


CITY OF DELRAY BEACH
FIREFIGHTERS' RETIREMENT SYSTEM

SECTION 112.664, FLORIDA STATUTES
COMPLIANCE

With respect to the reporting standards for defined benefit retirement plans or systems contained in Section 112.664(1), F.S., the actuarial disclosures required under this section were 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, meet the requirements of Section 112.664(1), Florida Statutes, and Rule 60T-1.0035, Florida Administrative Code.

By:  Date: 7/18/2017

Bradley R. Heinrichs, FSA, EA, MAAA
Enrolled Actuary #17-6901



When reviewing the following schedules, please note the following:

- 1) The purpose of producing this report is solely to satisfy the requirements set forth by Section 112.664, Florida Statutes, and is mandatory for every Florida public pension fund, excluding the Florida Retirement System (FRS).
- 2) None of the schedules shown have any impact on the funding requirements of the Plan. These schedules are for statutory compliance purposes only.
- 3) In the schedules that follow, the columns labeled “ACTUAL” represent the final recorded GASB 67/68 results. The columns labeled “HYPOTHETICAL” illustrate what the results would have been if different assumptions were used.
- 4) It is our opinion that the Plan’s actual assumptions utilized in the October 1, 2016 Actuarial Valuation Report, as adopted by the Board of Trustees, are reasonable individually and in the aggregate, and represent our best estimate of future Plan experience.
- 5) The “Number of Years Expected Benefit Payments Sustained” calculated in Section II: Asset Sustainability should not be interpreted as the number of years the Plan has left until it is insolvent. This calculation is required by 112.664, Florida Statutes, but the numeric result is irrelevant, since in its calculation we are to assume there will be no further contributions to the Fund. As long as the Actuarially Determined Contribution is made each year the Plan will never become insolvent.

GASB 67: SCHEDULE OF CHANGES IN NET PENSION LIABILITY
FISCAL YEAR SEPTEMBER 30, 2016

	ACTUAL	HYPOTHETICAL	
	8.00% RP-2000 Generational	6.00% RP-2000 Generational	10.00% RP-2000 Generational
<u>Total Pension Liability</u>			
Service Cost	4,161,533	6,789,706	2,824,948
Interest	17,821,974	17,686,450	18,515,991
Change in Excess State Money	(1,741,230)	(1,741,230)	(1,741,230)
Changes of Benefit Terms	(1,121,765)	(2,961,840)	(1,552,673)
Differences Between Expected and Actual Experience	1,568,118	3,890,352	1,721,980
Changes of Assumptions	7,407,717	99,284	(1,250,662)
Contributions - Buy Back	32,218	32,218	32,218
Benefit Payments, Including Refunds of Employee Contributions	(13,532,591)	(13,532,591)	(13,532,591)
Net Change in Total Pension Liability	14,595,974	10,262,349	5,017,981
Total Pension Liability - Beginning	237,280,429	308,491,831	201,433,165
Total Pension Liability - Ending (a)	<u>\$ 251,876,403</u>	<u>\$ 318,754,180</u>	<u>\$ 206,451,146</u>
<u>Plan Fiduciary Net Position</u>			
Contributions - Employer	10,789,457	10,789,457	10,789,457
Contributions - State	1,909,358	1,909,358	1,909,358
Contributions - Employee	1,773,803	1,773,803	1,773,803
Contributions - Buy Back	32,218	32,218	32,218
Net Investment Income	13,606,364	13,606,364	13,606,364
Benefit Payments, Including Refunds of Employee Contributions	(13,532,591)	(13,532,591)	(13,532,591)
Administrative Expenses	(245,221)	(245,221)	(245,221)
Net Change in Plan Fiduciary Net Position	14,333,388	14,333,388	14,333,388
Plan Fiduciary Net Position - Beginning	153,260,618	153,260,618	153,260,618
Plan Fiduciary Net Position - Ending (b)	<u>\$ 167,594,006</u>	<u>\$ 167,594,006</u>	<u>\$ 167,594,006</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 84,282,397</u>	<u>\$ 151,160,174</u>	<u>\$ 38,857,140</u>

GASB 68: PENSION EXPENSE
FISCAL YEAR SEPTEMBER 30, 2016

	ACTUAL	HYPOTHETICAL	
	8.00% RP-2000 Generational	6.00% RP-2000 Generational	10.00% RP-2000 Generational
Pension Expense	<u>\$ 9,405,832</u>	<u>\$ 10,709,392</u>	<u>\$ 4,809,387</u>

PROJECTION OF THE NUMBER OF YEARS ASSETS WILL SUSTAIN BENEFIT PAYMENTS

Table 1
Plan Assumptions: 8.00% and RP-2000 Generational Mortality

Fiscal Year Beginning 10/1	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expense	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2016	88,287,564	-	7,948,327	-	6,745,072	87,084,309
2017	87,084,309	-	8,005,698	-	6,646,517	85,725,128
2018	85,725,128	-	8,265,132	-	6,527,405	83,987,401
2019	83,987,401	-	8,576,453	-	6,375,934	81,786,882
2020	81,786,882	-	8,681,486	-	6,195,691	79,301,087
2021	79,301,087	-	8,765,431	-	5,993,470	76,529,126
2022	76,529,126	-	8,904,838	-	5,766,137	73,390,425
2023	73,390,425	-	9,035,760	-	5,509,804	69,864,469
2024	69,864,469	-	9,169,658	-	5,222,371	65,917,182
2025	65,917,182	-	9,316,917	-	4,900,698	61,500,963
2026	61,500,963	-	9,424,397	-	4,543,101	56,619,667
2027	56,619,667	-	9,582,886	-	4,146,258	51,183,039
2028	51,183,039	-	9,645,703	-	3,708,815	45,246,151
2029	45,246,151	-	9,683,478	-	3,232,353	38,795,026
2030	38,795,026	-	9,699,649	-	2,715,616	31,810,993
2031	31,810,993	-	9,714,321	-	2,156,307	24,252,979
2032	24,252,979	-	9,693,945	-	1,552,481	16,111,515
2033	16,111,515	-	9,654,073	-	902,758	7,360,200
2034	7,360,200	-	9,616,708	-	-	-

Number of Years Expected Benefit Payments Sustained: 18.77

This projection assumes no further contributions, assumes no further benefit accruals, and assumes Market Value of Assets earn 8.00% interest.

It is important to note that as long as the Actuarially Determined Contribution is made each year, the Plan will never become insolvent. Furthermore, State and local laws mandate that the Actuarially Determined Contribution be made each year.

PROJECTION OF THE NUMBER OF YEARS ASSETS WILL SUSTAIN BENEFIT PAYMENTS

Table 2
Hypothetical Assumptions: 6.00% and RP-2000 Generational Mortality

Fiscal Year Beginning 10/1	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expense	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2016	88,287,564	-	7,948,327	-	5,058,804	85,398,041
2017	85,398,041	-	8,005,698	-	4,883,712	82,276,055
2018	82,276,055	-	8,265,132	-	4,688,609	78,699,532
2019	78,699,532	-	8,576,453	-	4,464,678	74,587,757
2020	74,587,757	-	8,681,486	-	4,214,821	70,121,092
2021	70,121,092	-	8,765,431	-	3,944,303	65,299,964
2022	65,299,964	-	8,904,838	-	3,650,853	60,045,979
2023	60,045,979	-	9,035,760	-	3,331,686	54,341,905
2024	54,341,905	-	9,169,658	-	2,985,425	48,157,672
2025	48,157,672	-	9,316,917	-	2,609,953	41,450,708
2026	41,450,708	-	9,424,397	-	2,204,311	34,230,622
2027	34,230,622	-	9,582,886	-	1,766,351	26,414,087
2028	26,414,087	-	9,645,703	-	1,295,474	18,063,858
2029	18,063,858	-	9,683,478	-	793,327	9,173,707
2030	9,173,707	-	9,699,649	-	-	-

Number of Years Expected Benefit Payments Sustained: 14.95

This projection assumes no further contributions, assumes no further benefit accruals, and assumes Market Value of Assets earn 6.00% interest.

It is important to note that as long as the Actuarially Determined Contribution is made each year, the Plan will never become insolvent. Furthermore, State and local laws mandate that the Actuarially Determined Contribution be made each year.

PROJECTION OF THE NUMBER OF YEARS ASSETS WILL SUSTAIN BENEFIT PAYMENTS

Table 3
Hypothetical Assumptions: 10.00% and RP-2000 Generational Mortality

Fiscal Year Beginning 10/1	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expense	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2016	88,287,564	-	7,948,327	-	8,431,340	88,770,577
2017	88,770,577	-	8,005,698	-	8,476,773	89,241,652
2018	89,241,652	-	8,265,132	-	8,510,909	89,487,429
2019	89,487,429	-	8,576,453	-	8,519,920	89,430,896
2020	89,430,896	-	8,681,486	-	8,509,015	89,258,425
2021	89,258,425	-	8,765,431	-	8,487,571	88,980,565
2022	88,980,565	-	8,904,838	-	8,452,815	88,528,542
2023	88,528,542	-	9,035,760	-	8,401,066	87,893,848
2024	87,893,848	-	9,169,658	-	8,330,902	87,055,092
2025	87,055,092	-	9,316,917	-	8,239,663	85,977,838
2026	85,977,838	-	9,424,397	-	8,126,564	84,680,005
2027	84,680,005	-	9,582,886	-	7,988,856	83,085,975
2028	83,085,975	-	9,645,703	-	7,826,312	81,266,584
2029	81,266,584	-	9,683,478	-	7,642,485	79,225,591
2030	79,225,591	-	9,699,649	-	7,437,577	76,963,519
2031	76,963,519	-	9,714,321	-	7,210,636	74,459,834
2032	74,459,834	-	9,693,945	-	6,961,286	71,727,175
2033	71,727,175	-	9,654,073	-	6,690,014	68,763,116
2034	68,763,116	-	9,616,708	-	6,395,476	65,541,884
2035	65,541,884	-	9,554,778	-	6,076,450	62,063,556
2036	62,063,556	-	9,479,611	-	5,732,375	58,316,320
2037	58,316,320	-	9,382,687	-	5,362,498	54,296,131
2038	54,296,131	-	9,273,556	-	4,965,935	49,988,510
2039	49,988,510	-	9,147,002	-	4,541,501	45,383,009
2040	45,383,009	-	9,006,293	-	4,087,986	40,464,702
2041	40,464,702	-	8,851,786	-	3,603,881	35,216,797
2042	35,216,797	-	8,681,830	-	3,087,588	29,622,555
2043	29,622,555	-	8,498,415	-	2,537,335	23,661,475
2044	23,661,475	-	8,299,036	-	1,951,196	17,313,635
2045	17,313,635	-	8,087,064	-	1,327,010	10,553,581
2046	10,553,581	-	7,862,689	-	662,224	3,353,116
2047	3,353,116	-	7,626,404	-	-	-

Number of Years Expected Benefit Payments Sustained: 31.44

This projection assumes no further contributions, assumes no further benefit accruals, and assumes Market Value of Assets earn 10.00% interest.

It is important to note that as long as the Actuarially Determined Contribution is made each year, the Plan will never become insolvent. Furthermore, State and local laws mandate that the Actuarially Determined Contribution be made each year.

ACTUAL AND HYPOTHETICAL CONTRIBUTIONS APPLICABLE TO THE FISCAL YEAR
ENDING SEPTEMBER 30, 2018

Valuation Date: 10/1/2016

	ACTUAL	HYPOTHETICAL	
	8.00% RP-2000 Generational	6.00% RP-2000 Generational	10.00% RP-2000 Generational
Total Required Contribution (Fixed \$)	\$7,457,362	\$10,594,343	\$4,945,510
Total Required Contribution (% of Payroll)	75.9%	107.8%	50.3%
Expected Member Contribution	919,345	910,792	927,818
Expected State Money	1,193,140	1,193,140	1,193,140
Expected Sponsor Contribution (Fixed \$)	\$5,344,877	\$8,490,411	\$2,824,552
Expected Sponsor Contribution (% of Payroll)	54.4%	86.4%	28.7%
<u>ASSETS</u>			
Actuarial Value ¹	89,529,663	89,529,663	89,529,663
Market Value ¹	88,287,564	88,287,564	88,287,564
<u>LIABILITIES</u>			
Present Value of Benefits			
Active Members			
Retirement Benefits	53,530,591	81,498,804	37,197,584
Disability Benefits	1,114,955	1,558,202	831,360
Death Benefits	1,366,523	2,011,972	984,670
Vested Benefits	476,731	855,967	279,030
Refund of Contributions	245,176	260,441	231,552
Service Retirees	64,435,182	79,114,428	54,085,333
DROP Retirees ¹	22,853,665	28,723,261	18,857,892
Beneficiaries	1,583,321	1,884,999	1,363,749
Disability Retirees	1,610,573	1,902,093	1,392,344
Terminated Vested	151,994	151,994	151,994
COLA Account	9,092,732	9,092,732	9,092,732
Total:	156,461,443	207,054,893	124,468,240
Present Value of Future Salaries	82,343,459	92,402,574	74,167,458
Present Value of Future Member Contributions	7,410,911	8,316,232	6,675,071
Total Normal Cost	2,278,992	3,630,274	1,487,062
Present Value of Future Normal Costs (Entry Age Normal)	19,507,752	34,906,282	11,429,872
Total Actuarial Accrued Liability ¹	136,953,691	172,148,611	113,038,368
Unfunded Actuarial Accrued Liability (UAAL)	47,424,028	82,618,948	23,508,705

ACTUAL AND HYPOTHETICAL CONTRIBUTIONS APPLICABLE TO THE FISCAL YEAR
ENDING SEPTEMBER 30, 2018

Valuation Date: 10/1/2016

	ACTUAL	HYPOTHETICAL	
	8.00% RP-2000 Generational	6.00% RP-2000 Generational	10.00% RP-2000 Generational
<u>PENSION COST</u>			
Normal Cost ²	2,499,844	3,945,032	1,646,204
Administrative Expenses ²	134,493	133,242	135,733
Payment Required To Amortize UAAL ²	4,823,025	6,516,069	3,163,573
Total Required Contribution	\$7,457,362	\$10,594,343	\$4,945,510

¹ The asset values and liabilities for DROP Members exclude accumulated DROP Balances as of 9/30/2016.

² Contributions developed as of 10/1/2016 displayed above have been adjusted to account for assumed salary increase and interest components.