

BOCA GRANDE FIRE CONTROL DISTRICT
FIREFIGHTERS' PENSION FUND

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: Patrick T. Donlan Date: 4/3/2018

Patrick T. Donlan, EA, ASA, MAAA
Enrolled Actuary #17-6595



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, 2017 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.

SCHEDULE OF CHANGES IN NET PENSION LIABILITY
FISCAL YEAR SEPTEMBER 30, 2017

	ACTUAL	HYPOTHETICAL	
	6.80% RP-2000 Generational	4.80% RP-2000 Generational	8.80% RP-2000 Generational
<u>Total Pension Liability</u>			
Service Cost	466,725	776,319	293,985
Interest	549,683	561,429	516,462
Changes of Benefit Terms	-	-	-
Differences Between Expected and Actual Experience	284,643	446,462	184,340
Changes of Assumptions	-	-	-
Benefit Payments, Including Refunds of Employee Contributions	(26,490)	(26,490)	(26,490)
Net Change in Total Pension Liability	1,274,561	1,757,720	968,297
Total Pension Liability - Beginning	7,630,094	10,933,365	5,588,141
Total Pension Liability - Ending (a)	<u>\$ 8,904,655</u>	<u>\$ 12,691,085</u>	<u>\$ 6,556,438</u>
<u>Plan Fiduciary Net Position</u>			
Contributions - Employer	489,400	489,400	489,400
Contributions - State	118,973	118,973	118,973
Contributions - Employee	60,004	60,004	60,004
Net Investment Income	557,404	557,404	557,404
Benefit Payments, Including Refunds of Employee Contributions	(26,490)	(26,490)	(26,490)
Administrative Expenses	(40,971)	(40,971)	(40,971)
Net Change in Plan Fiduciary Net Position	1,158,320	1,158,320	1,158,320
Plan Fiduciary Net Position - Beginning	5,637,303	5,637,303	5,637,303
Plan Fiduciary Net Position - Ending (b)	<u>\$ 6,795,623</u>	<u>\$ 6,795,623</u>	<u>\$ 6,795,623</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 2,109,032</u>	<u>\$ 5,895,462</u>	<u>\$ (239,185)</u>

PROJECTION OF THE NUMBER OF YEARS ASSETS WILL SUSTAIN BENEFIT PAYMENTS

Table 1
Plan Assumptions: 6.80% 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
2017	6,795,623	-	31,927	-	461,017	7,224,713
2018	7,224,713	-	154,565	-	486,025	7,556,173
2019	7,556,173	-	216,039	-	506,474	7,846,608
2020	7,846,608	-	245,356	-	525,227	8,126,479
2021	8,126,479	-	251,806	-	544,039	8,418,712
2022	8,418,712	-	258,248	-	563,692	8,724,156
2023	8,724,156	-	264,893	-	584,236	9,043,499
2024	9,043,499	-	327,478	-	603,824	9,319,845
2025	9,319,845	-	408,967	-	619,845	9,530,723
2026	9,530,723	-	444,186	-	632,987	9,719,524
2027	9,719,524	-	508,154	-	643,650	9,855,020
2028	9,855,020	-	508,578	-	652,850	9,999,292
2029	9,999,292	-	513,732	-	662,485	10,148,045
2030	10,148,045	-	543,475	-	671,589	10,276,159
2031	10,276,159	-	567,326	-	679,490	10,388,323
2032	10,388,323	-	596,001	-	686,142	10,478,464
2033	10,478,464	-	615,833	-	691,597	10,554,228
2034	10,554,228	-	621,284	-	696,564	10,629,508
2035	10,629,508	-	624,724	-	701,566	10,706,350
2036	10,706,350	-	636,914	-	706,377	10,775,813
2037	10,775,813	-	645,825	-	710,797	10,840,785
2038	10,840,785	-	654,113	-	714,934	10,901,606
2039	10,901,606	-	662,097	-	718,798	10,958,307
2040	10,958,307	-	668,055	-	722,451	11,012,703
2041	11,012,703	-	673,928	-	725,950	11,064,725
2042	11,064,725	-	679,108	-	729,312	11,114,929
2043	11,114,929	-	684,432	-	732,544	11,163,041
2044	11,163,041	-	689,728	-	735,636	11,208,949
2045	11,208,949	-	694,361	-	738,600	11,253,188
2046	11,253,188	-	697,674	-	741,496	11,297,010
2047	11,297,010	-	700,238	-	744,389	11,341,161
2048	11,341,161	-	702,054	-	747,329	11,386,436
2049	11,386,436	-	702,687	-	750,386	11,434,135
2050	11,434,135	-	702,010	-	753,653	11,485,778
2051	11,485,778	-	699,915	-	757,236	11,543,099
2052	11,543,099	-	696,299	-	761,257	11,608,057
2053	11,608,057	-	690,926	-	765,856	11,682,987
2054	11,682,987	-	683,350	-	771,209	11,770,846
2055	11,770,846	-	673,232	-	777,528	11,875,142
2056	11,875,142	-	660,327	-	785,059	11,999,874
2057	11,999,874	-	644,449	-	794,080	12,149,505
2058	12,149,505	-	625,702	-	804,892	12,328,695
2059	12,328,695	-	604,276	-	817,806	12,542,225
2060	12,542,225	-	580,457	-	833,136	12,794,904
2061	12,794,904	-	554,539	-	851,199	13,091,564
2062	13,091,564	-	526,511	-	872,325	13,437,378
2063	13,437,378	-	496,427	-	896,863	13,837,814
2064	13,837,814	-	465,088	-	925,158	14,297,884
2065	14,297,884	-	433,328	-	957,523	14,822,079
2066	14,822,079	-	401,519	-	994,250	15,414,810

PROJECTION OF THE NUMBER OF YEARS ASSETS WILL SUSTAIN BENEFIT PAYMENTS

Table 1
Plan Assumptions: 6.80% 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
2067	15,414,810	-	370,256	-	1,035,618	16,080,172
2068	16,080,172	-	339,780	-	1,081,899	16,822,291
2069	16,822,291	-	310,165	-	1,133,370	17,645,496
2070	17,645,496	-	281,513	-	1,190,322	18,554,305
2071	18,554,305	-	253,663	-	1,253,068	19,553,710
2072	19,553,710	-	227,099	-	1,321,931	20,648,542
2073	20,648,542	-	202,488	-	1,397,216	21,843,270
2074	21,843,270	-	179,969	-	1,479,223	23,142,524
2075	23,142,524	-	159,248	-	1,568,277	24,551,553
2076	24,551,553	-	140,138	-	1,664,741	26,076,156
2077	26,076,156	-	122,403	-	1,769,017	27,722,770
2078	27,722,770	-	105,969	-	1,881,545	29,498,346
2079	29,498,346	-	90,635	-	2,002,806	31,410,517
2080	31,410,517	-	76,314	-	2,133,320	33,467,523
2081	33,467,523	-	63,209	-	2,273,642	35,677,956
2082	35,677,956	-	51,458	-	2,424,351	38,050,849
2083	38,050,849	-	41,107	-	2,586,060	40,595,802
2084	40,595,802	-	32,166	-	2,759,421	43,323,057
2085	43,323,057	-	24,534	-	2,945,134	46,243,657
2086	46,243,657	-	18,273	-	3,143,947	49,369,331
2087	49,369,331	-	13,269	-	3,356,663	52,712,725
2088	52,712,725	-	9,382	-	3,584,146	56,287,489
2089	56,287,489	-	6,454	-	3,827,330	60,108,365
2090	60,108,365	-	4,322	-	4,087,222	64,191,265
2091	64,191,265	-	2,831	-	4,364,910	68,553,344
2092	68,553,344	-	1,811	-	4,661,566	73,213,099
2093	73,213,099	-	1,142	-	4,978,452	78,190,409
2094	78,190,409	-	704	-	5,316,924	83,506,629
2095	83,506,629	-	432	-	5,678,436	89,184,633
2096	89,184,633	-	265	-	6,064,546	95,248,914
2097	95,248,914	-	163	-	6,476,921	101,725,672
2098	101,725,672	-	100	-	6,917,342	108,642,914
2099	108,642,914	-	62	-	7,387,716	116,030,568
2100	116,030,568	-	38	-	7,890,077	123,920,607
2101	123,920,607	-	23	-	8,426,600	132,347,184
2102	132,347,184	-	14	-	8,999,608	141,346,778
2103	141,346,778	-	9	-	9,611,581	150,958,350
2104	150,958,350	-	5	-	10,265,168	161,223,513
2105	161,223,513	-	3	-	10,963,199	172,186,709
2106	172,186,709	-	1	-	11,708,696	183,895,404
2107	183,895,404	-	1	-	12,504,887	196,400,290
2108	196,400,290	-	-	-	13,355,220	209,755,510

Number of Years Expected Benefit Payments Sustained: 999.99

This projection assumes no further contributions, assumes no further benefit accruals, and assumes Market Value of Assets earn 6.80% 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: 4.80% 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
2017	6,795,623	-	31,927	-	325,424	7,089,120
2018	7,089,120	-	154,565	-	336,568	7,271,123
2019	7,271,123	-	216,039	-	343,829	7,398,913
2020	7,398,913	-	245,356	-	349,259	7,502,816
2021	7,502,816	-	251,806	-	354,092	7,605,102
2022	7,605,102	-	258,248	-	358,847	7,705,701
2023	7,705,701	-	264,893	-	363,516	7,804,324
2024	7,804,324	-	327,478	-	366,748	7,843,594
2025	7,843,594	-	408,967	-	366,677	7,801,304
2026	7,801,304	-	444,186	-	363,802	7,720,920
2027	7,720,920	-	508,154	-	358,408	7,571,174
2028	7,571,174	-	508,578	-	351,210	7,413,806
2029	7,413,806	-	513,732	-	343,533	7,243,607
2030	7,243,607	-	543,475	-	334,650	7,034,782
2031	7,034,782	-	567,326	-	324,054	6,791,510
2032	6,791,510	-	596,001	-	311,688	6,507,197
2033	6,507,197	-	615,833	-	297,565	6,188,929
2034	6,188,929	-	621,284	-	282,158	5,849,803
2035	5,849,803	-	624,724	-	265,797	5,490,876
2036	5,490,876	-	636,914	-	248,276	5,102,238
2037	5,102,238	-	645,825	-	229,408	4,685,821
2038	4,685,821	-	654,113	-	209,221	4,240,929
2039	4,240,929	-	662,097	-	187,674	3,766,506
2040	3,766,506	-	668,055	-	164,759	3,263,210
2041	3,263,210	-	673,928	-	140,460	2,729,742
2042	2,729,742	-	679,108	-	114,729	2,165,363
2043	2,165,363	-	684,432	-	87,511	1,568,442
2044	1,568,442	-	689,728	-	58,732	937,446
2045	937,446	-	694,361	-	28,333	271,418
2046	271,418	-	697,674	-	-	-

Number of Years Expected Benefit Payments Sustained: 29.39

This projection assumes no further contributions, assumes no further benefit accruals, and assumes Market Value of Assets earn 4.80% 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: 8.80% 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
2017	6,795,623	-	31,927	-	596,610	7,360,306
2018	7,360,306	-	154,565	-	640,906	7,846,647
2019	7,846,647	-	216,039	-	680,999	8,311,607
2020	8,311,607	-	245,356	-	720,626	8,786,877
2021	8,786,877	-	251,806	-	762,166	9,297,237
2022	9,297,237	-	258,248	-	806,794	9,845,783
2023	9,845,783	-	264,893	-	854,774	10,435,664
2024	10,435,664	-	327,478	-	903,929	11,012,115
2025	11,012,115	-	408,967	-	951,072	11,554,220
2026	11,554,220	-	444,186	-	997,227	12,107,261
2027	12,107,261	-	508,154	-	1,043,080	12,642,187
2028	12,642,187	-	508,578	-	1,090,135	13,223,744
2029	13,223,744	-	513,732	-	1,141,085	13,851,097
2030	13,851,097	-	543,475	-	1,194,984	14,502,606
2031	14,502,606	-	567,326	-	1,251,267	15,186,547
2032	15,186,547	-	596,001	-	1,310,192	15,900,738
2033	15,900,738	-	615,833	-	1,372,168	16,657,073
2034	16,657,073	-	621,284	-	1,438,486	17,474,275
2035	17,474,275	-	624,724	-	1,510,248	18,359,799
2036	18,359,799	-	636,914	-	1,587,638	19,310,523
2037	19,310,523	-	645,825	-	1,670,910	20,335,608
2038	20,335,608	-	654,113	-	1,760,753	21,442,248
2039	21,442,248	-	662,097	-	1,857,786	22,637,937
2040	22,637,937	-	668,055	-	1,962,744	23,932,626
2041	23,932,626	-	673,928	-	2,076,418	25,335,116
2042	25,335,116	-	679,108	-	2,199,609	26,855,617
2043	26,855,617	-	684,432	-	2,333,179	28,504,364
2044	28,504,364	-	689,728	-	2,478,036	30,292,672
2045	30,292,672	-	694,361	-	2,635,203	32,233,514
2046	32,233,514	-	697,674	-	2,805,852	34,341,692
2047	34,341,692	-	700,238	-	2,991,258	36,632,712
2048	36,632,712	-	702,054	-	3,192,788	39,123,446
2049	39,123,446	-	702,687	-	3,411,945	41,832,704
2050	41,832,704	-	702,010	-	3,650,390	44,781,084
2051	44,781,084	-	699,915	-	3,909,939	47,991,108
2052	47,991,108	-	696,299	-	4,192,580	51,487,389
2053	51,487,389	-	690,926	-	4,500,489	55,296,952
2054	55,296,952	-	683,350	-	4,836,064	59,449,666
2055	59,449,666	-	673,232	-	5,201,948	63,978,382
2056	63,978,382	-	660,327	-	5,601,043	68,919,098
2057	68,919,098	-	644,449	-	6,036,525	74,311,174
2058	74,311,174	-	625,702	-	6,511,852	80,197,324
2059	80,197,324	-	604,276	-	7,030,776	86,623,824
2060	86,623,824	-	580,457	-	7,597,356	93,640,723
2061	93,640,723	-	554,539	-	8,215,984	101,302,168
2062	101,302,168	-	526,511	-	8,891,424	109,667,081
2063	109,667,081	-	496,427	-	9,628,860	118,799,514
2064	118,799,514	-	465,088	-	10,433,893	128,768,319
2065	128,768,319	-	433,328	-	11,312,546	139,647,537
2066	139,647,537	-	401,519	-	12,271,316	151,517,334

PROJECTION OF THE NUMBER OF YEARS ASSETS WILL SUSTAIN BENEFIT PAYMENTS

Table 3
Hypothetical Assumptions: 8.80% 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
2067	151,517,334	-	370,256	-	13,317,234	164,464,312
2068	164,464,312	-	339,780	-	14,457,909	178,582,441
2069	178,582,441	-	310,165	-	15,701,608	193,973,884
2070	193,973,884	-	281,513	-	17,057,315	210,749,686
2071	210,749,686	-	253,663	-	18,534,811	229,030,834
2072	229,030,834	-	227,099	-	20,144,721	248,948,456
2073	248,948,456	-	202,488	-	21,898,555	270,644,523
2074	270,644,523	-	179,969	-	23,808,799	294,273,353
2075	294,273,353	-	159,248	-	25,889,048	320,003,153
2076	320,003,153	-	140,138	-	28,154,111	348,017,126
2077	348,017,126	-	122,403	-	30,620,121	378,514,844
2078	378,514,844	-	105,969	-	33,304,644	411,713,519
2079	411,713,519	-	90,635	-	36,226,802	447,849,686
2080	447,849,686	-	76,314	-	39,407,415	487,180,787
2081	487,180,787	-	63,209	-	42,869,128	529,986,706
2082	529,986,706	-	51,458	-	46,636,566	576,571,814
2083	576,571,814	-	41,107	-	50,736,511	627,267,218
2084	627,267,218	-	32,166	-	55,198,100	682,433,152
2085	682,433,152	-	24,534	-	60,053,038	742,461,656
2086	742,461,656	-	18,273	-	65,335,822	807,779,205
2087	807,779,205	-	13,269	-	71,083,986	878,849,922
2088	878,849,922	-	9,382	-	77,338,380	956,178,920
2089	956,178,920	-	6,454	-	84,143,461	1,040,315,927
2090	1,040,315,927	-	4,322	-	91,547,611	1,131,859,216
2091	1,131,859,216	-	2,831	-	99,603,486	1,231,459,871
2092	1,231,459,871	-	1,811	-	108,368,389	1,339,826,449
2093	1,339,826,449	-	1,142	-	117,904,677	1,457,729,984
2094	1,457,729,984	-	704	-	128,280,208	1,586,009,488
2095	1,586,009,488	-	432	-	139,568,816	1,725,577,872
2096	1,725,577,872	-	265	-	151,850,841	1,877,428,448
2097	1,877,428,448	-	163	-	165,213,696	2,042,641,981
2098	2,042,641,981	-	100	-	179,752,490	2,222,394,371
2099	2,222,394,371	-	62	-	195,570,702	2,417,965,011
2100	2,417,965,011	-	38	-	212,780,919	2,630,745,892
2101	2,630,745,892	-	23	-	231,505,637	2,862,251,506
2102	2,862,251,506	-	14	-	251,878,132	3,114,129,624
2103	3,114,129,624	-	9	-	274,043,407	3,388,173,022
2104	3,388,173,022	-	5	-	298,159,226	3,686,332,243
2105	3,686,332,243	-	3	-	324,397,237	4,010,729,477
2106	4,010,729,477	-	1	-	352,944,194	4,363,673,670
2107	4,363,673,670	-	1	-	384,003,283	4,747,676,952
2108	4,747,676,952	-	-	-	417,795,572	5,165,472,524

Number of Years Expected Benefit Payments Sustained: 999.99

This projection assumes no further contributions, assumes no further benefit accruals, and assumes Market Value of Assets earn 8.80% 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, 2019

Valuation Date: 10/1/2017

	ACTUAL	HYPOTHETICAL	
	6.80% RP-2000 Generational	4.80% RP-2000 Generational	8.80% RP-2000 Generational
Total Required Contribution (Fixed \$)	\$802,963	\$1,319,174	\$460,138
Total Required Contribution (% of Payroll)	50.7%	83.4%	29.1%
Expected Member Contribution	63,304	63,304	63,304
Expected State Money	118,973	118,973	118,973
Expected Sponsor Contribution (Fixed \$)	\$620,686	\$1,136,897	\$277,861
Expected Sponsor Contribution (% of Payroll)	39.2%	71.9%	17.6%
<u>ASSETS</u>			
Actuarial Value ¹	6,795,623	6,795,623	6,795,623
Market Value ¹	6,795,623	6,795,623	6,795,623
<u>LIABILITIES</u>			
Present Value of Benefits			
Active Members			
Retirement Benefits	11,584,921	18,072,505	7,918,105
Disability Benefits	62,124	88,168	45,915
Death Benefits	33,969	44,348	26,444
Vested Benefits	669,762	1,057,556	445,795
Refund of Contributions	5,254	5,488	5,039
Service Retirees	293,570	344,647	254,305
DROP Retirees ¹	0	0	0
Beneficiaries	0	0	0
Disability Retirees	0	0	0
Terminated Vested	3,009	3,009	3,009
Share Plan Balances ¹	0	0	0
Total:	12,652,609	19,615,721	8,698,612
Present Value of Future Salaries	10,005,491	10,976,140	9,192,083
Present Value of Future Member Contributions	400,220	439,046	367,683
Total Normal Cost	575,687	935,940	383,725
Present Value of Future Normal Costs (Entry Age Normal)	3,193,288	6,044,887	1,782,448
Total Actuarial Accrued Liability ¹	9,013,029	13,124,542	6,469,870
Unfunded Actuarial Accrued Liability (UAAL)	2,217,406	6,328,919	(325,753)

ACTUAL AND HYPOTHETICAL CONTRIBUTIONS APPLICABLE TO THE FISCAL YEAR
ENDING SEPTEMBER 30, 2019

Valuation Date: 10/1/2017

	ACTUAL	HYPOTHETICAL	
	6.80% RP-2000 Generational	4.80% RP-2000 Generational	8.80% RP-2000 Generational
<u>PENSION COST</u>			
Normal Cost (with interest)	595,260	958,403	400,609
Administrative Expenses (with interest)	42,364	41,954	42,774
Payment Required To Amortize UAAL (with interest)	165,339	318,817	16,755
Total Required Contribution	\$802,963	\$1,319,174	\$460,138

¹ The asset values and liabilities include accumulated DROP and Share Plan Balances as of 9/30/2017.