

**Actuarial Valuation of the
City of Key West Municipal
Police Officers' & Firefighters'
Retirement Plan
As of October 1, 2020**

To determine annual contribution
for the plan year
10/01/2020 - 09/30/2021
to be paid in the fiscal year
10/01/2020 - 09/30/2021

June 2021

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June 8, 2021

Police and Fire Retirement Committee
c/o Ms. Susy Pita
Plan Administrator, Key West
Police and Fire Retirement Plan
22233 Drawbridge Drive
Leesburg, FL 34748

Subject: October 1, 2020 Actuarial Valuation of Retirement Plan

Dear Committee Members:

We are pleased to present our October 1, 2020 Actuarial Valuation for the City of Key West Municipal Police Officers' and Firefighters' Retirement Plan. The purpose of this report is to indicate appropriate contribution levels, comment on the actuarial stability of the plan, and to satisfy State requirements. The Retirement Committee has retained DuLaney & Company to prepare an annual actuarial valuation under Section 5.039 of the plan.

This report consists of this commentary, detail Tables I through XVII and the State Required Exhibit on Table XVIII. The Tables contain basic plan cost figures plus significant details on the benefits, liabilities, and experience of the plan. We suggest that you thoroughly review the report at your convenience and contact us with any questions that may arise.

Costs for Fiscal Year Beginning October 1, 2020

This Actuarial Valuation develops the required minimum Retirement Plan payment for the fiscal year beginning October 1, 2020 and ending September 30, 2021 under the Florida Protection of Public Employee Retirement Benefits Act and for Police and Fire Retirement Chapters 175 and 185. The minimum payment consists of payment of annual normal costs plus amortization of the components of the unfunded actuarial accrued liability over various periods as prescribed by law. We anticipate that member contributions will be \$986,822 (7.0%).

The required minimum funding amount for the plan/fiscal year ending September 30, 2021, to be met by the City and State contributions under Chapter 175 and Chapter 185, is **\$4,831,507** or 34.3% of the covered payroll for October 1, 2020 through September 30, 2021.

The anticipated State contribution is **\$521,161**. The resulting required City contribution is **\$4,310,346**. **Please note that under the rules of Chapters 175 and 185, if the total of the Chapter 175 and Chapter 185 payments (including the Supplemental Chapter 175 payment, if any) is less than \$521,161, there will be an increase in the City's required minimum contribution.** As required by Chapters 175 and 185, City contributions must be made at least quarterly.

Changes in Benefits, Methods or Assumptions Recognized in This Valuation

This Actuarial Valuation recognizes the same benefit provisions as those considered in the previous Actuarial Valuation. The plan provisions are outlined in Table XI.

All actuarial assumptions and methods utilized are the same as those in the October 1, 2019 Actuarial Valuation. The actuarial assumptions and methods are outlined in Table XII.

Comparison of October 1, 2019 and October 1, 2020 Valuation Results

Table II of the report provides information of a comparative nature. The left column of the Table indicates the costs calculated as of October 1, 2019 while the right column indicates the October 1, 2020 valuation results.

A comparison of the two columns shows the effect of plan experience during the year. Covered payroll increased by approximately 5.3% while the number of active participants increased by 2.5%. The unfunded liability decreased from \$24,950,588 to \$23,558,112. The actuarial gain experienced during the plan year was \$455,549.

The resulting City required contribution for the October 1, 2020 through September 30, 2021 plan/fiscal year is \$4,310,346 (30.6% of covered payroll), compared to \$4,123,378 for the October 1, 2019 through September 30, 2020 plan/fiscal year City requirement, which was 30.8% of covered payroll for said plan/fiscal year.

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Plan Experience

Table VIII of the report indicates that the plan experienced an actuarial gain of \$455,549. This means that actual overall experience was more favorable than anticipated. Three (3) substantial components of plan experience are shown in Table XVII.

Table XVII shows that on average, the pay for each active member (who was in the plan for the last two (2) full plan years) increased by about 6.3%. The assumption was that pay would increase by 5.0%. Pay increases were a source of actuarial loss.

Table XVII also indicates that employee turnover was approximately 110% of expected turnover, a source of a small actuarial gain. The actuarial value return was 9.5% during the most recent plan year, while the assumed investment return was 7.0%, a source of actuarial gain. The three (3) and five (5) year market value returns were 8.4% and 9.6%, respectively.

Identification and Assessment of Risk

The liabilities and cost presented in this report are based on numerous assumptions concerning the cost of benefits to be provided in the future, long-term investment returns, and the future demographic experience of the current participants. Anyone referring to this report should remember that the cost developed herein is only an estimate of the true cost of providing post-employment pension benefits. No one can predict with certainty whether the true cost will be higher or lower than the cost presented in this report. The calculated cost is entirely dependent upon the assumptions that are described in Table XII. If any of the assumptions are changed, then the cost shown in this report will change accordingly. Likewise, there is always a risk that, should these assumptions not be realized, the liabilities of the plan, the contributions required to fund the plan, and the funded status of the plan may be significantly different than the amounts shown in this report.

Although a thorough analysis of the risk of not meeting the assumptions is beyond the scope of this report, this discussion is intended to identify the significant risks faced by the plan. In some cases, a more detailed review of the risks, including numerical analysis, may be appropriate to help the plan sponsor and other interested parties assess the specific impact of not realizing certain assumptions. Note that this report is not intended to provide advice on the management or reduction of the identified risks nor is this report intended to provide investment advice.

The most significant risk faced by most defined benefit pension plans is investment risk, i.e. the risk that long-term investment returns will be less than assumed. Other related risks include a risk that, if the investments of the plan decline dramatically over a short period of time (such as occurred with many pension plans in 2008), the plan's assets may not have sufficient time to recover before benefits become due. Even if the assets of the plan grow in accordance with the assumed investment return over time, if benefit payments are expected to be large in

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the short-term, the plan's assets may not be sufficient to support such a high level of benefit payments.

Another source of risk is demographic experience. This is the risk that participants will retire, become disabled, or terminate their employment at a rate that is different than assumed, and that participants will live longer than assumed, just to cite a few examples of the demographic risk faced by the plan. Although for most pension plans, the demographic risk is not as significant as the investment risk, particularly in light of the fact that the mortality assumption includes a component for future life expectancy increases; the demographic risk can nevertheless be a significant contributing factor to liabilities and contribution rates that become higher than anticipated.

Finally, an actuarial funding method has been used to allocate the gap between projected liabilities and assets to each year in the future. The contribution rate under some funding methods is higher during the early years of the plan and then is lower during the later years of the plan. Other funding methods provide for lower contribution rates initially, with increasing contribution rate over time. The Trustees have adopted the entry age normal cost, level percent of pay funding method for this plan. Under this method, the contribution requirement is expected remain relatively constant as a percentage of covered payroll over the next 10 to 20 years absent investment or demographic experience.

Participant Census and Financial Data

We were provided with participant census data from the City. The data contains information such as name, sex, member contributions and pay information. Dates of termination or retirement and amounts distributed were supplied separately by the Plan Administrator. Although we did not audit the information, we reviewed the data for consistency and believe it to be reliable.

We received information on plan assets from the Plan Auditors. We did not audit this information; however, we reviewed the information for consistency and believe it to be reliable.



Donald A. DuLaney, Jr., A.S.A., E.A.
Senior Consulting Actuary



Corinne Paull, A.S.A.
Actuary

Attachments

DAD/CP

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Table I
**CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' &
 FIREFIGHTERS' RETIREMENT PLAN**

Summary of Retirement Plan Costs as of October 1, 2020

	<u>Cost Data</u>	<u>% of Payroll</u>
A. <u>Participant Data Summary (Table III)</u>		
1. Active employees	164	N/A
2. Terminated vested	11	N/A
3. Receiving benefits	125	N/A
4. DROP participants	13	N/A
5. Annual payroll of active employees	\$ 14,097,451	100.0%
B. <u>Total Normal Costs</u>		
1. Age retirement benefits	\$ 2,672,074	19.0%
2. Termination benefits	155,799	1.1%
3. Death benefits	21,451	0.2%
4. Disability benefits	118,646	0.8%
5. Estimated expenses	<u>115,509</u>	<u>0.8%</u>
6. Total annual normal costs	\$ 3,083,479	21.9%
C. <u>Total Actuarial Accrued Liability</u>		
1. Age retirement benefits active employees	\$ 52,340,889	371.3%
2. Termination benefits active employees	780,808	5.5%
3. Death benefits	108,754	0.8%
4. Disability benefits	409,178	2.9%
5. Retired or terminated vested participants receiving benefits	53,649,719	380.6%
6. DROP participants	12,350,438	87.6%
7. Terminated vested participants entitled to future benefits	2,588,573	18.4%
8. Deceased participants whose beneficiaries are receiving benefits	2,218,127	15.7%
9. Disabled participants receiving benefits	1,499,330	10.6%
10. Miscellaneous liability (refunds payable)	<u>31,143</u>	<u>0.2%</u>
11. Total actuarial accrued liability	\$ 125,976,959	893.6%
D. <u>Actuarial Value of Assets (Table IV)</u>	\$ 102,418,847	726.5%
E. <u>Unfunded Actuarial Accrued Liability (C.-D.)</u>	\$ 23,558,112	167.1%

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Table I
(continued two)

	<u>Cost Data</u>	<u>% of Payroll</u>
F. <u>Minimum Required Contribution</u>		
1. Total normal cost	\$ 3,083,479	21.9%
2. Amortization of unfunded liability	2,495,076	17.7%
3. Interest adjustment (includes interest remaining on prior year's contribution)	<u>239,774</u>	<u>1.7%</u>
4. Total payment	\$ 5,818,329	41.3%
G. <u>Contribution Sources</u>		
1. a) City	\$ 4,310,346	30.6%
b) State	<u>\$ 521,161</u>	<u>3.7%</u>
c) Total City and State	\$ 4,831,507	34.3%
2. Member	\$ 986,822	7.0%
H. <u>Actuarial Gains / (Losses)</u> (Table VIII)	\$ 455,549	3.2%
I. <u>Actuarial Present Value of Vested Accrued Benefits</u>		
1. Retired, terminated vested, beneficiaries, disabled receiving benefits	\$ 57,367,176	406.9%
2. DROP participants	12,350,438	87.6%
3. Terminated vested participants entitled to future benefits and miscellaneous	2,619,716	18.6%
4. Active participants entitled to future benefits	<u>40,074,452</u>	<u>284.3%</u>
5. Total actuarial present value of vested accrued benefits	\$ 112,411,782	797.4%
J. <u>Market Value of Assets (Table V)</u>	\$ 106,579,034	756.0%
K. <u>Unfunded Actuarial Present Value of Vested Accrued Benefits (I. - J.)</u>	\$ 5,832,748	41.4%
L. <u>Vested Benefit Security Ratio (J. ÷ I.)</u>	94.8%	N/A

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Table II
CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' & FIREFIGHTERS' RETIREMENT PLAN

Comparison of Cost Data as of Prior and Current Year

	October 1, 2019		October 1, 2020	
	Cost Data	% of Annual Payroll	Cost Data	% of Annual Payroll
A. Participants				
1. Active employees	160	N/A	164	N/A
2. Terminated vested	10	N/A	11	N/A
3. DROP participants	15	N/A	13	N/A
4. Receiving benefits	118	N/A	125	N/A
5. Annual payroll of active employees	\$ 13,386,293	100.0%	\$ 14,097,451	100.0%
B. Total Normal Cost	\$ 2,907,879	21.7%	\$ 3,083,479	21.9%
C. Total Actuarial Accrued Liability	\$119,277,973	891.0%	\$125,976,959	893.6%
D. Actuarial Value of Assets	\$ 94,327,385	704.7%	\$102,418,847	726.5%
E. Unfunded Actuarial Accrued Liability	\$ 24,950,588	186.4%	\$ 23,558,112	167.1%
F. City Minimum Funding Payment	\$ 4,123,378	30.8%	\$ 4,310,346	30.6%
G. Actuarial Gains / (Losses)	\$ 2,267,575	16.9%	\$ 455,549	3.2%
H. Vested Benefit Security Ratio (Market Value Basis)	90.1%	N/A	94.8%	N/A



Table III
CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' &
FIREFIGHTERS' RETIREMENT PLAN

Characteristics of Participants in
Actuarial Valuation as of October 1, 2020

A. Active Plan Participants Summary

1. Active participants fully vested	69
2. Active participants partially vested	43
3. Active participants non-vested	<u>52</u>
4. Total active participants	164
5. Annual rate of pay of active participants	\$ 14,097,451

B. Retired and Terminated Vested Participant Summary

1. Retired or terminated vested participants receiving benefits	106
2. DROP participants	13
3. Terminated vested participants entitled to future benefits	11
4. Deceased participants whose beneficiaries are receiving benefits	15
5. Disabled participants receiving benefits	4

C. Projected Annual Retirement Benefits

1. Retired or terminated vested receiving benefits	\$ 4,852,256
2. DROP participants	\$ 907,846
3. Terminated vested entitled to future benefits	\$ 261,927
4. Beneficiaries of deceased participants	\$ 256,349
5. Disabled participants	\$ 142,994

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Table IV

**CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' &
FIREFIGHTERS' RETIREMENT PLAN**

Development of Actuarial Value of Assets

	<u>10/1/2019 – 9/30/2020</u>	<u>10/1/2018 – 9/30/2019</u>	<u>10/1/2017 – 9/30/2018</u>	<u>10/1/2016 – 9/30/2017</u>
A. Market value of assets as of beginning of year	\$ 95,767,245	\$ 93,137,332	\$ 84,477,471	\$ 74,940,045
B. Contributions	5,715,141	5,952,048	5,283,233	5,049,327
C. Benefit payments and expenses	6,512,965	6,517,059	6,450,264	6,117,281
D. Expected investment income (A. x i + (B.-C.) x i / 2)*	6,675,783	6,871,257	6,292,047	5,580,455
E. Expected assets at end of year (A. + B. – C. + D.)	101,645,204	99,443,578	89,602,487	79,452,546
F. Actual market value at end of year	106,579,034	95,767,245	93,137,332	84,477,471
G. Excess/(shortfall) of actual over expected assets (F. – E.)				
1. From previous plan year	\$ 4,933,830	\$ (3,676,333)	\$ 3,534,845	\$ 5,024,925
2. From two plan years ago	(3,676,333)	3,534,845	5,024,925	1,250,245
3. From three plan years ago	3,534,845	5,024,925	1,250,245	(5,194,393)
4. From four plan years ago	5,024,925	1,250,245	(5,194,393)	2,872,041
H. Deferred recognized amounts of excess/(shortfall)				
1. 80% from previous plan year	\$ 3,947,064	\$ (2,941,066)	\$ 2,827,876	\$ 4,019,940
2. 60% from two plan years ago	(2,205,800)	2,120,907	3,014,955	750,147
3. 40% from three plan years ago	1,413,938	2,009,970	500,098	(2,077,757)
4. 20% from four plan years ago	<u>1,004,985</u>	<u>250,049</u>	<u>(1,038,879)</u>	<u>574,408</u>
5. Total	\$ 4,160,187	\$ 1,439,860	\$ 5,304,050	\$ 3,266,738
I. Preliminary actuarial value of assets at end of year (F. – H.5.)	\$ 102,418,847	\$ 94,327,385	\$ 87,833,282	\$ 81,210,733
J. 80% of end of year market value of assets (F. x 0.80)	85,263,227	76,613,796	74,509,866	67,581,977
K. 120% of end of year market value of assets (F. x 1.20)	127,894,841	114,920,694	111,764,798	101,372,965
L. Actuarial value of assets (I., but not less than J. and not more than K.)	\$ 102,418,847	\$ 94,327,385	\$ 87,833,282	\$ 81,210,733

* i = 7.00%, was 7.40% prior to 10/1/2019, 7.50% prior to 10/1/2018, and 7.90% prior to 10/1/2013.



Table V

**CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' &
FIREFIGHTERS' RETIREMENT PLAN**

Reconciliation of Plan Assets

A.	<u>Market Value of Assets as of October 1, 2019</u>		\$ 95,767,245
B.	<u>Receipts During Period</u>		
1.	Contributions		
a.	Member	\$ 1,019,220	
b.	City	4,123,745	
c.	State	572,176	
d.	Service buybacks	<u>0</u>	
e.	Sub-total	\$ 5,715,141	
2.	Investment income		
a.	Interest, dividends and others	\$ 2,915,321	
b.	Investment expenses	<u>(498,706)</u>	
c.	Net investment income	\$ 2,416,615	
3.	Realized and unrealized appreciation		
a.	Realized appreciation	\$ 0	
b.	Unrealized appreciation	9,701,172	
c.	Drop plan earnings	<u>(951,531)</u>	
d.	Net	\$ 8,749,641	
4.	Total receipts during period		\$ 16,881,397
C.	<u>Disbursements During Period</u>		
1.	Pension payments	\$ 5,006,362	
2.	DROP	901,840	
3.	Contribution refunds	0	
4.	Administrative expenses	115,509	
5.	Increase (decrease) to Excess Chapter Reserves	0	
6.	Increase (decrease) to Share Plan payable	<u>45,897</u>	
7.	Total disbursements during period		\$ 6,069,608
D.	<u>Market Value of Assets as of September 30, 2020 (A. + B. - C.)</u>		\$ 106,579,034

Reconciliation of DROP Accounts Balance

A.	DROP Accounts Balance as of October 1, 2019	\$ 14,272,882
B.	Benefit Payments into DROP Accounts During Year	901,840
C.	Distributions from DROP Accounts During Year	(458,483)
D.	Investment Gains (Losses) During Year ¹	<u>951,531</u>
E.	DROP Accounts Balance as of September 30, 2020	\$ 15,667,770

¹ Based on actual fund performance and assumed fund return.



Table VI

**CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' &
FIREFIGHTERS' RETIREMENT PLAN**

Statement of Assets as of October 1, 2020

<u>Assets</u>	<u>Market Value</u> ¹
A. <u>Cash</u>	\$ 3,967,415
B. <u>General Investments</u>	
1. Cash equivalents	\$ 0
2. U.S. Government securities	10,442,294
3. Corporate bonds	19,373,302
4. Common stocks	57,213,787
5. International equity fund	15,612,526
6. Municipal bonds	1,701,265
7. Fixed income fund	5,496,497
8. Alternative investment	4,431,762
9. Real estate	<u>5,810,000</u>
10. Total	\$ 120,081,433
C. <u>Receivables</u>	
1. City contribution	\$ 0
2. State contribution	6,765
3. Member contribution	0
4. Accrued interest and dividends	193,194
5. Receivable for securities sold	<u>0</u>
6. Total	\$ 199,959
D. <u>Payables</u>	
1. DROP Accounts	\$ 15,667,770
2. Accrued expenses	340,518
3. Payable for securities purchased	0
4. Prepaid City contribution	0
5. Reserve for Excess Chapter reserves	0
6. Share Plan Allocations Payable	<u>1,661,485</u>
7. Total	\$ 17,669,773
E. <u>Total Fund</u> (A + B + C - D)	\$106,579,034

¹ As reported on plan's audited financial statements.

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Table VII

**CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' &
FIREFIGHTERS' RETIREMENT PLAN**

Reconciliation of Share Accounts Balance

A. Share Accounts Balance as of September 30, 2019	\$ 1,615,588
B. Forfeitures during Plan Year	(13,527)
C. Distributions Made to Retirees and Beneficiaries During Plan Year	(145,125)
D. Investment Earnings Credited During Plan Year	144,778
E. Allocations as of September 30, 2020 (Made from Available Annual Excess Chapter 175 and Chapter 185 Contributions)	48,469
F. Allocations of Forfeitures during Plan Year	<u>11,302</u>
G. Share Accounts Balance as of September 30, 2020 (A. + B. + C. + D. + E. + F.)	\$ 1,661,485

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Table VIII

**CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' &
FIREFIGHTERS' RETIREMENT PLAN**

Actuarial Gains / (Losses) for Plan Year Ended September 30, 2020

A. Derivation of Actuarial Gains / (Losses)

1. City/State net normal cost previous valuation	\$	1,970,838
2. Unfunded actuarial accrued liability previous valuation	\$	24,950,588
3. Contributions previous year		
(a) City	\$	4,123,745
(b) State (limited by Chapters 175 and 185)		<u>521,161</u>
(c) Total	\$	4,644,906
4. Interest on:		
(a) City/State net normal cost	\$	137,959
(b) Unfunded actuarial accrued liability		1,746,541
(c) Contributions		<u>147,359</u>
(d) Net total: (a) + (b) - (c)	\$	1,737,141
5. Increase (decrease) due to assumption / method changes	\$	0
6. Increase (decrease) due to plan amendment	\$	0
7. Expected unfunded actuarial accrued liability current year: (1. + 2. - 3. + 4. + 5. + 6.)	\$	24,013,661
8. Actual unfunded actuarial accrued liability current year	\$	23,558,112
9. Actuarial gains / (losses): 7. - 8.	\$	455,549

B. Approximate Portion of Gain (Loss) Due to Investments

1. Actuarial value of assets previous year	\$	94,327,385
2. Contributions during period	\$	5,715,141
3. Benefits and expenses during period	\$	6,512,965
4. Expected net appreciation for period	\$	6,558,291
5. Expected actuarial value of assets current year: (1. + 2. - 3. + 4.)	\$	100,087,852
6. Actual actuarial value of assets current year	\$	<u>102,418,847</u>
7. Approximate gains / (losses): 6. - 5.	\$	2,330,995

C. Approximate Portion of Gains / (Losses) Due to Liabilities: A. - B. \$ (1,875,446)

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Table IX

**CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' &
FIREFIGHTERS' RETIREMENT PLAN**

Amortization of Unfunded Accrued Liability

<u>Date</u>	<u>Amount</u>	<u>Payment</u>
10/01/2020	\$ 23,558,112	\$ 2,495,076
10/01/2021	\$ 22,537,449	\$ 2,373,156
10/01/2022	\$ 21,575,793	\$ 2,437,299
10/01/2023	\$ 20,478,189	\$ 2,435,000
10/01/2050	\$ 0	\$ 0

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Table X

CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' &
FIREFIGHTERS' RETIREMENT PLAN

Accounting Disclosure Exhibit

I. Number of Plan Members

	<u>10/1/2019</u>	<u>10/1/2020</u>
A. Retirees, disableds and beneficiaries receiving benefits	118	125
B. DROP participants	15	13
C. Terminated plan members entitled to but not yet receiving benefits	10	11
D. Active plan members	<u>160</u>	<u>164</u>
E. Total	303	313

II. Financial Accounting Standards Board Allocations

A. Statement of Accumulated Plan Benefits

1. Actuarial present value of accumulated vested plan benefits		
a. Participants currently receiving benefits	\$ 52,034,985	\$ 57,367,176
b. DROP participants	13,992,300	12,350,438
c. Other participants	<u>40,275,831</u>	<u>42,694,168</u>
d. Total	\$106,303,116	\$112,411,782
2. Actuarial present value of accumulated non-vested plan benefits	<u>2,431,228</u>	<u>2,568,170</u>
3. Total actuarial present value of accumulated plan benefits	\$108,734,344	\$114,979,952

B. Statement of Change in Accumulated Plan Benefits

1. Actuarial present value of accumulated plan benefits as of October 1, 2019	\$ 108,734,344
2. Increase (decrease) during year attributable to:	
a. Plan amendment	\$ 0
b. Change in actuarial assumptions	0
c. Benefits paid including refunds	(5,006,362)
d. DROP benefits	(901,840)
e. Other, including benefits accumulated and increase for interest due to decrease in the discount period	<u>12,153,810</u>
f. Net increase	\$ 6,245,608
3. Actuarial present value of accumulated plan benefits as of October 1, 2020	\$ 114,979,952

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Table X
(continued two)

C. Significant Matters Affecting Calculations

- | | |
|--|------------------------------------|
| 1. Assumed rate of return used in determining actuarial present values | 7.00%, net of investment expenses. |
| 2. Change in actuarial assumptions | See Table XII, Item J. |
| 3. Plan amendments | None. |

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Table X
(continued three)

III. Schedule of Funding Progress (as required by GASB No. 25)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Valuation Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)(3)-(2)	Funded Ratio (2)/(3)	Annual Covered Payroll	UAAL as % of Payroll (4)/(6)
October 1, 1993	\$ 15,076	\$ 17,454	\$ 2,378	86.4%	\$ 6,070	39.2%
October 1, 1994	\$ 16,264	\$ 19,190	\$ 2,926	84.8%	\$ 6,100	48.0%
October 1, 1995	\$ 18,799	\$ 21,548	\$ 2,749	87.2%	\$ 5,809	47.3%
October 1, 1996	\$ 20,718	\$ 22,445	\$ 1,727	92.3%	\$ 6,201	27.9%
October 1, 1997	\$ 25,668	\$ 24,811	\$ (857)	103.5%	\$ 6,404	(13.4%)
October 1, 1998	\$ 28,686	\$ 30,493	\$ 1,807	94.1%	\$ 5,794	31.2%
October 1, 1999	\$ 32,543	\$ 33,489	\$ 946	97.2%	\$ 6,174	15.3%
October 1, 2000	\$ 36,211	\$ 35,286	\$ (925)	102.6%	\$ 6,156	(15.0%)
October 1, 2001	\$ 38,270	\$ 36,873	\$ (1,397)	103.8%	\$ 5,849	(23.9%)
October 1, 2002	\$ 38,430	\$ 40,335	\$ 1,905	95.3%	\$ 7,153	26.6%
October 1, 2003	\$ 39,160	\$ 43,515	\$ 4,355	90.0%	\$ 7,464	58.3%
October 1, 2004	\$ 39,488	\$ 45,713	\$ 6,255	86.4%	\$ 8,089	77.0%
October 1, 2005	\$ 40,679	\$ 51,732	\$ 11,053	78.6%	\$ 9,611	115.0%
October 1, 2006	\$ 48,066	\$ 57,645	\$ 9,579	83.4%	\$ 10,277	93.2%
October 1, 2007	\$ 53,303	\$ 61,829	\$ 8,526	86.2%	\$ 9,780	87.2%
October 1, 2008	\$ 56,358	\$ 65,189	\$ 8,831	86.5%	\$ 9,293	95.0%
October 1, 2009	\$ 55,884	\$ 68,384	\$ 12,499	81.7%	\$ 8,738	143.0%
October 1, 2010	\$ 56,361	\$ 72,192	\$ 15,831	78.1%	\$ 9,681	163.5%
October 1, 2011	\$ 55,594	\$ 74,581	\$ 18,987	74.5%	\$ 9,645	196.9%
October 1, 2012	\$ 55,193	\$ 76,528	\$ 21,335	72.1%	\$ 9,634	221.5%
October 1, 2013	\$ 59,092	\$ 83,580	\$ 24,488	70.7%	\$ 10,051	243.6%
October 1, 2014	\$ 64,602	\$ 87,530	\$ 22,928	73.8%	\$ 9,977	229.8%
October 1, 2015	\$ 69,449	\$ 91,593	\$ 22,143	75.8%	\$ 11,325	195.5%
October 1, 2016	\$ 74,979	\$ 102,793	\$ 27,815	72.9%	\$ 11,571	240.4%
October 1, 2017	\$ 81,211	\$ 109,962	\$ 28,751	73.9%	\$ 12,325	233.3%
October 1, 2018	\$ 87,833	\$ 115,161	\$ 27,328	76.3%	\$ 12,249	223.1%
October 1, 2019	\$ 94,327	\$ 119,278	\$ 24,951	79.1%	\$ 13,386	186.4%
October 1, 2020	\$ 102,419	\$ 125,977	\$ 23,558	81.3%	\$ 14,097	167.1%

Note: Dollar amounts in thousands



Table X
(continued four)

IV. Schedule of Employer Contributions (as required by GASB No. 25)

Plan Year Beginning in	Annual Required Contribution	Percentage Contributed
(1)	(2)	(3)
1991	635,359	128%
1992	848,937	110%
1993	779,862	122%
1994	838,100	110%
1995	781,342	122%
1996	791,939	138%
1997	1,207,136	137%
1998	781,943	140%
1999	833,983	117%
2000	848,552	121%
2001	811,027	149%
2002	1,268,134	106%
2003	1,439,588	99%
2004	1,722,112	101%
2005	2,381,623	100%
2006	2,644,093	100%
2007	2,476,424	100%
2008	2,467,551	100%
2009	2,547,767	100%
2010	2,870,541	100%
2011	3,214,291	100%
2012	3,468,100	100%
2013	3,496,584	100%
2014	3,322,536	100%
2015	3,356,443	100%
2016	4,153,137	100%
2017	4,410,711	100%
2018	4,384,556	100%
2019	4,644,539	100%
2020	4,831,507	

Figures for plan years beginning prior to 2004 were provided by plan's former actuaries.

V. Notes to Required Supplementary Information

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation Date	October 1, 2020
Actuarial cost method	Entry Age Normal
Amortization method	Layered amortization
Remaining amortization period	1 - 30 years
Asset valuation method	See Item H., Table XII
Actuarial assumptions:	
Investment rate of return*	7.00%, net of investment expenses
Projected salary increases*	5.00%
*Includes inflation at	3.00%
Cost-of-living adjustments	None

D

Table XI

**CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' &
FIREFIGHTERS' RETIREMENT PLAN**

Outline of Principal Provisions of the Plan

A. Effective Date:

January 1, 1973, as amended through Ordinance 08-01. The provisions recognized in this valuation also reflect the adoption of the Share Plan.

B. Eligibility Requirements:

Regular, permanent and full-time employment as certified Police Officers or Firefighters.

C. Credited Service:

Service in completed months from date of employment to the date of termination of service. Effective October 1, 2004 and ending on October 1, 2007, active police officer members who have completed more than 17 years but less than 20 years of Credited Service were allowed optionally to purchase additional service to meet the 20 years Credited Service retirement requirement to have retirement benefits at no more than 60% of their Final Monthly Compensation. The purchases were at their true actuarial costs and were paid by the electing members and incurred no cost to the plan.

D. Basic Compensation:

Compensation paid including overtime pay, compensatory time pay, assignment pay, educational incentive pay, licensure or training pay and *pick-up* contributions, but excluding payments for accrued sick leave, accrued vacation leave, accrued compensatory pay and any other form of remuneration.

E. Final Monthly Compensation:

Average monthly rate of basic compensation during the best thirty-six (36) consecutive calendar months out of the last one-hundred twenty (120) calendar months preceding date of termination. Denoted FMC.

F. Employee Contributions:

Pick-up contributions of 7.0% of basic annual compensation.

G. Normal Retirement:

(1) Eligibility: The earliest of (a) or (b), where

- (a) Attainment of age 55 and the completion of 10 years of Credited Service, and
- (b) Completion of 20 years of Credited Service.

(2) Benefit: 3.0% times FMC times Credited Service.

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Table XI
(continued two)

H. Early Retirement:

- (1) Eligibility: Attainment of age 50, completion of 10 years of Credited Service.
- (2) Benefit: Benefit accrued to date of retirement, reduced in an actuarial equivalent manner, but not by more than 3% per year, to reflect commencement of benefit at an earlier age.

I. Deferred Retirement:

- (1) Eligibility: Retirement subsequent to reaching normal retirement age.
- (2) Benefit: Benefit accrued at deferred retirement date based on Credited Service and FMC at deferred retirement date.

J. Disability Retirement:

- (1) Eligibility: Total and permanent qualifying disability. If non-service incurred, the completion of 10 years of Credited Service.
- (2) Benefit: Benefit (payable for ten (10) years certain and life thereafter)
 - Incurred in Line-of-Duty: Greatest of (a), (b) or (c), where
 - (a) is 42% of average monthly compensation as of date of disability
 - (b) is the benefit supported by the present value of accrued benefit as of date of disability, and
 - (c) is the benefit supported by eighteen (18) times average monthly compensation.Benefit under (c) shall not exceed 60% of anticipated retirement benefit.
 - Not Incurred in Line-of-Duty: Greater of accrued benefit or 25% of average monthly compensation as of date of disability.
 - Catastrophic Injury: a member who receives a "catastrophic injury", as provided in Section 440.02, Florida Statutes, which renders the member totally and permanently disabled from all gainful employment, shall receive a disability benefit equal to seventy-five percent (75%) of the member's compensation at the time of disability.

K. Death Benefit:

Benefit to beneficiary (payable for 10 years certain and life thereafter) which can be supported by the greater of A or B, where A is the single-sum value of the accrued benefit at date of death and B is the smaller of (1) and (2), where (1) is 18 times FMC at date of death and (2) is 100 times the anticipated monthly normal retirement benefit.

D

Table XI
(continued three)

L. Vested Benefit Upon Termination:

- (1) Eligibility: Vesting schedule with no vesting until completion of five (5) years of Credited Service (50%). Vesting is 50% upon completion of five (5) years of Credited Service, increasing by 10% per year until 100% vesting upon completion of ten (10) years of Credited Service.
- (2) Benefit at Normal Retirement Date: Benefit is the accrued benefit at date of termination, times the vested percentage, commencing at normal retirement date, or reduced benefit as of early retirement date with 10 years of Credited Service.

M. Cash Termination Benefit:

- (1) Accumulated employee contributions for non-vested employees.
- (2) Vested members may elect to receive a refund of accumulated employee contributions in lieu of deferred vested benefit.

N. Normal Form of Retirement Income:

10 years certain and life thereafter annuity with guaranteed return of employee contributions.

O. Deferred Retirement Option Plan (DROP):

- (1) Eligibility: Upon meeting the eligibility for normal or early retirement.
- (2) Participation in the DROP must be exercised within the first thirty (30) years of employment; provided, however, that participation in the DROP, when combined with participation in the retirement plan as an active member may not exceed thirty (30) years. The maximum period of participation in the DROP is five (5) years.
- (3) An employee's account in the DROP program shall earn or lose interest based upon the actual earnings of the Fund or a fixed rate of return of 6.5% as elected by the member.
- (4) No payment may be made from DROP until the employee actually separates from service with the City.

P. Retiree Benefit Adjustments:

Persons retiring on or after October 1, 1988 shall be eligible for any future benefit changes from the date of the change forward.

Q. Post-retirement Supplement

A supplemental benefit of \$269 per month shall be paid to a member in benefit payment status until the month immediately preceding the member's 65th birthday.

D

Table XI
(continued four)

R. Share Plan

Available cumulative excess Chapter 175 and Chapter 185 contributions are distributed to the members through a Share Plan, with the initial allocation effective September 30, 2008. Initially, retirees separated from employment with the City were paid \$5,000.00 each. Remaining available funds were then allocated equally between the active and DROP members employed as of the date of adoption of the ordinance creating the Share Plan (November 5, 2008). For each following plan year, available excess Chapter 175 and Chapter 185 contributions are allocated equally to the active, DROP and retiree members.

S. Changes From Previous Valuation

None.

D

Table XII

**CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' &
FIREFIGHTERS' RETIREMENT PLAN**

Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation

A. Mortality

Pre-Retirement:

Female Non-Disabled: PUB-2010 Headcount Weighted Safety Employee Female Table, set forward 1 year, Scale MP-2018

Male Non-Disabled: PUB-2010 Headcount Weighted Safety Below Median Employee Male Table, set forward 1 year, scale MP-2018

Post-Retirement:

Female Non-Disabled: PUB-2010 Headcount Weighted Safety Healthy Retiree Female Table, set forward 1 year, Scale MP-2018

Male Non-Disabled: PUB-2010 Headcount Weighted Safety Below Median Healthy Retiree Male Table, set forward 1 year, Scale MP-2018

Pre-Retirement & Post-Retirement:

Female Disabled: 80% PUB-2010 Headcount Weighted General Disabled Retiree Female Table; 20% PUB-2010 Headcount Weighted Safety Disabled Retiree Female Table, Scale MP-2018

Male Disabled: 80% PUB-2010 Headcount Weighted General Disabled Retiree Male Table; 20% PUB-2010 Headcount Weighted Safety Disabled Retiree Male Table, Scale MP-2018

B. Interest to be Earned by Fund

7.00%, compounded annually, net of investment expenses.

C. Allowances for Expenses or Contingencies

Previous year's actual administrative expense paid of \$115,509 was added to normal cost.

D. Employee Withdrawal Rates

Withdrawal rates for males and for females were used in accordance with the following illustrative example:

<u>Age</u>	<u>Withdrawal Rates Per 100 Employees</u>	
	<u>Male</u>	<u>Females</u>
20	36.1	50.6
25	21.6	36.1
30	11.5	21.6
35	4.2	11.5
40	0.0	4.2
45 & Over	0.0	0.0

D

Table XII
(continued two)

E. Disability rates

The 1985 Disability Study - Class 1 separate male and female rates were used. Additionally, thirty-five percent (35%) of disabilities assumed to be service incurred, twenty-five percent (25%) non-service incurred, and forty percent (40%) of disabilities are assumed to be catastrophic injuries.

F. Salary Increase Factors and Covered Payroll

Current salary was assumed to increase at a rate equal to 5.00% per year. Assumed covered payroll is actual annual pension basic compensation from the prior plan year.

G. Retirement Age

The following are the retirement rates assumed for the participants eligible for retirement:

<u>Participants with 20 or more years of Credited Service</u>		<u>Participants with less than 20 years of Credited Service</u>	
<u>Age</u>	<u>Percentage Retiring</u>	<u>Age</u>	<u>Percentage Retiring</u>
40-44	75%	50-54	50%
45+	100%	55-59	75%
		60	100%

H. Valuation of Assets

The actuarial value of assets is determined by smoothing the differences between actual investment earnings and assumed investment return over five (5) years. This method was adopted effective October 1, 2006 with no phase-in. The resulting value would then be limited to between 80% and 120% of market value.

I. Cost Methods

Normal Retirement, Termination, Death, and Disability Benefits: Entry-Age-Normal Cost Method: Under this method the normal cost for each active employee is the amount which is calculated to be a level percentage of pay that would be required annually from his entry age to his assumed retirement age to fund his estimated benefits, assuming the plan had always been in effect. The normal cost for the plan is the sum of such amounts for all employees. The actuarial accrued liability as of any valuation date for each active employee or inactive employee who is eligible to receive benefits under the plan is the excess of the actuarial present value of estimated future benefits over the actuarial present value of current and future normal costs. The unfunded actuarial accrued liability as of any valuation date is the excess of the actuarial accrued liability over the assets of the plan.

Table XII
(continued three)

The amortization bases would be funded by the excess of actual contributions over prior year's normal cost, adjusted with interest. For each existing base, the funding is done proportionally, determined based on the individual base's required amortization payment as a percentage of the overall total required total amortization payment for the prior year. New bases are then added to the total outstanding unfunded actuarial accrued liability as new layers.

Beginning with the October 1, 2010 through September 30, 2011 plan year, new bases created each year will be amortized over 25 years (instead of 30 years) if the resulting overall equivalent single amortization period of the total outstanding unfunded accrued liability with 30 year amortization periods for the new bases would otherwise exceed 30 years.

J. Changes From Previous Valuation

None.

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Table XIII

CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' & FIREFIGHTERS' RETIREMENT PLAN

Distribution of Plan Participants by Attained Age Groups and Service Groups as of October 1, 2020

Attained Age Group	Years of Service							Total
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & Over	
Under 25	7	-	-	-	-	-	-	7
25 - 29	16	4	-	-	-	-	-	20
30 - 34	14	16	7	-	-	-	-	37
35 - 39	8	10	12	4	-	-	-	34
40 - 44	2	5	8	6	-	-	-	21
45 - 49	4	3	2	9	5	1	-	24
50 - 54	-	3	2	3	3	-	1	12
55 - 59	1	1	2	1	-	1	-	6
60 - 64	-	1	-	1	1	-	-	3
65 & Over	-	-	-	-	-	-	-	-
TOTAL	52	43	33	24	9	2	1	164

	<u>10/01/2019</u>	<u>10/01/2020</u>
Average Attained Age	38.63 years	38.80 years
Average Hire Age	29.32 years	29.53 years
Average Pay	\$83,664	\$85,960
Percent Female	8.8%	8.5%



Table XIV

**CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' &
FIREFIGHTERS' RETIREMENT PLAN**

Reconciliation of Employee Data

A. Active Participants

1. Active participants previous year	160
2. Retired during year	(1)
3. Entered DROP	(3)
4. Died during year	0
5. Disabled during year	0
6. Terminated during year	(7)
7. New active participants	15
8. Transferred from General plan	0
9. Re-hired during year	<u>0</u>
10. Active participants current year	164

B. Participants Receiving Benefits

1. Participants receiving benefits previous year	118
2. New retired participants	1
3. New terminated vested receiving benefit	0
4. New disabled receiving benefits	0
5. New beneficiaries receiving benefits	1
6. DROP participants retired	5
7. Died or ceased payment during year	<u>(0)</u>
8. Retired or terminated vested receiving benefits current year	125

C. DROP Participants

1. DROP participants previous year	15
2. Died during year	0
3. Became disabled during year	0
4. Employment terminated and retired during year	(5)
5. Entered DROP during year	<u>3</u>
6. DROP participants current year	13

D. Terminated Vested Participants Entitled to Future Benefits

1. Terminated vested entitled previous year	10
2. Died during year	0
3. Commenced receiving benefits during year	(0)
4. New terminated vested	1
5. Rehired and active	0
6. Terminated vested paid lump sum	<u>(0)</u>
7. Terminated vested entitled current year	11

D

Table XV

**CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' &
FIREFIGHTERS' RETIREMENT PLAN**

**Statistics for Participants Entitled to Deferred Vested Benefits
and Participants Receiving Payments**

A. Entitled to Deferred Benefits

<u>Current Age Group</u>	<u>Count</u>	<u>Total Annual Benefit</u>	<u>Average Annual Benefit</u>
Less than 40	3	\$ 51,424	\$ 17,141
40 - 44	2	56,427	28,213
45 - 49	3	78,431	26,144
50 - 54	3	75,644	25,215
55 - 59	0	0	0
60 - 64	0	0	0
65 & over	<u>0</u>	<u>0</u>	<u>0</u>
TOTAL	11	\$ 261,927	\$ 23,812

B. Receiving Benefits (includes DROP participants)

<u>Current Age Group</u>	<u>Count</u>	<u>Total Annual Benefit</u>	<u>Average Annual Benefit</u>
Less than 50	16	\$ 869,451	\$ 54,341
50 - 54	15	775,238	51,683
55 - 59	23	1,344,589	58,460
60 - 64	26	1,078,348	41,475
65 - 69	20	867,738	43,387
70 - 74	17	637,200	37,482
75 & over	<u>21</u>	<u>586,881</u>	<u>27,947</u>
TOTAL	138	\$ 6,159,445	\$ 44,634

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Table XVI

**CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' &
FIREFIGHTERS' RETIREMENT PLAN**

SUMMARY OF TRANSACTION INFORMATION

<u>Year Ending</u>	<u>Benefits Paid*</u>	<u>Expenses</u>	<u>Employee Contributions</u>	<u>City Contributions</u>	<u>State Contributions</u>	<u>Actuarial Value</u>
09/30/2020	\$ 5,954,099	\$ 614,215	\$ 1,019,220	\$ 4,123,745	\$ 572,176	\$ 102,418,847
09/30/2019	6,445,242	752,417	935,670	4,375,564	640,814	94,327,385
09/30/2018	6,147,366	714,568	872,519	3,765,235	645,479	87,833,282
09/30/2017	5,805,251	634,981	895,491	3,581,684	572,152	81,210,733
09/30/2016	5,590,885	620,907	822,496	2,835,282	532,550	74,978,683
09/30/2015	5,055,878	577,864	777,269	2,801,375	578,511	69,449,250
09/30/2014	4,765,475	539,598	764,013	2,975,423	727,859	64,601,788
09/30/2013	4,383,561	532,063	732,651	2,946,943	686,009	59,092,485
09/30/2012	4,190,551	539,314	667,009	2,693,130	641,624	55,193,145
09/30/2011	3,947,948	488,517	671,855	2,402,226	530,175	55,593,758
09/30/2010	3,952,624	492,529	648,267	2,058,415	543,125	56,360,502
09/30/2009	3,553,804	531,035	635,861	2,022,206	445,345	55,584,162
09/30/2008	3,527,261	467,073	683,167	1,957,085	688,575	56,358,023
09/30/2007	2,915,371	394,054	733,646	2,122,932	858,781	53,303,089
09/30/2006	2,626,916	388,808	714,098	1,974,764	640,961	48,066,020
09/30/2005	2,387,278	346,990	659,715	1,334,782	549,690	40,678,710
09/30/2004	2,385,305	321,426	566,872	1,020,728	490,308	39,488,276
09/30/2003	2,286,232	266,208	552,164	895,560	429,702	39,195,993
09/30/2002	2,148,985	312,222	500,408	852,554	355,925	38,430,103
09/30/2001	1,971,385	341,357	440,118	751,924	314,408	38,269,799

* Includes DROP account payments and refunds, amounts prior to year ended 09/30/2004 were as disclosed by the plan's prior actuaries.



Table XVII
**CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' &
 FIREFIGHTERS' RETIREMENT PLAN**

Recent Compensation, Termination and Investment Return Experience

Plan Year Ended	Compensation		Termination Ratio of Actual To Expected	Investment Return ¹		
	Assumed Increase	Actual Increase		Assumed Return	Market Value Return	Actuarial Value Return
09/30/2020	5.0%	6.3%	1.1	7.00%	10.8%	9.5%
09/30/2019	4.5%	6.2%	0.7	7.40%	3.9%	8.1%
09/30/2018	4.5%	0.3%	1.3	7.50%	10.5%	9.7%
09/30/2017	4.5%	10.4%	0.6	7.50%	13.8%	9.8%
09/30/2016	4.5%	13.0%	0.9	7.50%	9.4%	10.3%
Last 3 years	4.7%	4.2%	1.0	7.3%	8.4%	9.1%
Last 5 years	4.6%	7.2%	0.9	7.4%	9.6%	9.5%

¹ Computed as $2I/(A + B - I)$, where A is beginning value, B is ending value, and I is investment return.



Table XVIII

**THE CITY OF KEY WEST MUNICIPAL POLICE OFFICERS' &
FIREFIGHTERS' RETIREMENT PLAN**

Actuarial Valuation as of October 1, 2020
State Required Exhibit

	<u>10/01/2019</u>	<u>10/01/2020</u>
A. <u>Participant Data</u>		
1. Active participants	160	164
2. Retired participants and beneficiaries receiving benefits	114	121
3. DROP participants	15	13
4. Disabled participants receiving benefits	4	4
5. Terminated vested participants	10	11
6. Annual payroll of active participants	\$ 13,386,293	\$ 14,097,451
7. Annual benefits payable to those currently receiving benefits	\$ 4,746,398	\$ 4,852,256
8. Annual benefits payable to DROP participants	\$ 1,045,126	\$ 907,846
B. <u>Value of Assets</u>		
1. Actuarial Value	\$ 94,327,385	\$102,418,847
2. Market Value	\$ 95,767,245	\$106,579,034
C. <u>Liabilities</u>		
1. Actuarial present value of future expected benefit payments for active members		
a. Retirement benefits	\$ 68,146,770	\$ 71,929,597
b. Vesting benefits	1,444,293	1,429,882
c. Death benefits	242,539	257,276
d. Disability benefits	1,153,366	1,221,592
e. Total	\$ 70,986,968	\$ 74,838,347
2. Actuarial present value of future expected benefit payments for terminated vested members	\$ 2,222,275	\$ 2,588,573
3. Actuarial present value of future expected benefit payments for those receiving benefits		
a. Service retired	\$ 48,243,478	\$ 53,649,719
b. DROP participants	13,992,300	12,350,438
c. Disability retired	1,522,622	1,499,330
d. Beneficiaries	2,268,885	2,218,127
e. Miscellaneous (refunds payable)	140,508	31,143
f. Total	\$ 66,167,793	\$ 69,748,757
4. Total actuarial present value of future expected benefit payments	\$ 139,377,036	\$147,175,677

D

Table XVIII
(continued two)

State Required Exhibit

	<u>10/01/2019</u>	<u>10/01/2020</u>
5. Actuarial accrued liabilities	\$ 119,277,973	\$ 125,976,959
6. Unfunded actuarial liabilities (see footnote 1/ for separation)	\$ 24,950,588	\$ 23,558,112
D. <u>Statement of Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated vested benefits		
a. Participants currently receiving benefits	\$ 52,034,985	\$ 57,367,176
b. DROP participants	13,992,300	12,350,438
c. Other participants	<u>40,275,831</u>	<u>42,694,168</u>
d. Total	\$ 106,303,116	\$ 112,411,782
2. Actuarial present value of accumulated non-vested plan benefits	<u>2,431,228</u>	<u>2,568,170</u>
3. Total actuarial present value of accumulated plan benefits	\$ 108,734,344	\$ 114,979,952
E. <u>Statement of Change in Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated plan benefits as of October 1, 2019	\$ 108,734,344	
2. Increase (decrease) during year attributable to:		
a. Plan amendment	\$ 0	
b. Change in actuarial assumptions	0	
c. Benefits paid including refunds	(5,006,362)	
d. DROP benefits	(901,840)	
e. Other, including benefits accumulated, increase for interest due to decrease in the discount period	<u>12,153,810</u>	
f. Net increase	\$ 6,245,608	
3. Actuarial present value of accumulated plan benefits as of October 1, 2020	\$ 114,979,952	

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**Table XVIII
(continued three)**

State Required Exhibit

	<u>10/01/2019</u>	<u>10/01/2020</u>
F. <u>Pension Cost</u>		
1. Total normal cost	\$ 2,907,879	\$ 3,083,479
2. Payment required to amortize unfunded liability	2,443,200	2,495,076
3. Interest	<u>230,501</u>	<u>239,774</u>
4. Total required contributions	\$ 5,581,580	\$ 5,818,329
5. Item 4 as a percentage of payroll	41.7%	41.3%
6. Employee contributions	\$ 937,041	\$ 986,822
7. Item 6 as a percentage of payroll	7.0%	7.0%
8. Total employer required contributions	\$ 4,644,539	\$ 4,831,507
9. Item 8 as a percentage of payroll	34.7%	34.3%
10. State contributions	\$ 521,161	\$ 521,161
11. Items 10 as a percentage of payroll	3.9%	3.7%
12. Net amount payable by City	\$ 4,123,378	\$ 4,310,346
13. Item 12 as a percentage of payroll	30.8%	30.6%
G. <u>Past Contributions</u>		
1. Total contribution required	\$ 5,581,580	\$ 5,818,329
2. Actual contributions made:		
a. Employees	\$ 1,019,220	N/A
b. City	4,123,745	N/A
c. State (as limited by Chs. 175 & 185)	<u>521,161</u>	N/A
d. Total	\$ 5,664,126	N/A
H. <u>Net Actuarial Gains / (Losses)</u>	\$ 2,267,575	\$ 455,549
I. <u>Disclosure of Following Items:</u>		
1. Actuarial present value of future salaries - attained age	\$ 87,175,682	\$ 91,199,520
2. Actuarial present value of future employee contributions - attained age	\$ 6,102,298	\$ 6,383,966
3. Actuarial present value of future contributions from other sources	N/A	N/A
4. Amount of active members' accumulated contributions	\$ 6,887,430	\$ 7,420,785
5. Actuarial present value of future salaries and future benefits at entry age	Not provided by software	
6. Actuarial present value of future employee contributions at entry age	Not provided by software	

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**Table XVIII
(continued four)**

State Required Exhibit

<u>Unfunded Actuarial Accrued Liabilities</u>	<u>Current Unfunded Liabilities</u>	<u>Amortization Payment</u>	<u>Remaining Funding Period</u>
10/1/1991 Actuarial Loss (Gain)	121,548	121,548	1 years
10/1/1991 Plan Amendment	372	372	1 years
10/1/1992 Actuarial Loss (Gain)	(22,538)	(11,650)	2 years
10/1/1992 Plan Amendment	(79,558)	(41,124)	2 years
10/1/1992 Method Change	(21,995)	(11,369)	2 years
10/1/1993 Actuarial Loss (Gain)	6,457	2,299	3 years
10/1/1994 Actuarial Loss (Gain)	(75,472)	(20,824)	4 years
10/1/1994 Plan Amendment	(69,011)	(19,041)	4 years
10/1/1995 Actuarial Loss (Gain)	290,775	66,278	5 years
10/1/1995 Assumption Change	(284,337)	(64,810)	5 years
10/1/1996 Actuarial Loss (Gain)	(30,663)	(6,012)	6 years
10/1/1996 Assumption Change	242,458	47,539	6 years
10/1/1997 Actuarial Loss (Gain)	906,661	157,228	7 years
10/1/1997 Plan Amendment	(157,209)	(27,262)	7 years
10/1/1998 Actuarial Loss (Gain)	55,829	8,738	8 years
10/1/1998 Assumption Change	229,686	35,949	8 years
10/1/1998 Plan Amendment	(1,345,169)	(210,535)	8 years
10/1/1999 Actuarial Loss (Gain)	302,953	43,457	9 years
10/1/1999 Assumption Change	239,964	34,422	9 years
10/1/1999 Plan Amendment	(413,908)	(59,373)	9 years
10/1/2000 Actuarial Loss (Gain)	370,138	49,252	10 years
10/1/2000 Plan Amendment	(106,353)	(14,152)	10 years
10/1/2001 Actuarial Loss (Gain)	(436,790)	(54,438)	11 years
10/1/2001 Plan Amendment	555,958	69,291	11 years
10/1/2002 Actuarial Loss (Gain)	2,017,184	237,353	12 years
10/1/2003 Actuarial Loss (Gain)	1,666,969	186,406	13 years
10/1/2004 Actuarial Loss (Gain)	1,330,984	142,235	14 years
10/1/2005 Actuarial Loss (Gain)	1,797,869	184,483	15 years
10/1/2005 Plan Amendment	1,789,200	183,593	15 years
10/1/2006 Actuarial Loss (Gain)	2,049,141	202,726	16 years
10/1/2006 Method Change	(3,156,159)	(312,246)	16 years
10/1/2006 Plan Amendment	690,512	68,314	16 years
10/1/2007 Actuarial Loss (Gain)	(1,503,964)	(143,966)	17 years
10/1/2008 Actuarial Loss (Gain)	279,497	25,968	18 years
10/1/2009 Actuarial Loss (Gain)	970,680	87,772	19 years
10/1/2009 Assumptions Change	2,091,780	189,146	19 years
10/1/2010 Actuarial Loss (Gain)	2,633,176	270,195	15 years
10/1/2011 Actuarial Loss (Gain)	2,795,019	241,074	21 years
10/1/2012 Actuarial Loss (Gain)	2,211,286	186,835	22 years
10/1/2013 Actuarial Loss (Gain)	485,461	40,250	23 years
10/1/2013 Assumption Change	2,176,055	243,333	13 years
10/1/2014 Actuarial Loss (Gain)	(1,058,092)	(86,219)	24 years
10/1/2015 Actuarial Loss (Gain)	(350,591)	(28,116)	25 years
10/1/2016 Actuarial Loss (Gain)	1,145,212	90,505	26 years
10/1/2016 Assumption Change	4,266,128	422,058	16 years
10/1/2017 Actuarial Loss (Gain)	792,927	61,823	27 years
10/1/2017 Assumption Change	579,306	55,454	17 years
10/1/2018 Actuarial Loss (Gain)	(2,047,889)	(157,691)	28 years
10/1/2018 Assumption Change	1,151,913	107,023	18 years
10/1/2019 Actuarial Loss (Gain)	(2,238,911)	(170,426)	29 years
10/1/2019 Assumption Change	1,169,172	105,720	19 years
10/1/2020 Actuarial Loss (Gain)	(455,549)	(34,309)	30 years
TOTAL	\$ 23,558,112	\$ 2,495,076	

Equivalent single amortization period: 14.73 years

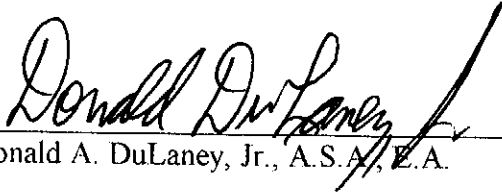


**Table XVIII
(continued five)**

State Required Exhibit

Actuary Statement

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 in 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.



Donald A. DuLaney, Jr., A.S.A., F.A.

6/8/2021

Date

20-04191

Enrollment Number

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