City of Jacksonville General Employees Defined Contribution Plan Disability and Survivorship Benefits

Actuarial Valuation and Review as of October 1, 2022

This report has been prepared at the request of the Defined Contribution Plan Advisory Committee and Defined Contribution Disability and Survivorship Panel to assist in administering the Plan. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Committee and Panel and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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December 18, 2023

Defined Contribution Plan Advisory Committee
Defined Contribution Disability and Survivorship Panel
City of Jacksonville General Employees Defined Contribution Plan Disability and Survivorship Benefits
117 West Duval Street, Suite 330
Jacksonville, FL 32202

Dear Committee and Panel Members:

We are pleased to submit this Actuarial Valuation and Review as of October 1, 2022. It summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for fiscal 2024.

Statement by Enrolled Actuary: This actuarial valuation and cost determination was prepared and completed by me, or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material increase in plan costs or required contribution rates have been taken into account in the valuation.

The actuarial calculations were directed under the supervision of Jeffrey S. Williams. I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,
Segal

Jeffrey S. Williams, FCA, ASA, MAAA
Vice President and Consulting Actuary
Enrolled Actuary No. 23-07009

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Section 1: Actuarial Valuation Summary

Purpose and basis

This report was prepared by Segal to present a valuation of the Plan as of October 1, 2022. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to provide information for required disclosures under Governmental Accounting Standards Board (GASB) Statements No. 67 and 68. The measurements shown in this actuarial valuation may not be applicable for other purposes. In particular, the measures herein are not necessarily appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the Plan's benefit obligations. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as 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; and changes in plan provisions or applicable law.

The contribution requirements presented in this report are based on:

- The benefit provisions of the Pension Plan, as administered by the Committee and Panel;
- The characteristics of covered active participants and retired participants and beneficiaries as of September 30, 2022, provided by the Retirement Administrative Office;
- The assets of the Plan as of September 30, 2022, provided by the City's Finance Department;
- Economic assumptions regarding future salary increases and investment earnings;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. and
- Subject to the requirements of Part VII, Chapter 112, Florida Statutes.

Valuation highlights

1. The City established Disability and Survivor Benefits under the City of Jacksonville General Employees Defined Contribution Plan effective October 1, 2017. It is our understanding that the inclusion of disability and survivor benefits subjects the Plan to the State of Florida's minimum funding requirements for retirement defined benefit plan subject to the applicable laws of the State of Florida. This October 1, 2022 valuation is the third actuarial valuation for the updated plan.
2. The actuarial determined contribution (ADC) calculated as of October 1, 2022 is adjusted for timing and projected to the next fiscal year; the ADC for the fiscal year beginning October 1, 2023 is $2,526,110 or 1.63% of projected payroll.
3. Unless stated otherwise, actuarial assumptions used are those from the experience study for the period October 1, 2012 – September 30, 2017 for the City of Jacksonville General Employees Retirement Plan (GERP).
4. The following actuarial assumption was approved by the Committee and Panel and changed with this valuation:
   - The net investment return assumption was lowered from 6.625% to 6.50%.
   - The return assumption change increased the actuarial accrued liability by 1.50% and increased the total normal cost by 2.09%. The actuarial determined contribution increased by $49,578, or 2.00%, as a result of this change.
5. The discount rate was set equal to the GERP discount rate in the 2021 valuation with the understanding that the Plan's assets will be invested along with the City's other pension plan assets. If the assets are not going to be invested a return to the previously used 20-year municipal bond rate will need to be considered.
6. The amortization period used for the amortization of unfunded actuarial accrued liability is 25 years; this is the period for new bases established in the GERP valuation as of October 1, 2022. Amortization was calculated on a level percent of pay basis assuming an average payroll growth of 1.50%, the same assumption as used for GERP.
7. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the unfunded actuarial accrued liability and the principal balance. The current contribution rates need to be enhanced to meet this standard. However, currently, the total unfunded liability of the plan is small relative to plan payroll.
8. It is important to note that this actuarial valuation is based on plan assets as of September 30, 2022. The Plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after September 30, 2022 due to COVID-19. Segal is available to prepare projections of potential outcomes of market conditions and other demographic experience upon request.

Summary of key valuation results

		2023	2022	2021
Contributions for fiscal year beginning October 1:	• Actuarially determined contribution (ADC)	$2,526,110	$2,205,757	$3,513,815
	• ADC as a percent of payroll	1.63%	1.59%	3.31%
	• Actual employer contributions	--	- -	$364,000
Actuarial accrued liability for plan year beginning October 1:	• Retired participants and beneficiaries		$7,115,889	$6,181,202
	• Active participants		5,733,494	4,604,885
	• Total actuarial accrued liability		12,849,383	10,786,087
	• Normal cost, including administrative expenses		2,171,710	1,950,076
Assets for plan year beginning October 1:	• Market value of assets (MVA)		$2,526,000	$2,381,000
	• Actuarial value of assets (AVA)		2,526,000	2,381,000
	• Actuarial value of assets as a percentage of market value of assets		100.00%	100.00%
Funded status for plan year beginning October 1:	• Unfunded actuarial accrued liability on market value of assets		$10,323,383	$8,405,087
	• Funded percentage on AVA basis		19.66%	22.07%
	• Amortization period on an AVA basis		25	26
Key assumptions	• Net investment return		6.50%	6.625%
	• Payroll growth for amortization purposes		1.50%	1.50%
Demographic data for plan year beginning October 1:	• Number of retired participants and beneficiaries		22	19
	• Number of active participants		2,691	2,346
	• Covered payroll		$152,973,727	$136,731,327
	• Average payroll		$56,846	58,283
	• Projected payroll for next fiscal year		$155,268,333	138,782,297

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan provisions	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Participant information	An actuarial valuation for a plan is based on data provided to the actuary by the City. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Financial information	Part of the cost of a plan will be paid from existing assets — the balance will need to come from future contributions and investment income. The valuation is based on the asset values as of the valuation date, typically reported by the City. A snapshot as of a single date may not be an appropriate value for determining a single year's contribution requirement, especially in volatile markets. Plan sponsors often use an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of participants in each year, as well as forecasts of the plan's benefits for each of those events. In addition, the benefits forecasted for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions are selected within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

The actuarial valuation is prepared at the request of the Committee and Panel. Segal is not responsible for the use or misuse of its report, particularly by any other party.
An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted.
If the Committee and Panel is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan provisions, but they may be subject to alternative interpretations. The City should look to their other advisors for expertise in these areas.
While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.
Segal's report shall be deemed to be final and accepted by the City upon delivery and review. The Committee and Panel should notify Segal immediately of any questions or concerns about the final content.

As Segal has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

Section 2: Actuarial Valuation Results

Actuarial experience

Assumptions should consider experience and should be based on reasonable expectations for the future.

Each year actual experience is compared to that projected by the assumptions. Differences are reflected in the actuarial valuation.

Assumptions are not changed if experience is believed to be a short-term development that will not continue over the long term. On the other hand, if experience is expected to continue, assumptions are changed.

Actuarial Experience for Year Ended September 30, 2022

1	Net loss from investments	-$162,544
2	Net loss from employer contributions	-1,863,458
3	Net gain from other experience	258,144
4	Net experience loss: **1 + 2 + 3**	-$1,767,858

Sources of experience variation

Experience variation is the difference between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- Mortality experience (more or fewer than expected deaths)
- The extent of turnover among participants
- The number of disability retirements (more or fewer than projected)
- Salary increases (greater or smaller than projected)

Unfunded Actuarial Accrued Liability

Development of Unfunded Actuarial Accrued Liability for Year Ended September 30, 2022

1	Unfunded actuarial accrued liability at beginning of year		$8,405,087
2	Employer normal cost at beginning of year		1,539,882
3	Actuarially determined contribution at beginning of year		-2,099,304
4	Interest on 1, 2 & 3		519,775
5	Expected unfunded actuarial accrued liability		$8,365,440
6	Changes due to:		
	(a) Net experience loss	$1,767,858[1]	
	(b) Assumptions	190,085	
	Total changes		$1,957,943
7	Unfunded actuarial accrued liability at end of year		$10,323,383

[1] Consisting of a $1,863,458 loss on contributions less than the actuarially determined contribution and a $95,600 gain on other experience

Actuarially determined contribution

The actuarially determined contribution is equal to the employer normal cost payment and a payment on the unfunded actuarial accrued liability. As of October 1, 2022, the actuarially determined contribution payable for the fiscal year beginning October 1, 2023 is $2,526,110 or 1.63% of projected payroll.

The contribution requirement as of October 1, 2022 are based on the data described in Exhibit A, the actuarial assumptions and Plan provisions described in *Section 4*, including all changes affecting future costs adopted at the time of the actuarial valuation, actuarial gains and losses, and changes in the actuarial assumptions.

Actuarially Determined Contribution for Year Beginning October 1

		2022		2021	
		Amount	% of Projected Payroll	Amount	% of Projected Payroll
1	Total normal cost	$2,131,710	1.37%	$1,910,076	1.38%
2	Administrative expenses	40,000	0.03%	40,000	0.03%
3	Expected employee contributions	-458,921	-0.30%	-410,194	-0.30%
4	Employer normal cost: (1) + (2) + (3)	$1,712,789	1.10%	$1,539,882	1.11%
5	Actuarial accrued liability	$12,849,383		$10,786,087	
6	Actuarial value of assets	2,526,000		2,381,000	
7	Unfunded actuarial accrued liability: (5) - (6)	$10,323,383		$8,405,087	
8	Payment on projected unfunded actuarial accrued liability	692,920	0.45%	559,421	0.40%
9	Adjustment for timing[1]	120,401	0.08%	106,454	0.08%
10	Actuarially determined contribution: (4) + (8) + (9)	$2,526,110	1.63%	$2,205,757	1.59%
11	Projected payroll	$155,268,333		$138,782,297	

[1] Adjusted for timing and projected to next fiscal year; actuarially determined contributions are assumed to be paid at the end of every month.

Reconciliation of actuarially determined contribution

Reconciliation of Actuarially Determined Contribution from October 1, 2022 to October 1, 2023

		Amount
1	Actuarially determined contribution as of October 1, 2022	$2,205,757
2	Effect of expected change in amortization payment due to payroll growth	8,817
3	Effect of change in other actuarial assumptions	49,578
4	Effect of investment loss	11,592
5	Effect of other gains and losses on accrued liability	-18,410
6	Net effect of other changes, including composition and number of participants	268,776
7	Total change	$320,353
8	Actuarially determined contribution as of October 1, 2023	$2,526,110

Risk

Since the actuarial valuation results are dependent on a given set of assumptions and data as of a specific date, there is a risk that emerging results may differ significantly as actual experience differs from the assumptions.

This report does not contain a detailed analysis of the potential range of future measurements but does include a brief discussion of some risks that may affect the Plan. A more detailed assessment would provide the Trustees with a better understanding of the risks inherent in the Plan. This assessment may include scenario testing, sensitivity testing, stress testing and stochastic modeling.

- Investment Risk (the risk that returns will be different than expected)

  The Plan's assets are currently not invested but will ultimately be invested along with the GERP and CORP assets. Therefore, the Plan does not currently bear any investment risk.

- Longevity Risk (the risk that mortality experience will be different than expected)

  The actuarial valuation includes an expectation of future improvement in life expectancy. Emerging plan experience that does not match these expectations will result in either an increase or decrease in the actuarially determined contribution. It is not yet known what long-term impact the COVID-19 pandemic may have on the Plan's mortality experience.

- Contribution Risk (the risk that actual contributions will be different from actuarially determined contribution)

  Plan contributions are set by statute. The Plan's funding policy requires payment of 0.30% of payroll. As shown in this report, this is not enough to cover the City's contribution requirement. As such, the City should begin to contribute the actuarial determined contribution.

- Demographic Risk (the risk that participant experience will be different than assumed)

  Examples of this risk include:

  - More or less active participant turnover than assumed.
  - More of less disabilities than assumed.
  - More or less deaths than assumed.

- Transfer Risk

  Because the ordinances defining the City's plans allow for members of the General Employees Retirement Plan (GERP) to elect a lump sum pay out of their retirement benefit to be paid as part of a transfer to the General Employees Defined Contribution Plan, there is a potential incentive to make this transfer before applying for disability benefits.

GFOA funded liability by type

The Actuarial Accrued Liability represents the present value of benefits earned, calculated using the Plan's actuarial cost method. The Actuarial Value of Assets reflects the financial resources available to liquidate the liability. The portion of the liability covered by assets reflects the extent to which accumulated plan assets are sufficient to pay future benefits, and is shown for liabilities associated with employee contributions, pensioner liabilities, and other liabilities. The Government Finance Officers Association (GFOA) recommends that the funding policy aim to achieve a funded ratio of 100 percent.

GFOA Funded Liability by Type as of September 30

	2022	2021
Actuarial accrued liability (AAL)		
Retirees and beneficiaries	$7,115,889	$6,181,202
Active members	5,733,494	4,604,885
Total	$12,849,383	$10,786,087
Actuarial value of assets	2,526,000	2,381,000
Cumulative portion of AAL covered		
Retirees and beneficiaries	35.50%	38.52%
Active members	0.00%	0.00%

Section 3: Supplemental Information

Exhibit A: Table of Plan Demographics

	Year Ended September 30		
	2022	2021	Change
Active participants in valuation:			
Number	2,691	2,346	14.7%
Average age	42.6	42.5	0.1
Average years of service	3.1	3.1	0.0
Covered payroll	$152,973,727	$136,731,327	11.9%
Average payroll	56,846	58,283	-2.5%
Disabled participants:			
Number in pay status	15	13	15.4%
Average age	59.5	62.4	-2.9
Average monthly benefit	$2,286	$2,554	-10.5%
Beneficiaries:			
Number in pay status	7	6	16.7%
Average age	61.9	57.2	4.7
Average monthly benefit	$1,869	$1,715	9.0%

Exhibit B: Summary Statement of Income and Expenses on a Market Value Basis

	Year Ended September 30, 2022		Year Ended September 30, 2021	
Net assets at market value at the beginning of the year		**$2,381,000**		**$1,636,415**
Contribution income:				
Employer contributions	$364,000		$558,000	
Employee contributions	426,000		569,000	
Less administrative expenses	0		0	
Net contribution income		*$790,000*		*$1,127,000*
Investment income:				
• Asset adjustment	$0		-$5,415	
Less investment fees	0		0	
Net investment income		*$0*		*-$5,415*
Total income available for benefits		**$790,000**		**$1,121,585**
Less benefit payments		-$645,000		-$377,000
Change in reserve for future benefits		**$145,000**		**$744,585**
Net assets at market value at the end of the year		**$2,526,000**		**$2,381,000**

Exhibit C: Table of Amortization Bases

Type	Date Established	Initial Period	Initial Amount	Annual Payment	Years Remaining	Outstanding Balance
Initial liability	10/01/2020	27	$10,789,981	$706,922	25	$10,531,980
Experience loss	10/01/2021	26	6,889,357	460,242	25	6,856,861
Change in assumptions	10/01/2021	26	-9,066,164	-605,664	25	-9,023,401
Experience loss	10/01/2022	25	1,767,858	118,661	25	1,767,858
Change in assumptions	10/01/2022	25	190,085	12,759	25	190,085
Total				**$692,920**		**$10,323,383**

Exhibit D: Supplementary State of Florida Information
Summary of Salary Changes

Year Ended September 30	Total Salary	Percent Change in Total Salary	Percent Change in Salary of Employees Remaining Active	Expected Percent Change in Salary of Employees Remaining Active
2020	$106,643,201	N/A	N/A	N/A
2021	136,731,327	30.66%	5.39%	5.90%
2022	152,973,727	11.88%	5.94%	6.21%

Exhibit E: Supplementary State of Florida Information
Comparative Summary of Principal Valuation Results

	Year Ended September 30, 2022		
	New Assumptions	Old Assumptions	Year Ended September 30, 2021
Participant data			
• Active members	2,691	2,691	2,346
• Total annual payroll	$152,973,727	$152,973,727	$136,731,327
• Retired members and beneficiaries	22	22	19
• Total annualized benefit	$568,578	$568,578	$521,928
Actuarial value of assets	$2,526,000	$2,526,000	$2,381,000
Present value of all future expected benefit payments:			
• Active members:			
• Disability benefits	$8,926,940	$8,660,765	$7,672,302
• Death benefits	17,429,580	16,966,713	15,493,248
• Total	$26,356,520	$25,627,478	$23,165,550
• Retired members and beneficiaries	7,115,889	7,031,511	6,181,202
Total	$33,472,409	$32,658,989	$29,346,752

Exhibit E: Supplementary State of Florida Information
Comparative Summary of Principal Valuation Results

	Year Ended September 30, 2022	Year Ended September 30, 2021
Unfunded actuarial accrued liability	$10,323,383	$8,405,087
Actuarial present value of accrued benefits		
Vested accrued benefits		
Active members	$3,562,295	$3,208,226
Retirees and beneficiaries	7,115,889	6,181,202
Nonvested active members	12,700,861	9,030,774
Total	$23,379,045	$18,402,202
Pension Cost		
Normal cost, including expected administrative expenses	$2,171,710	$1,950,076
Expected employee contributions	-458,921	-410,194
Level % of payroll payment to amortize unfunded actuarial accrued liability	692,920	559,422
Total minimum annual cost payable monthly at valuation date	2,405,709	2,099,304
Total employer cost projected to budget year	2,526,110	2,205,757
Projected payroll	155,268,333	138,782,297
As % of projected payroll	1.63%	1.59%
Present value of active members' future salaries at attained age	$1,477,373,465	$1,323,332,230
Present value of active members' future contributions at attained age	4,432,120	3,969,997

Section 4: Actuarial Valuation Basis

Exhibit I: Actuarial Assumptions, Methods and Models

Rationale for Assumptions

The information and analysis used in selecting each demographic assumption that has a significant effect on this actuarial valuation is shown in the General Employees Retirement Plan Experience Study Report for the five-year period ended September 30, 2017.

Net Investment Return:

6.50%

The net investment return assumption was chosen by the Retirement System's Board of Trustees with input from the actuary. The assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment.

Salary Increases (including inflation):

COJ/JHA/NFTPO				JEA	
Service	Rate (%)	Service	Rate (%)	Service	Rate (%)
0	6.5	11	3.9	0-4	7.5
1	6.1	12	3.8	5	5.1
2	5.7	13	3.7	6	4.9
3	5.3	14	3.6	7	4.7
4	4.9	15	3.5	8	4.5
5	4.5	16	3.4	9	4.3
6	4.4	17	3.3	10	4.1
7	4.3	18	3.2	11	3.9
8	4.2	19	3.1	12	3.7
9	4.1	20	3.0	13-24	3.5
10	4.0			25+	3.0

Payroll Growth:

1.50% used for amortization of unfunded liability amounts, based on the requirement in the Florida Statutes that the assumption for this purpose may not exceed the average annual growth for the preceding ten years. Negotiated pay level increases and pay of DC Plan participants were taken into consideration in setting a payroll growth that is expected to be achieved and maintained on a ten-year average basis. The Fund's long-term payroll growth assumption is equal to the inflation assumption of 2.50%.

Section 4: Actuarial Valuation Basis

Mortality Rates:

Healthy pre-retirement:	FRS pre-retirement mortality tables for personnel other than special risk and K-12 instructional personnel, set forward 2 years, projected generationally from 2010 with Scale MP2018
Spouse post-retirement:	FRS healthy post-retirement mortality tables for personnel other than special risk and K-12 instructional personnel, set forward 2 years, projected generationally from 2010 with Scale MP2018
Disabled:	FRS disabled mortality tables for personnel other than special risk, with no set forward, projected generationally from 2010 with Scale MP2018

The FRS tables for personnel other than special risk and K-12 instructional personnel, set forward 2 years, reasonably reflect the healthy annuitant mortality experience of the General Employees Retirement Plan as of the measurement date. The FRS disabled mortality tables for personnel other than special risk reasonably reflect the disabled annuitant mortality experience as of the measurement date.

Annuitant Mortality Rates:

	Rate (%)			
	Healthy		Disabled	
Age	Male	Female	Male	Female
55	1.04	0.55	2.53	1.91
60	1.16	0.61	3.08	2.27
65	1.45	0.88	3.93	2.83
70	2.34	1.51	5.08	3.79
75	3.90	2.62	6.98	5.46
80	6.63	4.65	10.12	8.31
85	11.21	8.64	14.68	12.60
90	18.13	15.47	21.29	17.72

Mortality rates shown for base table.

Section 4: Actuarial Valuation Basis

Termination Rates Before Retirement:

	Rate (%)			
	Mortality[1]			
Age	Male	Female	Disability	Withdrawal[2]
20	0.04	0.01	0.01	0.01
25	0.05	0.02	0.01	0.01
30	0.06	0.03	0.02	0.02
35	0.08	0.04	0.03	0.03
40	0.11	0.06	0.04	0.04
45	0.16	0.09	0.06	0.06
50	0.25	0.13	0.10	0.10
55	0.36	0.20	0.16	0.16
60	0.52	0.29	0.25	0.25
65	0.75	0.47	0.00	0.00

[1] Mortality rates shown for base table.

[2] 100% of disabilities are assumed to be non-service incurred.

Termination Retirement before Retirement (continued)

	Withdrawal[1]	
Service	**COJ**	**JEA**
0	16.00	6.00
1	15.00	5.50
2	13.00	4.50
3	10.00	3.50
4	9.50	3.25
5	9.00	3.00
6	8.50	2.75
7	8.00	2.50
8	7.50	2.25
9	7.00	2.00
10	6.50	2.00
11	5.60	2.00
12	4.70	2.00
13	3.80	2.00
14	2.90	2.00
15	2.00	2.00
16	1.80	1.80
17	1.60	1.60
18	1.40	1.40
19	1.20	1.20
20	1.00	1.00
21	0.80	0.80
22	0.60	0.60
23	0.40	0.40
24+	0.20	0.20

[1]All withdrawal rates are set to 0% after eligibility for retirement.

Section 4: Actuarial Valuation Basis

Retirement Rates:

Fewer Than 31 Years of Service	
Age	**Rate (%)[1]**
45-54	5
55	15
56-60	7
61-63	10
64-65	30
66-69	20
70 & Over	100

31 or More Years of Service	
Service	**Rate (%)[1]**
31-33	15
34-35	30
36	35
37	60
38-39	50
40	100

[1] 100% retirement is assumed at the earlier of age 70 or 40 years of service.

Note: For the purposes of applying retirement rates, participants are treated as being eligible for retirement based on the eligibility provisions from the General Employees' Retirement Plan. Rates first apply at the earliest of age 65 with five years of Credited Service, age 50 with 20 years of Credited Service, and any age with 30 years of Credited Service

Refund of Contributions:	No refunds of contributions are assumed to be payable from this fund
Unknown Data for Participants:	Same as those exhibited by participants with similar known characteristics. If not specified, participants are assumed to be male.
Administrative Expenses:	$40,000 for plan year beginning October 1, 2022.
Family Composition:	75% of males and 55% of females are assumed to be married. None are assumed to have dependent children. Females are assumed to be three years younger than their spouses.
Actuarial Value of Assets:	Market value of assets
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method. Entry Age is the age at the time the participant commenced employment. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis based on each member's benefit accrual rate and are allocated by compensation. Normal Cost is not included for participants who are assumed to retire with 100% certainty in the upcoming plan year based on the retirement assumptions.

Section 4: Actuarial Valuation Basis

Models:	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.
Change in Actuarial Assumptions:	The following changes in actuarial assumptions occurred with this valuation: • The discount rate was lowered from 6.625% to 6.50%.

Exhibit II: Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	October 1 through September 30
Plan Status:	Ongoing
Off-the-job Disability:	• *Age Requirement* None • *Service Requirement* Five years of Credited Service • *Amount* 25% of final compensation, plus 2.5% of final compensation per year of service in excess of five years, not to exceed 50% of final compensation in total
On-the-job Disability:	• *Age Requirement* None • *Service Requirement* None • *Amount* 25% of final compensation, plus 2.5% of final compensation per year of service in excess of five years, not to exceed 50% of final compensation in total
Spouse's Pre-Retirement Death Benefit:	• *Age Requirement* None • *Service Requirement* Two years of Credited Service • *Amount* 45% of the participant's earnable compensation at date of death
Cost of Living Adjustment:	On the April 1st nearest the fifth anniversary of the initial benefit commencement date, and on each April 1st thereafter, the regular benefit is increased by 3%; only applicable to spouse's pre-retirement death benefit.
Member Contributions:	0.3% of Earnable Compensation

Section 5: GASB Information

General information about the pension plan

Plan Description

Plan membership. At October 1, 2022, plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	22
Vested terminated members entitled to but not yet receiving benefits	0
Active members	2,691
Total	2,713

Net pension liability

Reporting Date for Employer under GASB 68	**September 30, 2023**	**September 30, 2022**
Measurement Date	**September 30, 2022**	**September 30, 2021**
Components of the Net Pension Liability		
Total Pension Liability	$12,849,383	$10,786,087
Plan Fiduciary Net Position	2,526,000	2,381,000
Net Pension Liability	10,323,383	8,405,087
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	19.66%	22.07%

The Net Pension Liability (NPL) for the plan was measured as of September 30, 2022. Plan Fiduciary Net Position (plan assets) was valued as of the measurement dates and the Total Pension Liability (TPL) was determined from an actuarial valuation as of October 1, 2022.

Plan provisions. The plan provisions used in the measurement of the NPL are the same as those used in the actuarial valuation as of October 1, 2022.

Section 5: GASB Information

Actuarial assumptions. The TPL as of September 30, 2022, that was measured by an actuarial valuation as of October 1, 2022, used the following actuarial assumptions, applied to all periods included in the measurement:

Salary increases	3.00% - 7.50%, of which 2.50% is the Plan's long-term payroll inflation
Investment rate of return	6.50%
Other assumptions	See Section 4 of this report for a complete description of all actuarial assumptions. These assumptions were developed in the analysis of actuarial experience study for the General Employees Retirement Plan for the period October 1, 2012 through September 30, 2017.

Determination of discount rate

The discount rate used to measure the Total Pension Liability (TPL) was 6.50% as of September 30, 2022. The Plan's assets are are not currently invested but are planned to be invested under the same investment policy as that employed by the General Employees' Retirement Plan, and thus the same investment return assumption as that used for the valuation of the Retirement Plan is used to measure the TPL.

Discount rate sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the Net Pension Liability (NPL) of the Plan as of September 30, 2022, which is allocated to all employers, calculated using the discount rate of 6.50%, as well as what the Plan's NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (5.50%) or 1-percentage-point higher (7.50%) than the current rate.

	1% Decrease (5.50%)	Current Discount Rate (6.50%)	1% Increase (7.50%)
Net pension liability	**$12,023,284**	**$10,323,383**	**$8,921,371**

Schedule of Changes in Net Pension Liability – Last two fiscal years

Reporting Date for Employer under GASB 68 Measurement Date and Reporting Date for Plan under GASB 67	September 30, 2023 September 30, 2022	September 30, 2022 September 30, 2021
Total Pension Liability		
Service cost	$1,910,076	$3,298,245
Interest	819,755	343,349
Change of benefit terms	0	0
Differences between expected and actual experience	-211,620	4,161,261
Changes of assumptions	190,085	-9,066,164
Benefit payments, including refunds of member contributions	-645,000	-377,000
Net change in Total Pension Liability	$2,063,296	-$1,640,309
Total Pension Liability – beginning	10,786,087	12,426,396
Total Pension Liability – ending	$12,849,383	$10,786,087
Plan Fiduciary Net Position		
Contributions – employer	$364,000	$558,000
Contributions – employee	426,000	569,000
Net investment income	0	-5,415
Benefit payments, including refunds of member contributions	-645,000	-377,000
Administrative expense	0	0
Other	0	0
Net change in Plan Fiduciary Net Position	$145,000	$744,585
Plan Fiduciary Net Position – beginning	2,381,000	1,636,415
Plan Fiduciary Net Position – ending	$2,526,000	$2,381,000
Net Pension Liability – ending	$10,323,383	$8,405,087
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	19.66%	22.07%
Covered payroll[1]	$155,268,333	$138,782,297
Plan Net Pension Liability as percentage of covered payroll	6.65%	6.06%

Notes to Schedule:

Benefit changes: Initial liability for the creation of the plan was first recognized for the fiscal year ending September 30, 2022 based on a September 30, 2021 measurement.

Change of Assumptions: The discount rate was lowered from 6.625% to 6.50% based on a September 30, 2022 measurement date.
The discount rate was increased from 2.21% to 6.625% based on a September 30, 2021 measurement date.

[1] Pensionable payroll as of the measurement date

Deferred outflows of resources and deferred inflows of resources

Reporting date for employer under GASB 68	September 30, 2023	September 30, 2022
Measurement date	**September 30, 2022**	**September 30, 2021**
Deferred outflows of resources		
Changes in proportion and differences between employer's contributions and proportionate share of contributions[1]	$1,370,345	$990,450
Changes of assumptions	172,800	0
Net difference between projected and actual earnings on pension plan investments	159,955	39,892
Difference between expected and actual experience in the Total Pension Liability	3,404,664	3,782,960
Total deferred outflows of resources	$5,107,764	$3,822,852
Deferred inflows of resources		
Changes in proportion and differences between employer's contributions and proportionate share of contributions[1]	$1,370,335	$990,450
Changes of assumptions	7,417,773	8,241,970
Net difference between projected and actual earnings on pension plan investments	0	0
Difference between expected and actual experience in the Total Pension Liability	192,380	0
Total deferred inflows of resources	$8,980,488	$9,232,420
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting date for employer under GASB 68 year ended October 1:		
2023	N/A	-$435,928
2024	-$405,376	-435,928
2025	-405,376	-435,928
2026	-405,376	-435,928
2027	-415,349	-445,901
2028	-447,858	-445,901
Thereafter	-1,793,389	-1,783,604

[1] Calculated in accordance with Paragraphs 54 and 55 of GASB 68

Pension expense – Total for all employers

Reporting Date for Employer under GASB 68	September 30, 2023	September 30, 2022
Measurement Date	**September 30, 2022**	**September 30, 2021**
Components of Pension Expense		
Service cost	$1,910,076	$3,298,245
Interest on the Total Pension Liability	819,755	343,349
Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	-10	0
Current-period benefit changes	0	0
Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	-19,240	378,301
Expensed portion of current-period changes of assumptions or other inputs	17,285	-824,194
Member contributions	-426,000	-569,000
Projected earnings on plan investments	-162,544	-44,452
Expensed portion of current-period differences between actual and projected earnings on plan investments	32,508	9,975
Administrative expense	0	0
Other	0	0
Recognition of beginning of year deferred outflows of resources as pension expense	388,269	0
Recognition of beginning of year deferred inflows of resources as pension expense	-824,197	0
Pension Expense	**$1,735,902**	**$2,592,224**

Schedule of contributions

Year Ended September 30	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
2020	N/A	$217,818	($217,818)	$106,212,849	0.21%
2021	N/A	558,000	(558,000)	138,782,297	0.40%
2022	$3,513,815	364,000	3,149,815	155,268,333	0.23%

Notes to Schedule:

Methods and assumptions used to establish "actuarially determined contribution" rates:

Valuation date	Actuarially determined contribution rates are calculated as of October 1, two years prior to the end of the fiscal year in which contributions are reported
Actuarial cost method	Entry Age Actuarial Cost Method
Amortization method	Level percent of payroll, using 1.50% annual increases[1]
Remaining amortization period	As of October 1, 2020 the effective amortization period is 27 years.
Asset valuation method	The market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between actual and expected returns on a market value basis and is recognized over a five-year period. The deferred return is further adjusted, if necessary, so that the actuarial value of assets will stay within 20% of the market value of assets.
Actuarial assumptions:	
Investment rate of return	2.21%.
Payroll growth rate	1.50%
Projected salary increases	3.00% - 7.50%
Cost of living adjustments	Plan provisions contain a 3.00% COLA
Other assumptions	Same as those used in the October 1, 2020 funding actuarial valuation.

Appendix A: Definition of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Actuarial Accrued Liability for Actives:	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial Accrued Liability for Retirees and Beneficiaries:	Actuarial Present Value of lifetime benefits to existing retirees and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Cost Method:	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.
Actuarial Gain or Loss:	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield actuarial liabilities that are larger than projected.
Actuarially Equivalent:	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.
Actuarial Present Value of Future Benefits:	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Benefits includes the liabilities for active members, retired

Appendix A: Definition of Pension Terms

	members, beneficiaries receiving benefits, and inactive members entitled to either a refund of member contributions or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan, as well as Actuarially Determined Contributions.
Actuarial Value of Assets (AVA):	The value of the Plan's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the Actuarially Determined Contribution.
Actuarially Determined:	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the Plan.
Actuarially Determined Contribution (ADC):	The employer's contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization Payment:	The portion of the pension plan contribution, or ADC, that is intended to pay off the Unfunded Actuarial Accrued Liability.
Assumptions or Actuarial Assumptions:	The estimates upon which the cost of the Plan is calculated, including: Investment return - the rate of investment yield that the Plan will earn over the long-term future; Mortality rates - the rate or probability of death at a given age for employees and retirees; Retirement rates - the rate or probability of retirement at a given age or service; Disability rates - the rate or probability of disability retirement at a given age; Withdrawal rates - the rate or probability at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; Salary increase rates - the rates of salary increase due to inflation, real wage growth and merit and promotion increases.

Appendix A: Definition of Pension Terms

Closed Amortization Period:	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 20 years, it is 19 years at the end of one year, 18 years at the end of two years, etc. See Open Amortization Period.
Decrements:	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
Defined Benefit Plan:	A retirement plan in which benefits are defined by a formula based on the member's compensation, age and/or years of service.
Defined Contribution Plan:	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Employer Normal Cost:	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Experience Study:	A periodic review and analysis of the actual experience of the Plan that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified based on recommendations from the Actuary.
Funded Ratio:	The ratio of the Actuarial Value of Assets (AVA) to the Actuarial Accrued Liability (AAL). Plans sometimes also calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the AVA.
GASB 67 and GASB 68:	Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.
Investment Return:	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.
Net Pension Liability (NPL):	The Net Pension Liability is equal to the Total Pension Liability minus the Plan Fiduciary Net Position.
Normal Cost:	The portion of the Actuarial Present Value of Future Benefits and expenses, if applicable, allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of the Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions,

Appendix A: Definition of Pension Terms

	Normal Cost refers to the total of member contributions and employer Normal Cost unless otherwise specifically stated.
Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in each future year in determining the Amortization Period.
Plan Fiduciary Net Position:	Market value of assets.
Service Costs:	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
Total Pension Liability (TPL):	The actuarial accrued liability under the entry age normal cost method and based on the blended discount rate as described in GASB 67 and 68.
Unfunded Actuarial Accrued Liability:	The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus or an Overfunded Actuarial Accrued Liability.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Benefits is determined. The expected benefits to be paid in the future are discounted to this date.