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**CITY OF STAMFORD CUSTODIANS  
AND MECHANICS PENSION FUND**

**GASB 67 and 68 DISCLOSURE**  
**Fiscal Year: July 1, 2018 to June 30, 2019**

**Prepared by**

**Rebecca A. Sielman, FSA**  
Consulting Actuary

**Yelena Pelletier, ASA**  
Consulting Actuary

Milliman, Inc.  
80 Lambertson Road  
Windsor, CT 06095 USA  
Tel +1 860 687 2110  
Fax +1 860 687 2111  
milliman.com

## Table of Contents

|  |           |
|--|-----------|
| <b>Certification</b>   | <b>1</b>  |
| <b>Overview of GASB 67 and GASB 68</b>                                 | <b>3</b>  |
| <b>Executive Summary</b>   | <b>4</b>  |
| <b>Schedule of Employer Contributions</b>                              | <b>5</b>  |
| <b>Actuarial Methods and Assumptions Used for Funding Policy</b>       | <b>6</b>  |
| <b>Money-Weighted Rate of Return</b>                                   | <b>7</b>  |
| <b>Long-Term Expected Rate of Return</b>                               | <b>8</b>  |
| <b>Depletion Date Projection</b>                                       | <b>9</b>  |
| <b>Net Pension Liability</b>   | <b>10</b> |
| <b>Changes in Net Pension Liability</b>                                | <b>11</b> |
| <b>Schedule of Changes in Net Pension Liability and Related Ratios</b> | <b>12</b> |
| <b>Pension Expense</b>   | <b>13</b> |
| <b>Schedule of Deferred Inflows and Outflows of Resources</b>          | <b>14</b> |
| <b>Summary Chart</b>   | <b>15</b> |
| <b>Glossary</b>  | <b>16</b> |

## Certification

Actuarial computations presented in this report under Statements No. 67 and 68 of the Governmental Accounting Standards Board are for purposes of assisting the City in fulfilling its financial accounting requirements. No attempt is being made to offer any accounting opinion or advice. This report is for fiscal year July 1, 2018 to June 30, 2019. The reporting date for determining plan assets and obligations is June 30, 2019. The calculations enclosed in this report have been made on a basis consistent with our understanding of the plan provisions. Determinations for purposes other than meeting financial reporting requirements may be significantly different than the results contained in this report. Accordingly, additional determinations may be needed for other purposes, such as judging benefit security or meeting employer funding requirements.

In preparing this report, we relied, without audit, on information as of July 1, 2018 and June 30, 2019 furnished by the City. This information includes, but is not limited to, statutory provisions, member census data, and financial information. Please see Milliman's funding valuation report dated July 15, 2019 for more information on the plan's participant group as of July 1, 2018 as well as a summary of the plan provisions and a summary of the actuarial methods and assumptions used for funding purposes.

We performed a limited review of the census and financial information used directly in our analysis and have found them to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised. Statements No. 67 and 68 of the Governmental Accounting Standards Board (GASB) require that the discount rate assumption be the estimated long-term yield on the investments that are expected to finance the benefits. At the direction of the City, we have used a 7.10% discount rate assumption to determine the Plan's Total Pension Liability as of June 30, 2019. Each of the other assumptions used in this valuation with the exception of those set by law was set based on industry standard published tables and data, the particular characteristics of the plan, relevant information from the plan sponsor or other sources about future expectations, and our professional judgment regarding future plan experience. We believe the assumptions are reasonable for the contingencies they are measuring, and are not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

We hereby certify that, to the best of our knowledge, this report, including all costs and liabilities based on actuarial assumptions and methods, is complete and accurate and determined in conformance with generally recognized and accepted actuarial principles and practices, which are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Guides to Professional Conduct, amplifying Opinions and supporting Recommendations of the American Academy of Actuaries.

This valuation report is only an estimate of the Plan's financial condition as of a single date. It can neither predict the Plan's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of Plan benefits, only the timing of Plan contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

## Certification

Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuarial assignment, we did not perform an analysis of the potential range of such future measurements.

Milliman's work is prepared solely for the internal use and benefit of the City of Stamford. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions: (a) the Plan Sponsor may provide a copy of Milliman's work, in its entirety, to the Plan Sponsor's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the City; and (b) the Plan Sponsor may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their specific needs.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and has been prepared in accordance with generally recognized accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.



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Rebecca A. Sielman, FSA  
Consulting Actuary



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Yelena Pelletier, ASA  
Consulting Actuary

## Overview of GASB 67 and GASB 68

The Governmental Accounting Standards Board (GASB) released new accounting standards for public pension plans and participating employers in 2012. These standards, GASB Statements No. 67 and 68, have substantially revised the accounting requirements previously mandated under GASB Statements No. 25 and 27. The most notable change is the distinct separation of funding from financial reporting. The Annual Required Contribution (ARC) has been eliminated under GASB 67 and 68 and is no longer relevant for financial reporting purposes. As a result, plan sponsors have been encouraged to establish a formal funding policy that is separate from financial reporting calculations.

GASB 67 applies to financial reporting for public pension plans and is required to be implemented for plan fiscal years beginning after June 15, 2013. Note that a plan's fiscal year might not be the same as the employer's fiscal year. Even if the plan does not issue standalone financial statements, but rather is considered a pension trust fund of a government, it is subject to GASB 67. Under GASB 67, enhancements to the financial statement disclosures are required, along with certain required supplementary information.

GASB 68 governs the specifics of accounting for public pension plan obligations for participating employers and is required to be implemented for employer fiscal years beginning after June 15, 2014. GASB 68 requires a liability for pension obligations, known as the Net Pension Liability, to be recognized on the balance sheets of participating employers. Changes in the Net Pension Liability will be immediately recognized as Pension Expense on the income statement or reported as deferred inflows/outflows of resources depending on the nature of the change.

## Executive Summary

### Relationship Between Valuation Date, Measurement Date, and Reporting Date

The Valuation Date is July 1, 2018. This is the date as of which the actuarial valuation is performed. The Measurement Date is June 30, 2019. This is the date as of which the net pension liability is determined. The Reporting Date is June 30, 2019. This is the plan's and/or employer's fiscal year ending date.

### Significant Changes

There have been no significant changes between the valuation date and fiscal year end.

### Participant Data as of July 1, 2018

|                                     |            |
|-------------------------------------|------------|
| Actives                             | 566        |
| Terminated vested & other inactives | 74         |
| Retirees and beneficiaries          | <u>178</u> |
| Total                               | 818        |

## Schedule of Employer Contributions

| Fiscal Year<br>Ending<br>June 30 | Actuarially<br>Determined<br>Contribution | Actual<br>Employer<br>Contribution | Contribution<br>Deficiency<br>(Excess) | Covered<br>Payroll | Contribution<br>as a % of<br>Covered Payroll |
|----------------------------------|---|------------------------------------|--|--------------------|--|
| 2019                             | \$2,645,000                               | \$2,661,593                        | (\$16,593)                             | \$22,066,298       | 12.06%                                       |
| 2018                             | 2,206,000                                 | 2,206,000                          | 0                                      | 20,546,261         | 10.74%                                       |
| 2017                             | 2,145,000                                 | 2,145,000                          | 0                                      | 20,466,257         | 10.48%                                       |
| 2016                             | 1,840,000                                 | 1,872,461                          | (32,461)                               | 20,527,753         | 9.12%  |
| 2015                             | 1,669,000                                 | 1,669,000                          | 0                                      | 19,929,857         | 8.37%  |
| 2014                             | 1,584,000                                 | 1,584,000                          | 0                                      | 19,177,570         | 8.26%  |
| 2013                             | 1,497,000                                 | 1,497,000                          | 0                                      | 18,619,000         | 8.04%  |
| 2012                             | 1,380,000                                 | 1,913,000                          | (533,000)                              | 19,247,000         | 9.94%  |
| 2011                             | 1,221,000                                 | 1,221,000                          | 0                                      | 18,418,000         | 6.63%  |
| 2010                             | 742,000                                   | 711,000                            | 31,000                                 | 16,063,000         | 4.43%  |

## Actuarial Methods and Assumptions Used for Funding Policy

The following actuarial methods and assumptions were used in the July 1, 2018 funding valuation. Please see the valuation report dated July 15, 2019 for further details.

|                                   |  |
|-----------------------------------|--|
| <b>Valuation Timing</b>           | Actuarially determined contribution rates are calculated as of June 30, two years prior to the end of the fiscal year in which the contributions are reported. |
| <b>Actuarial Cost Method</b>      | Projected Unit Credit  |
| <b>Amortization Method</b>        |  |
| Level percent or level dollar     | Level dollar   |
| Closed, open, or layered periods  | Open   |
| Amortization period at 07/01/2018 | 15 years   |
| Amortization growth rate          | 0.00%  |
| <b>Asset Valuation Method</b>     |  |
| Smoothing period                  | 5 years  |
| Recognition method                | Asymptotic   |
| Corridor                          | Range of 70% and 130% of the Market Value of Assets  |
| <b>Inflation</b>                  | 2.60%  |
| <b>Salary Increases</b>           | Graded by age  |
| <b>Investment Rate of Return</b>  | 7.10%  |
| <b>Cost of Living Adjustments</b> | None   |
| <b>Retirement Age</b>             | Gaded by age and service   |
| <b>Turnover</b>                   | Graded by age  |
| <b>Mortality</b>                  | RP-2000 Mortality Table combined for non-annuitants and annuitants, with blue collar adjustment, and generational projection per scale BB                      |



## Money-Weighted Rate of Return

| Fiscal Year<br>Ending<br>June 30 | Net<br>Money-Weighted<br>Rate of Return |
|----------------------------------|---|
| 2019                             | 5.18%                                   |
| 2018                             | 8.89%                                   |
| 2017                             | 14.27%                                  |
| 2016                             | -3.37%                                  |
| 2015                             | 0.73%                                   |
| 2014                             | 16.34%                                  |
| 2013                             | N/A                                     |
| 2012                             | N/A                                     |
| 2011                             | N/A                                     |
| 2010                             | N/A                                     |

### Calculation of Money-Weighted Rate of Return

The money-weighted rate of return considers the changing amounts actually invested during a period and weights the amount of pension plan investments by the proportion of time they are available to earn a return during that period. External cash flows are determined on a monthly basis and are assumed to occur at the beginning of each month. External cash inflows are netted with external cash outflows, resulting in a net external cash flow in each month. The money-weighted rate of return is calculated net of investment expenses.

|                                  | Net External<br>Cash Flows | Periods<br>Invested | Period<br>Weight | Net External<br>Cash Flows<br>With Interest |
|----------------------------------|----------------------------|---------------------|------------------|---|
| Beginning Value - July 1, 2018   | \$69,292,281               | 12.00               | 1.00             | \$72,878,314                                |
| Monthly net external cash flows: |                            |                     |                  |   |
| July                             | 2,538,557                  | 12.00               | 1.00             | 2,669,933                                   |
| August                           | (238,260)                  | 11.00               | 0.92             | (249,581)                                   |
| September                        | (192,344)                  | 10.00               | 0.83             | (200,570)                                   |
| October                          | (208,144)                  | 9.00                | 0.75             | (216,172)                                   |
| November                         | (149,730)                  | 8.00                | 0.67             | (154,878)                                   |
| December                         | (154,984)                  | 7.00                | 0.58             | (159,587)                                   |
| January                          | (169,131)                  | 6.00                | 0.50             | (173,452)                                   |
| February                         | (148,601)                  | 5.00                | 0.42             | (151,784)                                   |
| March                            | (167,144)                  | 4.00                | 0.33             | (169,950)                                   |
| April                            | (170,927)                  | 3.00                | 0.25             | (173,097)                                   |
| May                              | (141,265)                  | 2.00                | 0.17             | (142,482)                                   |
| June                             | (218,531)                  | 1.00                | 0.08             | (219,415)                                   |
| Ending Value - June 30, 2019     | 73,537,279                 |                     |                  | 73,537,279                                  |
| Money-Weighted Rate of Return    | 5.18%                      |                     |                  |   |

## Long-Term Expected Rate of Return

The assumption for the long-term expected rate of return is determined by adding expected inflation to expected long-term real returns and reflecting expected volatility and correlation. The capital market assumptions are per Milliman's investment consulting practice as of June 30, 2018.

| Asset Class                              | Index              | Target Allocation* | Long-Term Expected Arithmetic Real Rate of Return | Long-Term Expected Geometric Real Rate of Return |
|--|--------------------|--------------------|---|--|
| US Core Fixed Income                     | Barclays Aggregate | 23.70%             | 2.40%   | 2.27%  |
| Global Bonds                             | Citi WGBI          | 5.50%              | 0.75%   | 0.40%  |
| US Large Caps                            | S&P 500            | 29.90%             | 4.33%   | 3.13%  |
| US Small Caps                            | Russell 2000       | 7.50%              | 5.56%   | 3.62%  |
| Foreign Developed Equity                 | MSCI EAFE NR       | 26.70%             | 5.55%   | 3.91%  |
| Emerging Markets Equity                  | MSCI EM NR         | 6.70%              | 7.88%   | 4.59%  |
| Assumed Inflation - Mean                 |                    |                    | 2.60%   | 2.60%  |
| Assumed Inflation - Standard Deviation   |                    |                    | 1.85%   | 1.85%  |
| Portfolio Real Mean Return               |                    |                    | 4.33%   | 3.59%  |
| Portfolio Nominal Mean Return            |                    |                    | 6.95%   | 6.27%  |
| Portfolio Standard Deviation             |                    |                    |   | 12.14%   |
| <b>Long-Term Expected Rate of Return</b> |                    |                    |   | <b>7.10%</b>                                     |

\* Based on the target asset allocation illustrated in the July 1, 2017 valuation report prepared by Hooker & Holcombe dated February 21, 2018.

## Depletion Date Projection

GASB 67 and 68 generally require that a blended discount rate be used to measure the Total Pension Liability (the Actuarial Accrued Liability calculated using the Individual Entry Age Normal Cost Method). The long-term expected return on plan investments may be used to discount liabilities to the extent that the plan's Fiduciary Net Position (fair market value of assets) is projected to cover benefit payments and administrative expenses. A 20-year high quality (AA/Aa or higher) municipal bond rate must be used for periods where the Fiduciary Net Position is not projected to cover benefit payments and administrative expenses. Determining the discount rate under GASB 67 and 68 will often require that the actuary perform complex projections of future benefit payments and asset values. GASB 67 and 68 (paragraph 29) do allow for alternative evaluations of projected solvency, if such evaluation can reliably be made. GASB does not contemplate a specific method for making an alternative evaluation of sufficiency; it is left to professional judgment.

The following circumstances justify an alternative evaluation of sufficiency for the City of Stamford:

- The City of Stamford has at least a 5-year history of paying at least 100% of the Actuarially Determined Contribution (previously termed the Annual Required Contribution).
- The Actuarially Determined Contribution (ADC) is based on amortizing the Unfunded Accrued Liability over an open 15-year amortization period. The ratio of the Actuarial Value of Assets to the Accrued Liability that is used for funding purposes has been between 84% and 91% for the past five years. Based on the funded status of the plan and the relatively short fixed amortization period, it is our professional opinion that payment of the ADC each year will not cause the funded position of the plan to decline.
- GASB 67 and 68 specify that the projections regarding future solvency assume that plan assets earn the assumed rate of return and there are no future changes in the plan provisions or actuarial methods and assumptions, which means that the projections would not reflect any adverse future experience which might impact the plan's funded position.

Based on these circumstances, it is our professional opinion that the detailed depletion date projections outlined in GASB 67 and 68 will show that the Fiduciary Net Position is always projected to be sufficient to cover benefit payments and administrative expenses.

## Net Pension Liability

| Net Pension Liability                                    | June 30, 2019 | June 30, 2018 |
|--|---------------|---------------|
| Total pension liability                                  | \$84,866,801  | \$83,782,071  |
| Fiduciary net position                                   | 73,537,279    | 69,292,281    |
| Net pension liability                                    | 11,329,522    | 14,489,790    |
| Fiduciary net position as a % of total pension liability | 86.65%        | 82.71%        |
| Covered payroll  | 22,066,298    | 20,546,261    |
| Net pension liability as a % of covered payroll          | 51.34%        | 70.52%        |

The total pension liability was determined by an actuarial valuation as of the valuation date, calculated based on the discount rate and actuarial assumptions below, and was then projected forward to the measurement date. Any significant changes during this period have been reflected as prescribed by GASB 67 and 68.

### Discount Rate

|  |       |       |
|--|-------|-------|
| Discount rate  | 7.10% | 7.20% |
| Long-term expected rate of return, net of investment expense | 7.10% | 7.20% |
| Municipal bond rate  | N/A   | N/A   |

The plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the discount rate for calculating the total pension liability is equal to the long-term expected rate of return.

### Other Key Actuarial Assumptions

The plan has not had a formal actuarial experience study performed.

|                                      |   |   |
|--------------------------------------|---|---|
| Valuation date                       | July 1, 2018  | July 1, 2017  |
| Measurement date                     | June 30, 2019   | June 30, 2018   |
| Actuarial cost method                | Entry Age Normal  | Entry Age Normal  |
| Inflation                            | 2.60%   | 2.75%   |
| Salary increases including inflation | Graded by age   | Graded by age   |
| Mortality                            | RP-2000 Mortality Table combined for non-annuitants and annuitants, with blue collar adjustment, and generational projection per scale BB | RP-2000 Mortality Table combined for non-annuitants and annuitants, with blue collar adjustment, and generational projection per scale BB |

Please see Milliman's funding valuation report dated July 15, 2019 for more detail.

## Changes in Net Pension Liability

| Changes in Net Pension Liability               | Increase (Decrease)               |                                       |                                       |
|--|-----------------------------------|---------------------------------------|---------------------------------------|
|  | Total Pension<br>Liability<br>(a) | Plan Fiduciary<br>Net Position<br>(b) | Net Pension<br>Liability<br>(a) - (b) |
| Balances as of June 30, 2018                   | \$83,782,071                      | \$69,292,281                          | \$14,489,790                          |
| Changes for the year:                          |                                   |                                       |                                       |
| Service cost                                   | 2,827,135                         |                                       | 2,827,135                             |
| Interest on total pension liability            | 6,123,754                         |                                       | 6,123,754                             |
| Effect of plan changes                         | (5,124,042)                       |                                       | (5,124,042)                           |
| Effect of economic/demographic gains or losses | 3,794                             |                                       | 3,794                                 |
| Effect of assumptions changes or inputs        | 423,302                           |                                       | 423,302                               |
| Benefit payments                               | (3,169,213)                       | (3,169,213)                           | 0                                     |
| Employer contributions                         |                                   | 2,661,593                             | (2,661,593)                           |
| Member contributions                           |                                   | 1,168,445                             | (1,168,445)                           |
| Net investment income                          |                                   | 3,665,503                             | (3,665,503)                           |
| Administrative expenses                        |                                   | (81,330)                              | 81,330                                |
| Balances as of June 30, 2019                   | 84,866,801                        | 73,537,279                            | 11,329,522                            |

### Sensitivity Analysis

The following presents the net pension liability of the City, calculated using the discount rate of 7.10%, as well as what the City's net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.10%) or 1 percentage point higher (8.10%) than the current rate.

|                         | 1%<br>Decrease<br>6.10% | Current<br>Discount Rate<br>7.10% | 1%<br>Increase<br>8.10% |
|-------------------------|-------------------------|-----------------------------------|-------------------------|
| Total pension liability | \$94,730,991            | \$84,866,801                      | \$76,540,110            |
| Fiduciary net position  | 73,537,279              | 73,537,279                        | 73,537,279              |
| Net pension liability   | 21,193,712              | 11,329,522                        | 3,002,831               |

## Schedule of Changes in Net Pension Liability and Related Ratios

|  | Fiscal Year Ending June 30 |              |              |              |              |              |      |      |      |      |
|--|----------------------------|--------------|--------------|--------------|--------------|--------------|------|------|------|------|
|  | 2019                       | 2018         | 2017         | 2016         | 2015         | 2014         | 2013 | 2012 | 2011 | 2010 |
| <b>Total Pension Liability</b>                           |                            |              |              |              |              |              |      |      |      |      |
| Service cost   | \$2,827,135                | \$2,607,411  | \$2,769,361  | \$2,636,301  | \$2,447,371  | \$2,376,088  | N/A  | N/A  | N/A  | N/A  |
| Interest on total pension liability                      | 6,123,754                  | 5,855,180    | 5,578,118    | 5,216,803    | 5,000,246    | 4,667,210    | N/A  | N/A  | N/A  | N/A  |
| Effect of plan changes                                   | (5,124,042)                | 0            | 0            | 0            | 0            | 0            | N/A  | N/A  | N/A  | N/A  |
| Effect of economic/demographic gains or losses           | 3,794                      | (2,016,944)  | (2,951,357)  | 0            | (2,221,286)  | 0            | N/A  | N/A  | N/A  | N/A  |
| Effect of assumption changes or inputs                   | 423,302                    | 3,498,430    | 1,539,867    | 923,580      | 1,347,685    | 0            | N/A  | N/A  | N/A  | N/A  |
| Benefit payments   | (3,169,213)                | (3,189,658)  | (2,974,023)  | (2,929,747)  | (2,802,115)  | (2,832,023)  | N/A  | N/A  | N/A  | N/A  |
| Net change in total pension liability                    | 1,084,730                  | 6,754,419    | 3,961,966    | 5,846,937    | 3,771,901    | 4,211,275    | N/A  | N/A  | N/A  | N/A  |
| Total pension liability, beginning                       | 83,782,071                 | 77,027,652   | 73,065,686   | 67,218,749   | 63,446,848   | 59,235,573   | N/A  | N/A  | N/A  | N/A  |
| Total pension liability, ending (a)                      | 84,866,801                 | 83,782,071   | 77,027,652   | 73,065,686   | 67,218,749   | 63,446,848   | N/A  | N/A  | N/A  | N/A  |
| <b>Fiduciary Net Position</b>                            |                            |              |              |              |              |              |      |      |      |      |
| Employer contributions                                   | \$2,661,593                | \$2,206,000  | \$2,145,000  | \$1,872,461  | \$1,669,000  | \$1,584,000  | N/A  | N/A  | N/A  | N/A  |
| Member contributions                                     | 1,168,445                  | 1,174,054    | 1,149,755    | 1,200,202    | 1,146,675    | 1,097,592    | N/A  | N/A  | N/A  | N/A  |
| Net investment income                                    | 3,665,503                  | 5,730,009    | 8,023,789    | (1,949,305)  | 415,987      | 8,053,015    | N/A  | N/A  | N/A  | N/A  |
| Benefit payments   | (3,169,213)                | (3,189,658)  | (2,974,023)  | (2,929,747)  | (2,802,115)  | (2,832,023)  | N/A  | N/A  | N/A  | N/A  |
| Administrative expenses                                  | (81,330)                   | (47,063)     | (51,349)     | (29,702)     | (47,045)     | (72,025)     | N/A  | N/A  | N/A  | N/A  |
| Net change in plan fiduciary net position                | 4,244,998                  | 5,873,342    | 8,293,172    | (1,836,091)  | 382,502      | 7,830,559    | N/A  | N/A  | N/A  | N/A  |
| Fiduciary net position, beginning                        | 69,292,281                 | 63,418,939   | 55,125,767   | 56,961,858   | 56,579,356   | 48,748,797   | N/A  | N/A  | N/A  | N/A  |
| Fiduciary net position, ending (b)                       | 73,537,279                 | 69,292,281   | 63,418,939   | 55,125,767   | 56,961,858   | 56,579,356   | N/A  | N/A  | N/A  | N/A  |
| Net pension liability, ending = (a) - (b)                | \$11,329,522               | \$14,489,790 | \$13,608,713 | \$17,939,919 | \$10,256,891 | \$6,867,492  | N/A  | N/A  | N/A  | N/A  |
| Fiduciary net position as a % of total pension liability | 86.65%                     | 82.71%       | 82.33%       | 75.45%       | 84.74%       | 89.18%       | N/A  | N/A  | N/A  | N/A  |
| Covered payroll  | \$22,066,298               | \$20,546,261 | \$20,466,257 | \$20,527,753 | \$19,929,857 | \$19,177,570 | N/A  | N/A  | N/A  | N/A  |
| Net pension liability as a % of covered payroll          | 51.34%                     | 70.52%       | 66.49%       | 87.39%       | 51.46%       | 35.81%       | N/A  | N/A  | N/A  | N/A  |

This schedule is presented to illustrate the requirement to show information for 10 years. However, recalculations of prior years are not required, and if prior years are not reported in accordance with the current GASB standards, they should not be reported.

## Pension Expense

| Pension Expense                                       | July 1, 2018 to<br>June 30, 2019 | July 1, 2017 to<br>June 30, 2018 |
|---|----------------------------------|----------------------------------|
| Service cost  | \$2,827,135                      | \$2,607,411                      |
| Interest on total pension liability                   | 6,123,754                        | 5,855,180                        |
| Effect of plan changes                                | (5,124,042)                      | 0                                |
| Administrative expenses                               | 81,330                           | 47,063                           |
| Member contributions                                  | (1,168,445)                      | (1,174,054)                      |
| Expected investment return net of investment expenses | (5,009,543)                      | (4,761,698)                      |
| Recognition of Deferred Inflows/Outflows of Resources |                                  |                                  |
| Recognition of economic/demographic gains or losses   | (837,375)                        | (837,861)                        |
| Recognition of assumption changes or inputs           | 910,193                          | 855,924                          |
| Recognition of investment gains or losses             | 1,352,163                        | 1,083,355                        |
| Pension Expense                                       | <u>(844,830)</u>                 | <u>3,675,320</u>                 |

As of June 30, 2019, the deferred inflows and outflows of resources are as follows:

| Deferred Inflows / Outflows of Resources             | Deferred Inflows<br>of Resources | Deferred Outflows<br>of Resources |
|--|----------------------------------|-----------------------------------|
| Differences between expected and actual experience   | (\$4,449,359)                    | \$3,308                           |
| Changes of assumptions                               | 0                                | 5,150,330                         |
| Net difference between projected and actual earnings | 0                                | 201,846                           |
| Contributions made subsequent to measurement date    | 0                                | 0                                 |
| Total  | <u>(4,449,359)</u>               | <u>5,355,484</u>                  |

Amounts currently reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

|                     |           |
|---------------------|-----------|
| Year ended June 30: |           |
| 2020                | \$631,451 |
| 2021                | (627,922) |
| 2022                | 147,963   |
| 2023                | 341,626   |
| 2024                | 128,577   |
| Thereafter*         | 284,430   |

\* Note that additional future deferred inflows and outflows of resources may impact these numbers.

## Schedule of Deferred Inflows and Outflows of Resources

|  | Original<br>Amount | Date<br>Established | Original<br>Rec.<br>Period* | Amount<br>Recognized<br>in Pension<br>Expense<br>for FYE<br>06/30/2019 | Amount<br>Recognized<br>in Pension<br>Expense<br>through<br>06/30/2019 | Balance of<br>Deferred<br>Inflows<br>as of<br>06/30/2019 | Balance of<br>Deferred<br>Outflows<br>as of<br>06/30/2019 |
|--|--------------------|---------------------|-----------------------------|--|--|--|---|
| <b>Economic/<br/>demographic<br/>gains or losses</b>                                       | \$3,794            | 6/30/2019           | 7.8                         | \$486  | \$486  | \$0  | \$3,308   |
|  | (2,016,944)        | 6/30/2018           | 8.2                         | (245,969)  | (491,938)  | (1,525,006)  | 0   |
|  | (2,951,357)        | 6/30/2017           | 8.3                         | (355,585)  | (1,066,755)  | (1,884,602)  | 0   |
|  | (2,221,286)        | 6/30/2015           | 9.4                         | (236,307)  | (1,181,535)  | (1,039,751)  | 0   |
|  |                    | Total               |                             | (837,375)  | (2,739,742)  | (4,449,359)  | 3,308   |
| <b>Assumption<br/>changes or<br/>inputs</b>  | 423,302            | 6/30/2019           | 7.8                         | 54,269   | 54,269   | 0  | 369,033   |
|  | 3,498,430          | 6/30/2018           | 8.2                         | 426,638  | 853,276  | 0  | 2,645,154   |
|  | 1,539,867          | 6/30/2017           | 8.3                         | 185,526  | 556,578  | 0  | 983,289   |
|  | 923,580            | 6/30/2016           | 9.2                         | 100,389  | 401,556  | 0  | 522,024   |
|  | 1,347,685          | 6/30/2015           | 9.4                         | 143,371  | 716,855  | 0  | 630,830   |
|  |                    | Total               |                             | 910,193  | 2,582,534  | 0  | 5,150,330   |
| <b>Investment<br/>gains or losses</b>  | 1,344,040          | 6/30/2019           | 5.0                         | 268,808  | 268,808  | 0  | 1,075,232   |
|  | (968,311)          | 6/30/2018           | 5.0                         | (193,662)  | (387,324)  | (580,987)  | 0   |
|  | (3,879,438)        | 6/30/2017           | 5.0                         | (775,888)  | (2,327,664)  | (1,551,774)  | 0   |
|  | 6,296,883          | 6/30/2016           | 5.0                         | 1,259,377  | 5,037,508  | 0  | 1,259,375   |
|  | 3,967,640          | 6/30/2015           | 5.0                         | 793,528  | 3,967,640  | 0  | 0   |
|  |                    | Total               |                             | 1,352,163  | 6,558,968  | (2,132,761)  | 2,334,607   |
| <b>Total for economic/demographic gains or losses<br/>and assumption changes or inputs</b> |                    |                     |                             |  |  | (4,449,359)  | 5,153,638   |
| <b>Net deferred (inflows)/outflows for investment gains or losses</b>                      |                    |                     |                             |  |  | 0  | 201,846   |
| <b>Total deferred (inflows)/outflows</b>   |                    |                     |                             |  |  | (4,449,359)  | 5,355,484   |
| <b>Total net deferrals</b>   |                    |                     |                             |  |  |  | 906,125   |

\* Investment (gains)/losses are recognized in pension expense over a period of five years; economic/demographic (gains)/losses and assumption changes or inputs are recognized over the average remaining service life for all active and inactive members.



## Milliman Financial Reporting Valuation

|   | Total<br>Pension<br>Liability | Plan<br>Fiduciary<br>Net Position | Net<br>Pension<br>Liability | Deferred<br>(Inflows) | Deferred<br>Outflows | Net Investment<br>(Inflows)/<br>Outflows | Net<br>Deferrals | Net Pension<br>Liability plus<br>Net Deferrals | Annual<br>Expense |
|---|-------------------------------|-----------------------------------|-----------------------------|-----------------------|----------------------|--|------------------|--|-------------------|
| <b>Balances as of June 30, 2018</b>         | (\$83,782,071)                | \$69,292,281                      | (\$14,489,790)              | (\$5,287,220)         | \$5,637,221          | \$209,969                                | \$559,970        | (\$13,929,820)                                 |                   |
| Service cost                                | (2,827,135)                   |                                   | (2,827,135)                 |                       |                      |  |                  |  | 2,827,135         |
| Interest on total pension liability         | (6,123,754)                   |                                   | (6,123,754)                 |                       |                      |  |                  |  | 6,123,754         |
| Effect of plan changes                      | 5,124,042                     |                                   | 5,124,042                   |                       |                      |  |                  |  | (5,124,042)       |
| Effect of liability gains or losses         | (3,794)                       |                                   | (3,794)                     |                       | 3,794                |  | 3,794            |  |                   |
| Effect of assumption changes or inputs      | (423,302)                     |                                   | (423,302)                   |                       | 423,302              |  | 423,302          |  |                   |
| Benefit payments                            | 3,169,213                     | (3,169,213)                       | 0                           |                       |                      |  |                  |  |                   |
| Administrative expenses                     |                               | (81,330)                          | (81,330)                    |                       |                      |  |                  |  | 81,330            |
| Member contributions                        |                               | 1,168,445                         | 1,168,445                   |                       |                      |  |                  |  | (1,168,445)       |
| Expected net investment income              |                               | 5,009,543                         | 5,009,543                   |                       |                      |  |                  |  | (5,009,543)       |
| Investment gains or losses                  |                               | (1,344,040)                       | (1,344,040)                 |                       |                      | 1,344,040                                | 1,344,040        |  |                   |
| Employer contributions                      |                               | 2,661,593                         | 2,661,593                   |                       |                      |  |                  | 2,661,593                                      |                   |
| Recognition of liability gains or losses    |                               |                                   |                             | 837,861               | (486)                |  | 837,375          |  | (837,375)         |
| Recognition of assumption changes or inputs |                               |                                   |                             |                       | (910,193)            |  | (910,193)        |  | 910,193           |
| Recognition of investment gains or losses   |                               |                                   |                             |                       |                      | (1,352,163)                              | (1,352,163)      |  | 1,352,163         |
| Annual expense                              |                               |                                   |                             |                       |                      |  |                  | 844,830  | (844,830)         |
| <b>Balances as of June 30, 2019</b>         | (84,866,801)                  | 73,537,279                        | (11,329,522)                | (4,449,359)           | 5,153,638            | 201,846                                  | 906,125          | (10,423,397)                                   |                   |

## Glossary

|   |  |
|---|--|
| <b>Actuarially Determined Contribution</b>    | A target or recommended contribution to a defined benefit pension plan for the reporting period, determined based on the funding policy and most recent measurement available when the contribution for the reporting period was adopted.  |
| <b>Deferred Inflows/Outflows of Resources</b> | Portion of changes in net pension liability that is not immediately recognized in Pension Expense. These changes include differences between expected and actual experience, changes in assumptions, and differences between expected and actual earnings on plan investments.   |
| <b>Discount Rate</b>                          | Single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the sum of:<br><br><ol style="list-style-type: none"><li>1) The actuarial present value of benefit payments projected to be made in future periods where the plan assets are projected to be sufficient to meet benefit payments, calculated using the Long-Term Expected Rate of Return.</li><li>2) The actuarial present value of projected benefit payments not included in (1), calculated using the Municipal Bond Rate.</li></ol> |
| <b>Fiduciary Net Position</b>                 | Equal to market value of assets.   |
| <b>Long-Term Expected Rate of Return</b>      | Long-term expected rate of return on pension plan investments expected to be used to finance the payment of benefits, net of investment expenses.  |
| <b>Money-Weighted Rate of Return</b>          | The internal rate of return on pension plan investments, net of investment expenses.   |
| <b>Municipal Bond Rate</b>                    | Yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.  |
| <b>Net Pension Liability</b>                  | Total Pension Liability minus the Plan's Fiduciary Net Position (unfunded accrued liability).  |
| <b>Projected Benefit Payments</b>             | All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and expected future service.  |
| <b>Service Cost</b>                           | The portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.   |
| <b>Total Pension Liability</b>                | The portion of actuarial present value of projected benefit payments that is attributable to past periods of member service using the Entry Age Normal cost method based on the requirements of GASB 67 and 68.  |