

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: 4/9/2019

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, 2018 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, 2018

|   | ACTUAL                           | HYPOTHETICAL                     |                                  |
|---|----------------------------------|----------------------------------|----------------------------------|
|   | 6.35%<br>RP-2000<br>Generational | 4.35%<br>RP-2000<br>Generational | 8.35%<br>RP-2000<br>Generational |
| <b><u>Total Pension Liability</u></b>                         |                                  |                                  |                                  |
| Service Cost  | 527,774                          | 880,908                          | 331,172                          |
| Interest  | 640,453                          | 650,783                          | 604,877                          |
| Changes of Benefit Terms                                      | -                                | -                                | -                                |
| Differences Between Expected and Actual Experience            | 583,934                          | 911,545                          | 384,264                          |
| Changes of Assumptions  | 822,349                          | 1,369,896                        | 522,907                          |
| Contributions - Buy Back                                      | -                                | -                                | -                                |
| Benefit Payments, Including Refunds of Employee Contributions | (28,018)                         | (28,018)                         | (28,018)                         |
| Net Change in Total Pension Liability                         | 2,546,492                        | 3,785,114                        | 1,815,202                        |
| Total Pension Liability - Beginning                           | 8,904,655                        | 12,691,085                       | 6,556,438                        |
| Total Pension Liability - Ending (a)                          | <u>\$ 11,451,147</u>             | <u>\$ 16,476,199</u>             | <u>\$ 8,371,640</u>              |
| <b><u>Plan Fiduciary Net Position</u></b>                     |                                  |                                  |                                  |
| Contributions - Employer                                      | 603,700                          | 603,700                          | 603,700                          |
| Contributions - State   | 123,450                          | 123,450                          | 123,450                          |
| Contributions - Employee                                      | 64,488                           | 64,488                           | 64,488                           |
| Contributions - Buy Back                                      | -                                | -                                | -                                |
| Net Investment Income   | 814,672                          | 814,672                          | 814,672                          |
| Benefit Payments, Including Refunds of Employee Contributions | (28,018)                         | (28,018)                         | (28,018)                         |
| Administrative Expenses                                       | (41,633)                         | (41,633)                         | (41,633)                         |
| Other   | -                                | -                                | -                                |
| Net Change in Plan Fiduciary Net Position                     | 1,536,659                        | 1,536,659                        | 1,536,659                        |
| Plan Fiduciary Net Position - Beginning                       | 6,795,623                        | 6,795,623                        | 6,795,623                        |
| Plan Fiduciary Net Position - Ending (b)                      | <u>\$ 8,332,282</u>              | <u>\$ 8,332,282</u>              | <u>\$ 8,332,282</u>              |
| Net Pension Liability - Ending (a) - (b)                      | <u>\$ 3,118,865</u>              | <u>\$ 8,143,917</u>              | <u>\$ 39,358</u>                 |

## PROJECTION OF THE NUMBER OF YEARS ASSETS WILL SUSTAIN BENEFIT PAYMENTS

Table 1  
Plan Assumptions: 6.35% 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 |
|----------------------------|--|-------------------------------|----------------------------|----------------------------------|-------------------------------|---|
| 2018                       | 8,332,282                                  | -                             | 31,563                     | -                                | 528,098                       | 8,828,817                               |
| 2019                       | 8,828,817                                  | -                             | 238,033                    | -                                | 553,072                       | 9,143,856                               |
| 2020                       | 9,143,856                                  | -                             | 271,825                    | -                                | 572,004                       | 9,444,035                               |
| 2021                       | 9,444,035                                  | -                             | 279,059                    | -                                | 590,836                       | 9,755,812                               |
| 2022                       | 9,755,812                                  | -                             | 286,221                    | -                                | 610,407                       | 10,079,998                              |
| 2023                       | 10,079,998                                 | -                             | 293,642                    | -                                | 630,757                       | 10,417,113                              |
| 2024                       | 10,417,113                                 | -                             | 363,598                    | -                                | 649,942                       | 10,703,457                              |
| 2025                       | 10,703,457                                 | -                             | 455,767                    | -                                | 665,199                       | 10,912,889                              |
| 2026                       | 10,912,889                                 | -                             | 497,988                    | -                                | 677,157                       | 11,092,058                              |
| 2027                       | 11,092,058                                 | -                             | 572,207                    | -                                | 686,178                       | 11,206,029                              |
| 2028                       | 11,206,029                                 | -                             | 586,027                    | -                                | 692,976                       | 11,312,978                              |
| 2029                       | 11,312,978                                 | -                             | 580,015                    | -                                | 699,959                       | 11,432,922                              |
| 2030                       | 11,432,922                                 | -                             | 616,208                    | -                                | 706,426                       | 11,523,140                              |
| 2031                       | 11,523,140                                 | -                             | 644,972                    | -                                | 711,242                       | 11,589,410                              |
| 2032                       | 11,589,410                                 | -                             | 680,083                    | -                                | 714,335                       | 11,623,662                              |
| 2033                       | 11,623,662                                 | -                             | 704,448                    | -                                | 715,736                       | 11,634,950                              |
| 2034                       | 11,634,950                                 | -                             | 711,349                    | -                                | 716,234                       | 11,639,835                              |
| 2035                       | 11,639,835                                 | -                             | 715,892                    | -                                | 716,400                       | 11,640,343                              |
| 2036                       | 11,640,343                                 | -                             | 731,611                    | -                                | 715,933                       | 11,624,665                              |
| 2037                       | 11,624,665                                 | -                             | 743,346                    | -                                | 714,565                       | 11,595,884                              |
| 2038                       | 11,595,884                                 | -                             | 753,408                    | -                                | 712,418                       | 11,554,894                              |
| 2039                       | 11,554,894                                 | -                             | 763,139                    | -                                | 709,506                       | 11,501,261                              |
| 2040                       | 11,501,261                                 | -                             | 770,386                    | -                                | 705,870                       | 11,436,745                              |
| 2041                       | 11,436,745                                 | -                             | 777,581                    | -                                | 701,545                       | 11,360,709                              |
| 2042                       | 11,360,709                                 | -                             | 783,946                    | -                                | 696,515                       | 11,273,278                              |
| 2043                       | 11,273,278                                 | -                             | 790,528                    | -                                | 690,754                       | 11,173,504                              |
| 2044                       | 11,173,504                                 | -                             | 797,145                    | -                                | 684,208                       | 11,060,567                              |
| 2045                       | 11,060,567                                 | -                             | 802,993                    | -                                | 676,851                       | 10,934,425                              |
| 2046                       | 10,934,425                                 | -                             | 807,181                    | -                                | 668,708                       | 10,795,952                              |
| 2047                       | 10,795,952                                 | -                             | 810,550                    | -                                | 659,808                       | 10,645,210                              |
| 2048                       | 10,645,210                                 | -                             | 813,140                    | -                                | 650,154                       | 10,482,224                              |
| 2049                       | 10,482,224                                 | -                             | 814,377                    | -                                | 639,765                       | 10,307,612                              |
| 2050                       | 10,307,612                                 | -                             | 814,117                    | -                                | 628,685                       | 10,122,180                              |
| 2051                       | 10,122,180                                 | -                             | 812,237                    | -                                | 616,970                       | 9,926,913                               |
| 2052                       | 9,926,913                                  | -                             | 808,620                    | -                                | 604,685                       | 9,722,978                               |
| 2053                       | 9,722,978                                  | -                             | 802,999                    | -                                | 591,914                       | 9,511,893                               |
| 2054                       | 9,511,893                                  | -                             | 794,871                    | -                                | 578,768                       | 9,295,790                               |
| 2055                       | 9,295,790                                  | -                             | 783,852                    | -                                | 565,395                       | 9,077,333                               |
| 2056                       | 9,077,333                                  | -                             | 769,659                    | -                                | 551,974                       | 8,859,648                               |
| 2057                       | 8,859,648                                  | -                             | 752,072                    | -                                | 538,709                       | 8,646,285                               |
| 2058                       | 8,646,285                                  | -                             | 731,201                    | -                                | 525,823                       | 8,440,907                               |
| 2059                       | 8,440,907                                  | -                             | 707,255                    | -                                | 513,542                       | 8,247,194                               |
| 2060                       | 8,247,194                                  | -                             | 680,549                    | -                                | 502,089                       | 8,068,734                               |
| 2061                       | 8,068,734                                  | -                             | 651,406                    | -                                | 491,682                       | 7,909,010                               |
| 2062                       | 7,909,010                                  | -                             | 619,796                    | -                                | 482,544                       | 7,771,758                               |
| 2063                       | 7,771,758                                  | -                             | 585,762                    | -                                | 474,909                       | 7,660,905                               |
| 2064                       | 7,660,905                                  | -                             | 550,189                    | -                                | 468,999                       | 7,579,715                               |
| 2065                       | 7,579,715                                  | -                             | 514,007                    | -                                | 464,992                       | 7,530,700                               |
| 2066                       | 7,530,700                                  | -                             | 477,638                    | -                                | 463,034                       | 7,516,096                               |
| 2067                       | 7,516,096                                  | -                             | 441,760                    | -                                | 463,246                       | 7,537,582                               |

## PROJECTION OF THE NUMBER OF YEARS ASSETS WILL SUSTAIN BENEFIT PAYMENTS

Table 1  
Plan Assumptions: 6.35% 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 |
|----------------------------|--|-------------------------------|----------------------------|----------------------------------|-------------------------------|---|
| 2068                       | 7,537,582                                  | -                             | 406,650                    | -                                | 465,725                       | 7,596,657                               |
| 2069                       | 7,596,657                                  | -                             | 372,399                    | -                                | 470,564                       | 7,694,822                               |
| 2070                       | 7,694,822                                  | -                             | 339,132                    | -                                | 477,854                       | 7,833,544                               |
| 2071                       | 7,833,544                                  | -                             | 306,674                    | -                                | 487,693                       | 8,014,563                               |
| 2072                       | 8,014,563                                  | -                             | 275,586                    | -                                | 500,175                       | 8,239,152                               |
| 2073                       | 8,239,152                                  | -                             | 246,652                    | -                                | 515,355                       | 8,507,855                               |
| 2074                       | 8,507,855                                  | -                             | 220,042                    | -                                | 533,262                       | 8,821,075                               |
| 2075                       | 8,821,075                                  | -                             | 195,424                    | -                                | 553,934                       | 9,179,585                               |
| 2076                       | 9,179,585                                  | -                             | 172,581                    | -                                | 577,424                       | 9,584,428                               |
| 2077                       | 9,584,428                                  | -                             | 151,253                    | -                                | 603,809                       | 10,036,984                              |
| 2078                       | 10,036,984                                 | -                             | 131,378                    | -                                | 633,177                       | 10,538,783                              |
| 2079                       | 10,538,783                                 | -                             | 112,735                    | -                                | 665,633                       | 11,091,681                              |
| 2080                       | 11,091,681                                 | -                             | 95,234                     | -                                | 701,298                       | 11,697,745                              |
| 2081                       | 11,697,745                                 | -                             | 79,128                     | -                                | 740,294                       | 12,358,911                              |
| 2082                       | 12,358,911                                 | -                             | 64,597                     | -                                | 782,740                       | 13,077,054                              |
| 2083                       | 13,077,054                                 | -                             | 51,734                     | -                                | 828,750                       | 13,854,070                              |
| 2084                       | 13,854,070                                 | -                             | 40,576                     | -                                | 878,445                       | 14,691,939                              |
| 2085                       | 14,691,939                                 | -                             | 31,020                     | -                                | 931,953                       | 15,592,872                              |
| 2086                       | 15,592,872                                 | -                             | 23,156                     | -                                | 989,412                       | 16,559,128                              |
| 2087                       | 16,559,128                                 | -                             | 16,854                     | -                                | 1,050,970                     | 17,593,244                              |
| 2088                       | 17,593,244                                 | -                             | 11,942                     | -                                | 1,116,792                     | 18,698,094                              |
| 2089                       | 18,698,094                                 | -                             | 8,232                      | -                                | 1,187,068                     | 19,876,930                              |
| 2090                       | 19,876,930                                 | -                             | 5,522                      | -                                | 1,262,010                     | 21,133,418                              |
| 2091                       | 21,133,418                                 | -                             | 3,620                      | -                                | 1,341,857                     | 22,471,655                              |
| 2092                       | 22,471,655                                 | -                             | 2,316                      | -                                | 1,426,877                     | 23,896,216                              |
| 2093                       | 23,896,216                                 | -                             | 1,461                      | -                                | 1,517,363                     | 25,412,118                              |
| 2094                       | 25,412,118                                 | -                             | 900                        | -                                | 1,613,641                     | 27,024,859                              |
| 2095                       | 27,024,859                                 | -                             | 553                        | -                                | 1,716,061                     | 28,740,367                              |
| 2096                       | 28,740,367                                 | -                             | 339                        | -                                | 1,825,003                     | 30,565,031                              |
| 2097                       | 30,565,031                                 | -                             | 209                        | -                                | 1,940,873                     | 32,505,695                              |
| 2098                       | 32,505,695                                 | -                             | 129                        | -                                | 2,064,108                     | 34,569,674                              |
| 2099                       | 34,569,674                                 | -                             | 79                         | -                                | 2,195,172                     | 36,764,767                              |
| 2100                       | 36,764,767                                 | -                             | 49                         | -                                | 2,334,561                     | 39,099,279                              |
| 2101                       | 39,099,279                                 | -                             | 30                         | -                                | 2,482,803                     | 41,582,052                              |
| 2102                       | 41,582,052                                 | -                             | 18                         | -                                | 2,640,460                     | 44,222,494                              |
| 2103                       | 44,222,494                                 | -                             | 11                         | -                                | 2,808,128                     | 47,030,611                              |
| 2104                       | 47,030,611                                 | -                             | 6                          | -                                | 2,986,444                     | 50,017,049                              |
| 2105                       | 50,017,049                                 | -                             | 3                          | -                                | 3,176,083                     | 53,193,129                              |
| 2106                       | 53,193,129                                 | -                             | 2                          | -                                | 3,377,764                     | 56,570,891                              |
| 2107                       | 56,570,891                                 | -                             | 1                          | -                                | 3,592,252                     | 60,163,142                              |
| 2108                       | 60,163,142                                 | -                             | -                          | -                                | 3,820,360                     | 63,983,502                              |

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 6.35% 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: 4.35% 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 |
|----------------------------|--|-------------------------------|----------------------------|----------------------------------|-------------------------------|---|
| 2018                       | 8,332,282                                  | -                             | 31,563                     | -                                | 361,768                       | 8,662,487                               |
| 2019                       | 8,662,487                                  | -                             | 238,033                    | -                                | 371,641                       | 8,796,095                               |
| 2020                       | 8,796,095                                  | -                             | 271,825                    | -                                | 376,718                       | 8,900,988                               |
| 2021                       | 8,900,988                                  | -                             | 279,059                    | -                                | 381,123                       | 9,003,052                               |
| 2022                       | 9,003,052                                  | -                             | 286,221                    | -                                | 385,407                       | 9,102,238                               |
| 2023                       | 9,102,238                                  | -                             | 293,642                    | -                                | 389,561                       | 9,198,157                               |
| 2024                       | 9,198,157                                  | -                             | 363,598                    | -                                | 392,212                       | 9,226,771                               |
| 2025                       | 9,226,771                                  | -                             | 455,767                    | -                                | 391,452                       | 9,162,456                               |
| 2026                       | 9,162,456                                  | -                             | 497,988                    | -                                | 387,736                       | 9,052,204                               |
| 2027                       | 9,052,204                                  | -                             | 572,207                    | -                                | 381,325                       | 8,861,322                               |
| 2028                       | 8,861,322                                  | -                             | 586,027                    | -                                | 372,721                       | 8,648,016                               |
| 2029                       | 8,648,016                                  | -                             | 580,015                    | -                                | 363,573                       | 8,431,574                               |
| 2030                       | 8,431,574                                  | -                             | 616,208                    | -                                | 353,371                       | 8,168,737                               |
| 2031                       | 8,168,737                                  | -                             | 644,972                    | -                                | 341,312                       | 7,865,077                               |
| 2032                       | 7,865,077                                  | -                             | 680,083                    | -                                | 327,339                       | 7,512,333                               |
| 2033                       | 7,512,333                                  | -                             | 704,448                    | -                                | 311,465                       | 7,119,350                               |
| 2034                       | 7,119,350                                  | -                             | 711,349                    | -                                | 294,220                       | 6,702,221                               |
| 2035                       | 6,702,221                                  | -                             | 715,892                    | -                                | 275,976                       | 6,262,305                               |
| 2036                       | 6,262,305                                  | -                             | 731,611                    | -                                | 256,498                       | 5,787,192                               |
| 2037                       | 5,787,192                                  | -                             | 743,346                    | -                                | 235,575                       | 5,279,421                               |
| 2038                       | 5,279,421                                  | -                             | 753,408                    | -                                | 213,268                       | 4,739,281                               |
| 2039                       | 4,739,281                                  | -                             | 763,139                    | -                                | 189,560                       | 4,165,702                               |
| 2040                       | 4,165,702                                  | -                             | 770,386                    | -                                | 164,452                       | 3,559,768                               |
| 2041                       | 3,559,768                                  | -                             | 777,581                    | -                                | 137,938                       | 2,920,125                               |
| 2042                       | 2,920,125                                  | -                             | 783,946                    | -                                | 109,975                       | 2,246,154                               |
| 2043                       | 2,246,154                                  | -                             | 790,528                    | -                                | 80,514                        | 1,536,140                               |
| 2044                       | 1,536,140                                  | -                             | 797,145                    | -                                | 49,484                        | 788,479                                 |
| 2045                       | 788,479                                    | -                             | 802,993                    | -                                | -                             | -                                       |

Number of Years Expected Benefit Payments Sustained: 27.98

This projection assumes no further contributions, assumes no further benefit accruals, and assumes Market Value of Assets earn 4.35% 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: 8.35% 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 |
|----------------------------|--|-------------------------------|----------------------------|----------------------------------|-------------------------------|---|
| 2018                       | 8,332,282                                  | -                             | 31,563                     | -                                | 694,428                       | 8,995,147                               |
| 2019                       | 8,995,147                                  | -                             | 238,033                    | -                                | 741,157                       | 9,498,271                               |
| 2020                       | 9,498,271                                  | -                             | 271,825                    | -                                | 781,757                       | 10,008,203                              |
| 2021                       | 10,008,203                                 | -                             | 279,059                    | -                                | 824,034                       | 10,553,178                              |
| 2022                       | 10,553,178                                 | -                             | 286,221                    | -                                | 869,241                       | 11,136,198                              |
| 2023                       | 11,136,198                                 | -                             | 293,642                    | -                                | 917,613                       | 11,760,169                              |
| 2024                       | 11,760,169                                 | -                             | 363,598                    | -                                | 966,794                       | 12,363,365                              |
| 2025                       | 12,363,365                                 | -                             | 455,767                    | -                                | 1,013,313                     | 12,920,911                              |
| 2026                       | 12,920,911                                 | -                             | 497,988                    | -                                | 1,058,105                     | 13,481,028                              |
| 2027                       | 13,481,028                                 | -                             | 572,207                    | -                                | 1,101,776                     | 14,010,597                              |
| 2028                       | 14,010,597                                 | -                             | 586,027                    | -                                | 1,145,418                     | 14,569,988                              |
| 2029                       | 14,569,988                                 | -                             | 580,015                    | -                                | 1,192,378                     | 15,182,351                              |
| 2030                       | 15,182,351                                 | -                             | 616,208                    | -                                | 1,242,000                     | 15,808,143                              |
| 2031                       | 15,808,143                                 | -                             | 644,972                    | -                                | 1,293,052                     | 16,456,223                              |
| 2032                       | 16,456,223                                 | -                             | 680,083                    | -                                | 1,345,701                     | 17,121,841                              |
| 2033                       | 17,121,841                                 | -                             | 704,448                    | -                                | 1,400,263                     | 17,817,656                              |
| 2034                       | 17,817,656                                 | -                             | 711,349                    | -                                | 1,458,075                     | 18,564,382                              |
| 2035                       | 18,564,382                                 | -                             | 715,892                    | -                                | 1,520,237                     | 19,368,727                              |
| 2036                       | 19,368,727                                 | -                             | 731,611                    | -                                | 1,586,744                     | 20,223,860                              |
| 2037                       | 20,223,860                                 | -                             | 743,346                    | -                                | 1,657,658                     | 21,138,172                              |
| 2038                       | 21,138,172                                 | -                             | 753,408                    | -                                | 1,733,583                     | 22,118,347                              |
| 2039                       | 22,118,347                                 | -                             | 763,139                    | -                                | 1,815,021                     | 23,170,229                              |
| 2040                       | 23,170,229                                 | -                             | 770,386                    | -                                | 1,902,551                     | 24,302,394                              |
| 2041                       | 24,302,394                                 | -                             | 777,581                    | -                                | 1,996,786                     | 25,521,599                              |
| 2042                       | 25,521,599                                 | -                             | 783,946                    | -                                | 2,098,324                     | 26,835,977                              |
| 2043                       | 26,835,977                                 | -                             | 790,528                    | -                                | 2,207,800                     | 28,253,249                              |
| 2044                       | 28,253,249                                 | -                             | 797,145                    | -                                | 2,325,865                     | 29,781,969                              |
| 2045                       | 29,781,969                                 | -                             | 802,993                    | -                                | 2,453,269                     | 31,432,245                              |
| 2046                       | 31,432,245                                 | -                             | 807,181                    | -                                | 2,590,893                     | 33,215,957                              |
| 2047                       | 33,215,957                                 | -                             | 810,550                    | -                                | 2,739,692                     | 35,145,099                              |
| 2048                       | 35,145,099                                 | -                             | 813,140                    | -                                | 2,900,667                     | 37,232,626                              |
| 2049                       | 37,232,626                                 | -                             | 814,377                    | -                                | 3,074,924                     | 39,493,173                              |
| 2050                       | 39,493,173                                 | -                             | 814,117                    | -                                | 3,263,691                     | 41,942,747                              |
| 2051                       | 41,942,747                                 | -                             | 812,237                    | -                                | 3,468,308                     | 44,598,818                              |
| 2052                       | 44,598,818                                 | -                             | 808,620                    | -                                | 3,690,241                     | 47,480,439                              |
| 2053                       | 47,480,439                                 | -                             | 802,999                    | -                                | 3,931,091                     | 50,608,531                              |
| 2054                       | 50,608,531                                 | -                             | 794,871                    | -                                | 4,192,626                     | 54,006,286                              |
| 2055                       | 54,006,286                                 | -                             | 783,852                    | -                                | 4,476,799                     | 57,699,233                              |
| 2056                       | 57,699,233                                 | -                             | 769,659                    | -                                | 4,785,753                     | 61,715,327                              |
| 2057                       | 61,715,327                                 | -                             | 752,072                    | -                                | 5,121,831                     | 66,085,086                              |
| 2058                       | 66,085,086                                 | -                             | 731,201                    | -                                | 5,487,577                     | 70,841,462                              |
| 2059                       | 70,841,462                                 | -                             | 707,255                    | -                                | 5,885,734                     | 76,019,941                              |
| 2060                       | 76,019,941                                 | -                             | 680,549                    | -                                | 6,319,252                     | 81,658,644                              |
| 2061                       | 81,658,644                                 | -                             | 651,406                    | -                                | 6,791,301                     | 87,798,539                              |
| 2062                       | 87,798,539                                 | -                             | 619,796                    | -                                | 7,305,302                     | 94,484,045                              |
| 2063                       | 94,484,045                                 | -                             | 585,762                    | -                                | 7,864,962                     | 101,763,245                             |
| 2064                       | 101,763,245                                | -                             | 550,189                    | -                                | 8,474,261                     | 109,687,317                             |
| 2065                       | 109,687,317                                | -                             | 514,007                    | -                                | 9,137,431                     | 118,310,741                             |
| 2066                       | 118,310,741                                | -                             | 477,638                    | -                                | 9,859,005                     | 127,692,108                             |
| 2067                       | 127,692,108                                | -                             | 441,760                    | -                                | 10,643,848                    | 137,894,196                             |

## PROJECTION OF THE NUMBER OF YEARS ASSETS WILL SUSTAIN BENEFIT PAYMENTS

Table 3  
Hypothetical Assumptions: 8.35% 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 |
|----------------------------|--|-------------------------------|----------------------------|----------------------------------|-------------------------------|---|
| 2068                       | 137,894,196                                | -                             | 406,650                    | -                                | 11,497,188                    | 148,984,734                             |
| 2069                       | 148,984,734                                | -                             | 372,399                    | -                                | 12,424,678                    | 161,037,013                             |
| 2070                       | 161,037,013                                | -                             | 339,132                    | -                                | 13,432,432                    | 174,130,313                             |
| 2071                       | 174,130,313                                | -                             | 306,674                    | -                                | 14,527,077                    | 188,350,716                             |
| 2072                       | 188,350,716                                | -                             | 275,586                    | -                                | 15,715,779                    | 203,790,909                             |
| 2073                       | 203,790,909                                | -                             | 246,652                    | -                                | 17,006,243                    | 220,550,500                             |
| 2074                       | 220,550,500                                | -                             | 220,042                    | -                                | 18,406,780                    | 238,737,238                             |
| 2075                       | 238,737,238                                | -                             | 195,424                    | -                                | 19,926,400                    | 258,468,214                             |
| 2076                       | 258,468,214                                | -                             | 172,581                    | -                                | 21,574,891                    | 279,870,524                             |
| 2077                       | 279,870,524                                | -                             | 151,253                    | -                                | 23,362,874                    | 303,082,145                             |
| 2078                       | 303,082,145                                | -                             | 131,378                    | -                                | 25,301,874                    | 328,252,641                             |
| 2079                       | 328,252,641                                | -                             | 112,735                    | -                                | 27,404,389                    | 355,544,295                             |
| 2080                       | 355,544,295                                | -                             | 95,234                     | -                                | 29,683,973                    | 385,133,034                             |
| 2081                       | 385,133,034                                | -                             | 79,128                     | -                                | 32,155,305                    | 417,209,211                             |
| 2082                       | 417,209,211                                | -                             | 64,597                     | -                                | 34,834,272                    | 451,978,886                             |
| 2083                       | 451,978,886                                | -                             | 51,734                     | -                                | 37,738,077                    | 489,665,229                             |
| 2084                       | 489,665,229                                | -                             | 40,576                     | -                                | 40,885,353                    | 530,510,006                             |
| 2085                       | 530,510,006                                | -                             | 31,020                     | -                                | 44,296,290                    | 574,775,276                             |
| 2086                       | 574,775,276                                | -                             | 23,156                     | -                                | 47,992,769                    | 622,744,889                             |
| 2087                       | 622,744,889                                | -                             | 16,854                     | -                                | 51,998,495                    | 674,726,530                             |
| 2088                       | 674,726,530                                | -                             | 11,942                     | -                                | 56,339,167                    | 731,053,755                             |
| 2089                       | 731,053,755                                | -                             | 8,232                      | -                                | 61,042,645                    | 792,088,168                             |
| 2090                       | 792,088,168                                | -                             | 5,522                      | -                                | 66,139,131                    | 858,221,777                             |
| 2091                       | 858,221,777                                | -                             | 3,620                      | -                                | 71,661,367                    | 929,879,524                             |
| 2092                       | 929,879,524                                | -                             | 2,316                      | -                                | 77,644,844                    | 1,007,522,052                           |
| 2093                       | 1,007,522,052                              | -                             | 1,461                      | -                                | 84,128,030                    | 1,091,648,621                           |
| 2094                       | 1,091,648,621                              | -                             | 900                        | -                                | 91,152,622                    | 1,182,800,343                           |
| 2095                       | 1,182,800,343                              | -                             | 553                        | -                                | 98,763,806                    | 1,281,563,596                           |
| 2096                       | 1,281,563,596                              | -                             | 339                        | -                                | 107,010,546                   | 1,388,573,803                           |
| 2097                       | 1,388,573,803                              | -                             | 209                        | -                                | 115,945,904                   | 1,504,519,498                           |
| 2098                       | 1,504,519,498                              | -                             | 129                        | -                                | 125,627,373                   | 1,630,146,742                           |
| 2099                       | 1,630,146,742                              | -                             | 79                         | -                                | 136,117,250                   | 1,766,263,913                           |
| 2100                       | 1,766,263,913                              | -                             | 49                         | -                                | 147,483,035                   | 1,913,746,899                           |
| 2101                       | 1,913,746,899                              | -                             | 30                         | -                                | 159,797,865                   | 2,073,544,734                           |
| 2102                       | 2,073,544,734                              | -                             | 18                         | -                                | 173,140,985                   | 2,246,685,701                           |
| 2103                       | 2,246,685,701                              | -                             | 11                         | -                                | 187,598,256                   | 2,434,283,946                           |
| 2104                       | 2,434,283,946                              | -                             | 6                          | -                                | 203,262,709                   | 2,637,546,649                           |
| 2105                       | 2,637,546,649                              | -                             | 3                          | -                                | 220,235,145                   | 2,857,781,791                           |
| 2106                       | 2,857,781,791                              | -                             | 2                          | -                                | 238,624,779                   | 3,096,406,568                           |
| 2107                       | 3,096,406,568                              | -                             | 1                          | -                                | 258,549,948                   | 3,354,956,515                           |
| 2108                       | 3,354,956,515                              | -                             | -                          | -                                | 280,138,869                   | 3,635,095,384                           |

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 8.35% 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, 2020

Valuation Date: 10/1/2018

|  | ACTUAL                           | HYPOTHETICAL                     |                                  |
|--|----------------------------------|----------------------------------|----------------------------------|
|  | 6.35%<br>RP-2000<br>Generational | 4.35%<br>RP-2000<br>Generational | 8.35%<br>RP-2000<br>Generational |
| Minimum Required Contribution (Fixed \$)                   | \$962,853                        | \$1,596,721                      | \$547,665                        |
| Minimum Required Contribution (% of Payroll)               | 56.6%                            | 93.9%                            | 32.1%                            |
| Expected Member Contribution                               | 68,035                           | 68,035                           | 68,035                           |
| Expected State Money                                       | 123,450                          | 123,450                          | 123,450                          |
| Expected Sponsor Contribution (Fixed \$)                   | \$771,368                        | \$1,405,236                      | \$356,180                        |
| Expected Sponsor Contribution (% of Payroll)               | 45.3%                            | 82.6%                            | 20.8%                            |
| <b><u>ASSETS</u></b>                                       |                                  |                                  |                                  |
| Actuarial Value <sup>1</sup>                               | 8,332,282                        | 8,332,282                        | 8,332,282                        |
| Market Value <sup>1</sup>                                  | 8,332,282                        | 8,332,282                        | 8,332,282                        |
| <b><u>LIABILITIES</u></b>                                  |                                  |                                  |                                  |
| Present Value of Benefits                                  |                                  |                                  |                                  |
| Active Members   |                                  |                                  |                                  |
| Retirement Benefits  | 14,216,377                       | 22,200,399                       | 9,722,944                        |
| Disability Benefits  | 69,203                           | 98,571                           | 51,034                           |
| Death Benefits   | 38,357                           | 49,600                           | 30,138                           |
| Vested Benefits  | 757,659                          | 1,197,489                        | 504,850                          |
| Refund of Contributions                                    | 4,848                            | 5,029                            | 4,681                            |
| Service Retirees   | 302,291                          | 354,361                          | 262,132                          |
| DROP Retirees <sup>1</sup>                                 | 0                                | 0                                | 0                                |
| Beneficiaries  | 0                                | 0                                | 0                                |
| Disability Retirees  | 0                                | 0                                | 0                                |
| Terminated Vested  | 1,910                            | 1,910                            | 1,910                            |
| Share Plan Balances <sup>1</sup>                           | 0                                | 0                                | 0                                |
| Total:   | 15,390,645                       | 23,907,359                       | 10,577,689                       |
| Present Value of Future Salaries                           | 10,078,870                       | 11,027,164                       | 9,280,877                        |
| Present Value of Future<br>Member Contributions            | 403,155                          | 441,087                          | 371,235                          |
| Total Normal Cost  | 674,335                          | 1,126,201                        | 436,077                          |
| Present Value of Future<br>Normal Costs (Entry Age Normal) | 3,602,479                        | 6,907,985                        | 1,986,046                        |
| Total Actuarial Accrued Liability (FIL) <sup>1</sup>       | 11,394,748                       | 16,605,958                       | 8,198,225                        |
| Unfunded Actuarial Accrued<br>Liability (UAAL)             | 3,062,466                        | 8,273,676                        | (134,057)                        |

ACTUAL AND HYPOTHETICAL CONTRIBUTIONS APPLICABLE TO THE FISCAL YEAR  
ENDING SEPTEMBER 30, 2020

Valuation Date: 10/1/2018

|   | ACTUAL                           | HYPOTHETICAL                     |                                  |
|---|----------------------------------|----------------------------------|----------------------------------|
|   | 6.35%<br>RP-2000<br>Generational | 4.35%<br>RP-2000<br>Generational | 8.35%<br>RP-2000<br>Generational |
| <b><u>PENSION COST</u></b>                        |                                  |                                  |                                  |
| Normal Cost (with interest)                       | 695,745                          | 1,150,696                        | 454,283                          |
| Administrative Expenses (with interest)           | 42,955                           | 42,539                           | 43,371                           |
| Payment Required To Amortize UAAL (with interest) | 224,153                          | 403,486                          | 50,011                           |
| Minimum Required Contribution                     | \$962,853                        | \$1,596,721                      | \$547,665                        |

<sup>1</sup> The asset values and liabilities include accumulated DROP and Share Plan Balances as of 9/30/2018.