero Beach Employee Retirement Plan fiscal year ending September 30, 2017. The exhibits contain information that will need to be disclosed in order to comply with the GASB requirements for pension plan reporting. See Illustration 3 of GASB Statement 67 and Illustration 2 of GASB Statement 68 for items to be included in the financial statements, note disclosures, and required supplementary information. These can be found on the GASB website under Pronouncements. Information shown in Illustration 3 of GASB Statement 67 and Illustration 2 of GASB Statement 68 not included here will need to be provided by the City of Vero Beach Finance and/or Human Resource departments, investment consultant or auditor.

This report was prepared in accordance with generally accepted actuarial principles and practices to assist in administering the Retirement Plan. The census and financial information on which our calculations were based was provided by the Finance Department, in conjunction with the Human Resource Department. That assistance is gratefully acknowledged.

The measurements shown in these disclosures may not be applicable for other purposes. 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; and changes in plan provisions or applicable law.

The actuarial calculations were completed under my supervision. I am a member of the American Academy of Actuaries and meet their Qualification Standards to render the actuarial opinion herein. To the best of my knowledge, the information supplied in these disclosures is complete and accurate. Further, in my opinion, the assumptions as approved by the Board of Trustees are reasonably related to the experience for the Plan.

Sincerely,

Malichi S. Waterman, FCA, MAAA, EA
Consulting Actuary

cc: Leon F. (Rocky) Joyner, Jr.

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EXHIBIT 1

General Information – "Financial Statements", Note Disclosures and Required Supplementary Information for a Single Employer Pension Plan

Plan membership: All qualified participants of the General Employee Retirement Plan of Vero Beach, Florida

At September 30, 2016, pension plan membership consisted of the following:

Retirees or beneficiaries currently receiving benefits	375
Terminated participants entitled to, but not yet receiving benefits	96
Active employees	299
Total	770

At September 30, 2017, pension plan membership consisted of the following:

Retirees or beneficiaries currently receiving benefits	386
Terminated participants entitled to, but not yet receiving benefits	95
Active employees	272
Total	753

Plan provisions: Please see a copy of the October 1, 2017 actuarial valuation for a summary of plan benefits.

EXHIBIT 2

Net Pension Liability

The components of the net pension liability of the Retirement Plan at September 30, 2017 were as follows:	
Total pension liability	$110,065,427
Plan fiduciary net position	83,566,338
City's net pension liability	26,499,089
Plan fiduciary net position as a percentage of the total pension liability	75.92%

Actuarial assumptions: The total pension liability was determined by an actuarial valuation as of October 1, 2017, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	N/A
Salary increases	N/A
Investment rate of return	6.50%, including inflation, net of pension plan investment expense
Cost-of-living adjustments	1.00% annually

Mortality Rates:

Healthy pre-retirement:	50% RP2000 Combined Healthy White Collar and 50% RP2000 Combined Healthy Blue Collar, projected generationally with Scale BB for males; RP2000 Combined Healthy White Collar, projected generationally with Scale BB for females.
Healthy post-retirement:	50% RP2000 White Collar Annuitant and 50% RP2000 Blue Collar Annuitant, projected generationally with Scale BB for males; RP2000 White Collar Annuitant, projected generationally with Scale BB for females.
Disabled:	RP-2000 Disabled Retiree Mortality Table, set back four years for males and forward two years for females.

The mortality rates were selected based on Florida Statute Section 112.63(f).

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. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target asset allocation as of September 30, 2017 are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic equity	50%	6.71%
International equity	10%	7.71%
Fixed income	30%	2.11%
Short-term money market	5%	1.10%
Real estate	5%	5.21%
Total	100%	

Discount rate: The blended discount rate used to measure the total pension liability is 6.50%. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at their applicable contribution rates and that City contributions will be made at rates equal to the actuarially determined contribution rates. Based on these assumptions, the Fund'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 the Plan's investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the net pension liability to changes in the discount rate: The following presents the net pension liability of the Fund, calculated using the discount rate of 6.50%, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is one percentage point lower (5.50%) or one percentage point higher (7.50%) than the current rate:

	1% Decrease (5.50%)	Current Discount Rate (6.50%)	1% Increase (7.50%)
Net pension liability	$39,120,750	$26,499,089	$15,936,218

EXHIBIT 3

Schedule of Changes in Retirement Fund's Net Pension Liability – Last Three Fiscal Years

	2017	2016	2015
Total pension liability			
Service cost	$557,046	$689,965	$1,455,560
Interest	6,853,564	6,546,450	7,466,958
Change of benefit terms	0	0	-1,270,795
Differences between expected and actual experience	1,132,034	358,687	2,986,908
Changes of assumptions	0	3,151,956	0
Benefit payments, including refunds of employee contributions	-6,719,219	-6,439,345	-6,104,373
Net change in total pension liability	$1,823,425	$4,307,713	$4,534,258
Total pension liability – beginning	108,242,002	103,934,289	99,400,031
Total pension liability – ending (a)	$110,065,427	$108,242,002	$103,934,289
Plan fiduciary net position			
Contributions – employer	$4,499,935	$4,274,277	$4,889,995
Contributions – employee	0	0	373,250
Net investment income	8,865,531	7,205,701	859,603
Benefit payments, including refunds of employee contributions	-6,719,219	-6,439,345	-6,104,373
Administrative expense	-27,102	-20,457	-32,265
Other	14,461	0	0
Net change in plan fiduciary net position	$6,633,606	$5,020,176	-$13,790
Plan fiduciary net position – beginning	76,932,732	71,912,556	71,926,346
Plan fiduciary net position – ending (b)	$83,566,338	$76,932,732	$71,912,556
City's net pension liability – ending (a) – (b)	$26,499,089	$31,309,270	$32,021,733
Plan fiduciary net position as a percentage of the total pension liability	75.92%	71.07%	69.19%
Covered employee payroll*	TBD	TBD	$15,456,663
City's net pension liability as percentage of covered employee payroll*	TBD	TBD	207.17%

**Effective September 30, 2015 the Plan was frozen with no new accruals; employer contributions are no longer related to payroll.*

Notes to Schedule:

Benefit changes: See the end of Exhibit 1 for changes in benefit provisions.

Change of assumptions: For fiscal year 2016 the mortality rates were updated in accordance with Florida Statute Section 112.63(f).

EXHIBIT 4

Schedule of City of Vero Beach's Contributions to General Employee Retirement Plan – Last Ten Fiscal Years

Year Ended September 30	Actuarially Determined Contribution	Contributions in Relation to the Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered-Employee Payroll*	Contributions as a Percentage of Covered-Employee Payroll
2008	$2,866,308	$2,866,308	$0	$15,539,566	18.45%
2009	3,347,010	3,347,010	0	16,548,463	20.23%
2010	4,028,814	4,050,000	(21,186)	18,811,487	21.42%
2011	4,115,761	4,115,761	0	19,305,268	21.32%
2012	4,153,621	4,153,621	0	18,830,488	22.06%
2013	4,641,428	4,641,428	0	17,094,905	27.15%
2014	4,972,378	4,972,378	0	16,224,526	30.65%
2015	4,889,995	4,889,995	0	15,704,293	31.14%
2016	4,274,277	4,274,277	0	--	--
2017	4,499,935	4,499,935	0	--	--

**Effective September 30, 2015 the Plan was frozen with no new accruals; employer contributions are no longer related to payroll.*

EXHIBIT 5

Notes to Required Supplementary Information

Valuation date	Actuarially determined contribution is calculated using an October valuation date as of the beginning of the fiscal year in which contributions are reported
Methods and used assumptions to determine contribution rates:	
Actuarial cost method	Entry Age Normal Cost Method
Amortization method	Level dollar
Remaining amortization period	Effective period of 10 years remaining as of October 1, 2017
Asset valuation method	Market value of assets for GASB; five-year smoothing of market gains and losses for funding
Actuarial assumptions:	
Investment rate of return	6.50%, including inflation, net of pension plan investment expense
Inflation rate	N/A
Projected salary increases	N/A
Cost-of-living adjustment	1.00%
Retirement rates	Rates based on age ranging from 55 to 70 years, with 100% retirement at age 70
Mortality:	
Healthy pre-retirement:	50% RP2000 Combined Healthy White Collar and 50% RP2000 Combined Healthy Blue Collar, projected generationally with Scale BB for males; RP2000 Combined Healthy White Collar, projected generationally with Scale BB for females.
Healthy post-retirement:	50% RP2000 White Collar Annuitant and 50% RP2000 Blue Collar Annuitant, projected generationally with Scale BB for males; RP2000 White Collar Annuitant, projected generationally with Scale BB for females.
Disabled retirement:	RP-2000 Disabled Retiree Mortality Table, set back four years for males and forward two years for females. Per Florida Statute Section 112.63(f), the mortality tables were updated in the October 1, 2016 actuarial valuation.
Other information:	See Exhibit 3 for the history of changes to plan provisions and assumptions, if any.

Exhibit 6

Detailed development of pension expense

Pension expense for the year ended September 30, 2017		
Service cost	$557,046	
Interest on Total Pension Liability	6,853,564	
Employee contributions*	(14,461)	
Administrative expenses	27,102	
Expected return on assets	(4,928,090)	
Expensed portion of current year period differences between expected and actual experience in Total Pension Liability	377,344	
Expensed portion of current year period assumption changes	0	
Current year plan changes	0	
Expensed portion of current year period differences between projected and actual investment earnings	(787,489)	
Current year recognition of deferred inflows and outflows established in prior years	2,332,627	
Total expense		$4,417,643

**Includes purchases of prior military service*

Exhibit 7

GASB 68 Pension Expense and Deferrals for City of Vero Beach General Employee Retirement Plan

For the year ended September 30, 2017 the City's recognized pension expense is $4,917,643. At September 30, 2017, the City 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	$1,620,979	- -
Net difference between projected and actual earnings on pension plan investments	- -	$2,839,063
Assumption Changes	1,050,652	- -
Total	$2,671,631	$2,839,063

It is our understanding that there were not any contributions reported as deferred outflows of resources related to pensions resulting from the City's contributions subsequent to September 30, 2017; if such contributions exist, they will be recognized as a reduction of the net pension liability in the year ended September 30, 2017. Other 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	Recognition of deferred outflows/(inflows)
September 30, 2018	$1,922,484
September 30, 2019	$5,543
September 30, 2020	($1,307,971)
September 30, 2021	($787,488)
Thereafter	- -

Exhibit 7
Pension Expense and Deferred Outflows/Inflows of Resources Related to Pensions (continued)

Projected recognition of deferred outflows/(inflows)

	Year Established	Initial Balance	Outstanding Balance at September 30, 2016	Amount Recognized During FYE September 30, 2017	Outstanding Balance at September 30, 2017	Deferred Outflows/(Inflows) Recognized in Future Years			
						FYE September 30, 2018	FYE September 30, 2019	FYE September 30, 2020	FYE September 30, 2021
Fiscal Year Inflows									
Investment	2016	($2,602,414)	($2,081,932)	($520,483)	($1,561,449)	($520,483)	($520,483)	($520,483)	- -
Investment	2017	($3,937,441)		(787,489)	(3,149,952)	(787,488)	(787,488)	(787,488)	($787,488)
Total Inflows			($2,081,932)	($1,307,972)	($4,711,401)	($1,307,971)	($1,307,971)	($1,307,971)	($787,488)
Fiscal Year Outflows									
Investment	2015	$4,680,845	$2,808,507	$936,169	$1,872,338	$936,169	$936,169	- -	- -
Liability	2015	2,986,908	1,493,454	746,727	746,727	746,727	- -	- -	- -
Assumptions	2016	3,151,956	2,101,304	1,050,652	1,050,652	1,050,652	- -	- -	- -
Liability	2016	358,687	239,124	119,562	119,562	119,562	- -	- -	- -
Liability	2017	1,132,034		377,344	754,690	377,345	377,345	- -	- -
Total Outflows			$6,642,389	$3,230,454	$4,543,969	$3,230,455	$1,313,514	- -	- -
Total (Inflow)/Outflow			$4,560,457	$1,922,482	($167,432)	$1,922,484	$5,543	($1,307,971)	($787,488)

Exhibit 8

Projection of Pension Plan's Fiduciary Net Position for Use in Calculation of Discount Rate

Year Beginning October 1,	Projected Beginning Plan Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Plan Fiduciary Net Position (f)= (a) + (b) + (c) + (d) + (e)
2016	$76,932,732	$4,499,935	$6,719,219	$27,102	$8,879,992	$83,566,338
2017	83,566,338	4,377,313	6,935,107	27,102	5,347,803	86,329,245
2018	86,329,245	4,232,298	7,561,195	27,102	5,502,331	88,475,577
2019	88,475,577	4,144,755	7,807,764	27,102	5,630,984	90,416,450
2020	90,416,450	3,881,204	8,030,658	27,102	5,741,331	91,981,225
2021	91,981,225	3,707,614	8,237,307	27,102	5,830,684	93,255,114
2022	93,255,114	3,707,614	8,425,612	27,102	5,907,367	94,417,381
2023	94,417,381	3,707,614	8,520,128	27,102	5,979,842	95,557,607
2024	95,557,607	3,707,614	8,607,301	27,102	6,051,124	96,681,942
2025	96,681,942	3,707,614	8,672,520	27,102	6,122,086	97,812,020
2026	97,812,020	3,707,614	8,742,720	27,102	6,193,260	98,943,072
2027	98,943,072	28,047	8,761,388	27,102	6,146,585	96,329,214
2028	96,329,214	28,047	8,747,778	27,102	5,977,127	93,559,508
2029	93,559,508	28,047	8,829,510	27,102	5,794,440	90,525,383
2030	90,525,383	28,047	8,719,695	27,102	5,600,791	87,407,424
2031	87,407,424	28,047	8,621,733	27,102	5,401,307	84,187,943
2032	84,187,943	28,047	8,510,785	27,102	5,195,646	80,873,749
|	|	|	|	|	|	|
2109	294,718,135	28,047	1	27,102	19,156,709	313,875,788
2110	$313,875,788					
2110 Discounted Value		$897,934*				

* When discounted with interest at the rate of 6.50% per annum, $313,875,788 has a value of $897,934 as of September 30, 2017

Notes:

(1) The projected beginning plan fiduciary net position amounts shown have not been adjusted for the time value of money.

(2) Actual contributions, benefit payments, administrative expenses, and investment earnings are used in the determination of the September 30, 2017 Fiduciary Net Position.

(3) The projection above is based on the actuarial valuation as of October 1, 2017, which was used as the basis of the TPL measurements as of September 30, 2017. The NPL measurements corresponding to these TPL measurements were used for the purpose of GASB 67 disclosures and GASB 68 disclosures as of September 30, 2017. The projection demonstrates that the current funding policy supports the use of the full 6.50% rate of return.

(4) Projected benefit payments have been determined in accordance with Paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members and beneficiaries as of October 1, 2017. Benefit payments are assumed to be paid with an average timing equivalent to mid-year payment.

(5) Administrative expenses are assumed to be $27,102, payable at the end of each year.

(6) Projected investment earnings are based on the assumed investment rate of return of 6.50% per annum.

(7) As illustrated in this Exhibit, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 6.50% per annum was applied to all periods of projected benefit payments to determine the total pension liability, pursuant to Paragraph 44 of GASB Statement No. 67.

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