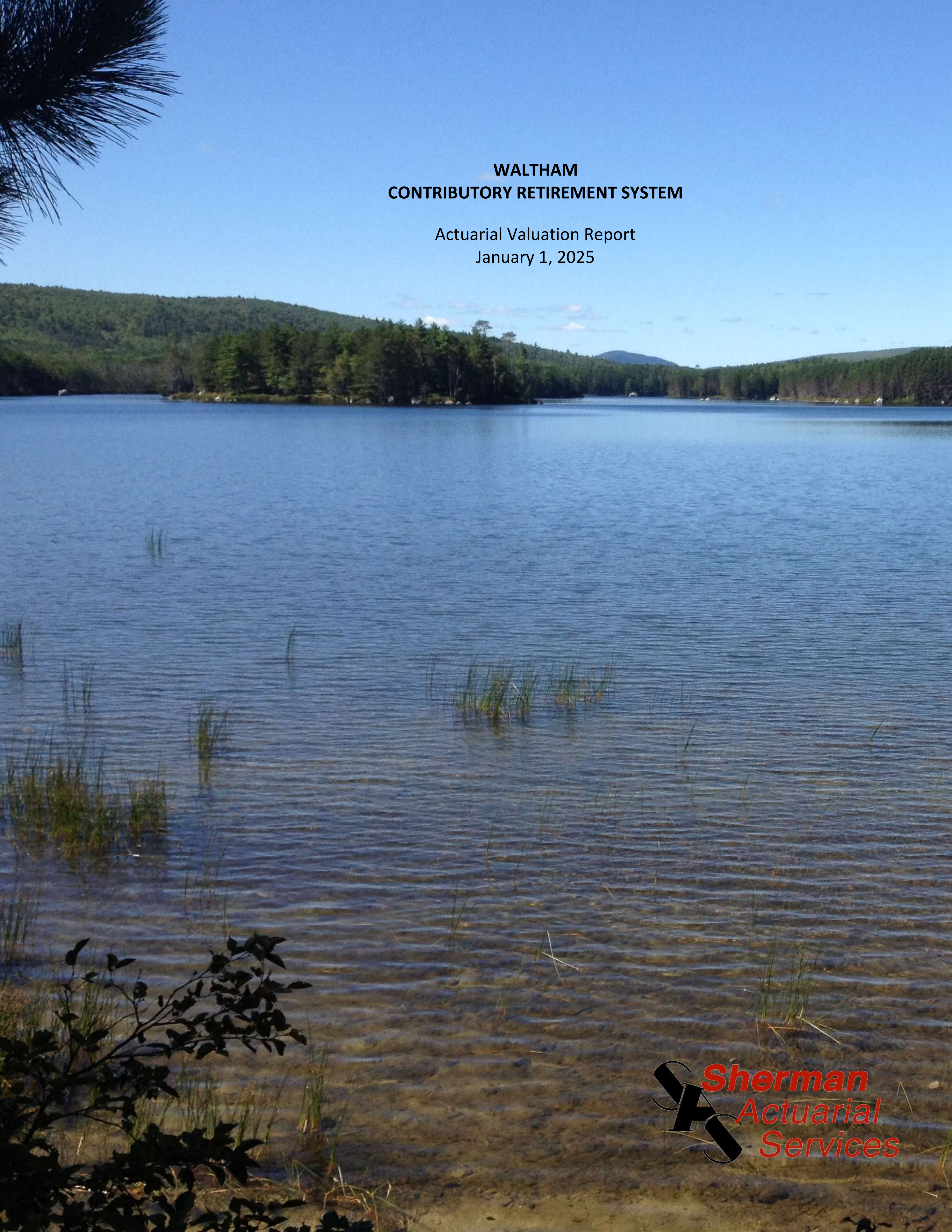
WALTHAM
CONTRIBUTORY RETIREMENT SYSTEM

Actuarial Valuation Report
January 1, 2025



Sherman Actuarial Services

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Report Summary:

Highlights	**January 1, 2023**	**January 1, 2025**
Contributions		
Funding Schedule FY 2026	$24,711,337	$24,711,337
Funding Schedule FY 2027	26,069,590	26,698,616
Funded Ratios		
GAS No. 25	67.0%	70.4%
Participants		
Actives	915	978
Retirees and Beneficiaries	723	724
Inactives	146	145
Disabled	95	92
Total	1,879	1,939
Payroll		
Payroll of Active Members	$70,297,314	$83,156,341
Average Payroll	76,828	85,027
Normal Cost		
Employer	$1,136,172	$1,029,415
Employee	6,452,471	7,692,741
Administrative Expenses	525,000	525,000
Total	$8,113,643	$9,247,156
Actuarial Accrued Liabilities		
Actives	$201,979,403	$234,213,220
Retirees, Beneficiaries, Disabilities and Inactives	298,572,711	310,417,931
Total	$500,552,114	$544,631,151
Actuarial Value of Assets	335,606,963	383,599,710
Unfunded Actuarial Accrued Liabilities	$164,945,151	$161,031,441

Introduction

This report presents the findings of an actuarial valuation as of January 1, 2025, of Waltham Contributory Retirement System.

The actuarial valuation is based on:

- Provisions Chapter 32 of the Massachusetts General Laws, "M.G.L", as of January 1, 2025.
- Employee data provided by the Retirement Board
- Asset information reported to the Public Employee Retirement Administration Commission by the City of Waltham Contributory Retirement System
- Actuarial assumptions approved by the Retirement Board

The valuation and appropriation forecast are prepared in accordance with Chapter 32 of the M.G.L. as of January 1, 2025.

The valuation and forecast do not account for:

- Any subsequent changes in the law
- Chapter 32 of the M.G.L., Section 3(8)(c) transfers between systems
- State-mandated benefits
- Cost-of-living increases granted to retired members between 1982 and 1997. The cost of these benefits has been assumed by the State under Proposition Two and One-Half.

Actuarial Experience

In performing the actuarial valuation, various assumptions are made regarding such factors as mortality, retirement, disability, and withdrawal rates as well as both payroll, salary increases, and investment returns. A comparison of the current valuation and the prior valuation is made to determine how closely actual experience corresponded to anticipated occurrences. This analysis of the system provides insight into the overall quality of the actuarial assumptions and helps explain any change in the annual appropriation.

During the last two years, the total unfunded actuarial accrued liability decreased by 2.37% to $161,031,441. The decrease is the result of contributions to the unfunded actuarial accrued liability, offset be net unfavorable actuarial experience during the preceding years. The sources of actuarial (gains) and losses are as follows:

Assets	5,786,016
Salary Increases	15,329,228
New Participants	1,959,466
Active - Retirements	(6,390,886)
Active - Terminations	2,223,761
Active - Mortality	234,387
Active - Disabilities	(320,198)
Inactive - Mortality and data adjustments	1,587,291
Other, includes data adjustments, buybacks, interest on ASF	5,345,671
Benefit Payments	(29,026)
Total Actuarial (Gain) / Loss	21,525,760

Actuarial Costs and Liabilities:

Normal Costs

The normal cost is the sum of the individual normal costs determined for each member as if the assumptions underlying the cost determinations had been exactly realized. An individual normal cost represents that part of the cost of a member's future benefits which are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability and terminations) are included in this calculation. Anticipated employee contributions to be made during the year are subtracted from the total normal cost to determine employer normal cost. The total normal cost is divided by total payroll to determine the normal cost as a percent of pay. The normal cost is shown in Table I.

Table I

	January 1, 2023	January 1, 2025
Superannuation	$4,610,484	$5,238,337
Termination	2,151,084	2,491,470
Death	205,467	238,676
Disability	621,608	753,673
Administrative Expenses	$525,000	$525,000
Total Normal Cost	$8,113,643	$9,247,156
% of Pay	11.5%	11.1%
Employee Contributions	$6,452,471	$7,692,741
% of Pay	9.2%	9.3%
Employer Normal Cost	$1,661,172	$1,554,415
% of Pay	2.4%	1.9%

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Present Value of Actuarial Accrued Liabilities

The actuarial accrued liabilities (AAL) represents today's value of all benefits based on the past service of the actives and inactives. The AAL can be compared to the assets to determine the funded status of the Plan. The value of these earned benefits is shown in Table II below.

Table II

	January 1, 2023	January 1, 2025
Actives		
Superannuations	$200,432,972	$231,303,073
Termination	(5,398,795)	(5,369,870)
Death	2,824,644	3,196,951
Disability	4,120,582	5,083,066
Retirees and Inactives		
Retirees and Beneficiaries	$254,391,339	$263,920,852
Terminated (Refund)	2,359,212	2,195,178
Disabled	41,822,160	44,301,901
Total	$500,552,114	$544,631,151

Present Value of Future Benefits

The present value of future benefits represents today's value of all benefits earned by the inactive participants as well as all benefits earned and expected to be earned in the coming years by the active participants. The difference between the present value of future benefits and the present value of actuarial accrued liabilities is the value of benefits to be earned in the coming years. The value of the total expected benefits is shown in Table III.

Table III

	January 1, 2023	January 1, 2025
Actives		
Superannuation	$230,689,997	$265,404,280
Termination	10,614,626	13,258,309
Death	4,228,014	4,826,862
Disability	8,652,283	10,655,232
Retirees and Inactives		
Retirees and Beneficiaries	$254,391,339	$263,920,852
Terminated (Refund)	2,359,212	2,195,178
Disabled	41,822,160	44,301,901
Total	$552,757,631	$604,562,614

Funded Status and Appropriations:

Market Value of Plan Assets

The trust fund composition on a market value basis is shown in Table IV.

Table IV

	January 1, 2023	January 1, 2025
Cash equivalents	$48,438	$142,176
Fixed income securities	54,184,646	67,061,963
Equities	88,165,821	118,582,349
International	76,196,686	88,374,801
Real Estate	28,843,468	32,829,004
Other	39,101,285	51,394,237
PRIT Fund	14,708,584	17,010,554
Accounts receivable	15,916	9,347
Accounts payable	(140,265)	(74,859)
Accrued income	0	0
Total Market Value	$301,124,579	$375,329,572
Total Actuarial Value	$335,606,963	$383,599,710

Actuarial Value of Assets

The actuarial value of assets is determined by projecting the market value of assets as of the beginning of the prior plan year with the assumed rate of return during that year (7.75%) and accounting for deposits and disbursements with interest at the assumed rate of return. An adjustment is then applied to recognize the difference between the actual investment return and expected return over a five year period. This preliminary actuarial value is not allowed to differ from the market value of assets by more than 20%. The calculation of the actuarial value of assets as of January 1, 2025 is presented in Table V.

Table V

		January 1, 2025
(1)	Market value at January 1, 2024	$339,221,628
(2)	2024 Contributions	$32,377,804
(3)	2024 Payments	($34,834,119)
(4)	Net interest adjustment at 7.75% on (1), (2) and (3) to December 31, 2024	$26,194,494
(5)	Expected market value on January 1, 2025 (1) + (2) + (3) + (4)	$362,959,807
(6)	Actual market value on January 1, 2025	$375,329,572
(7)	2024 (Gain) / Loss	($12,369,765)
(8)	80% of 2024 (Gain) / Loss	($9,895,812)
(9)	2023 (Gain) / Loss	($6,126,263)
(10)	60% of 2023 (Gain) / Loss	($3,675,758)
(11)	2022 (Gain) / Loss	$64,762,264
(12)	40% of 2022 (Gain) / Loss	$25,904,906
(13)	2021 (Gain) / Loss	($20,315,987)
(14)	20% of 2021 (Gain) / Loss	($4,063,197)
(15)	Actuarial value on January 1, 2025, (6) + (8) + (10) + (12) + (14) but not less than 80% nor greater than 120% of (6)	$383,599,710
(16)	Ratio of actuarial value to market value	102.20%
(17)	Actuarial Value Return for 2023	7.22%
(18)	Actuarial Value Return for 2024	6.68%
(19)	Market Value Return for 2023	9.74%
(20)	Market Value Return for 2024	11.41%

Unfunded Actuarial Accrued Liabilities

Under the Entry Age Normal Actuarial Cost Method, the Actuarial Accrued Liability represents what the accumulated assets would have been as of the valuation date if:

- current plan provisions and assumptions had always been in effect,
- experience conformed exactly to assumptions, and
- the normal cost had been contributed each year since inception.

The actuarial value of the Fund's assets as of the end of the prior year are subtracted from the Actuarial Accrued Liability (AAL) to determine the Unfunded Actuarial Accrued Liability (UAAL) as of the valuation date. Over time, annual pension contributions will accumulate Plan assets equal to the AAL, and the UAAL will be eliminated. Thereafter, annual contributions equal to the normal cost will keep the Plan's assets and liabilities in balance. The UAAL is developed in Table VI.

Table VI

	January 1, 2023	January 1, 2025
Actuarial Accrued Liability	$500,552,114	$544,631,151
Actuarial Assets	335,606,963	383,599,710
Unfunded Actuarial Accrued Liability	$164,945,151	$161,031,441
Funded Status	67.0%	70.4%

Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the requirements set forth in Sections 22D and 22F of Chapter 32 of the Massachusetts General Laws. These amounts were calculated to comply with the June 30, 2040, full funding mandate for all accrued liabilities. The pension appropriation is the sum of the:

- Employer normal cost,
- Increasing amortization of the unfunded actuarial accrued liability by June 30, 2032
  $ 161,031,441 over 7 years with 9% increasing payments
- Interest adjustment for payments deposited at the beginning of the fiscal year.

The pension appropriation is shown in Table VII.

Table VII

	January 1, 2023	January 1, 2025
Normal cost	$1,661,172	$1,554,415
Amortization payment of the accrued liability	19,550,353	22,216,182
Amortization payment of 2002 ERI liability	0	0
Amortization payment of 2011 ERI liability	0	0
Total cost	$21,211,525	$23,770,597
% of Pay	30.2%	28.6%
Fiscal 2026 cost	$24,711,337	$24,711,337
Fiscal 2027 cost	$26,069,590	$26,698,616

Appropriation Forecast

The following exhibit forecasts employer and employee contributions over the next 32 years under the adopted funding schedule.

Note that the forecast is based upon an "open group" method. This method assumes that sufficient employees will be hired each year to keep the number constant. The total payroll of the system is expected to increase 3.5% per year. The employee contribution rate is expected to increase to 10.5% by 2037 as members contributing base percentages 5%, 7%, and 8% are replaced by new members, whose base contribution is 9%. Payments are assumed to be made at the beginning of the year.

The employer total cost is expected to decrease during the next 6 years until the unfunded liabilities are completely paid off, at which time only the normal cost will remain. The total cost represents about 30% of payroll, increasing to about 39% by the time the unfunded liabilities are fully paid off, leaving only a long term normal cost of 1.0% thereafter. The decrease in the cost as a percentage of payroll is a result of the increase in member deductions.

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Appropriation Forecast

Fiscal Year Ending	Employee Contribution	Employer Normal Cost with Interest	Amortization Payments with Interest	Employer Total Cost with Interest	Employer Total Cost % of Payroll	Unfunded Liability**	Funded Ratio %**
2026	$7,692,741	$1,613,525	$23,097,812	$24,711,337	29.7	$161,031,441	70.4
2027	8,059,717	1,568,552	25,130,064	26,698,616	31.0	149,533,772	73.8
2028	8,442,957	1,518,454	27,391,504	28,909,958	32.5	135,037,208	77.5
2029	8,843,151	1,462,928	29,856,739	31,319,667	34.0	117,069,472	81.4
2030	9,261,017	1,401,656	32,543,845	33,945,501	35.6	95,150,256	85.7
2031	9,697,299	1,334,302	35,472,791	36,807,093	37.3	68,743,011	90.2
2032	10,152,777	1,260,516	38,665,343	39,925,859	39.1	37,248,881	94.9
2033	10,628,259	1,179,931	0	1,179,931	1.1	(0)	100.0
2034	11,124,588	1,092,160	0	1,092,160	1.0	(0)	100.0
2035	11,642,640	996,801	0	996,801	0.9	(0)	100.0
2036	12,183,329	893,428	0	893,428	0.8	(0)	100.0
2037	12,747,603	781,598	0	781,598	0.6	(0)	100.0
2038	13,193,769	808,954	0	808,954	0.6	(0)	100.0
2039	13,655,551	837,267	0	837,267	0.6	(0)	100.0
2040	14,133,495	866,572	0	866,572	0.6	(0)	100.0
2041	14,628,167	896,902	0	896,902	0.6	(0)	100.0
2042	15,140,153	928,293	0	928,293	0.6	(0)	100.0
2043	15,670,058	960,784	0	960,784	0.6	0	100.0
2044	16,218,511	994,411	0	994,411	0.6	0	100.0
2045	16,786,158	1,029,215	0	1,029,215	0.6	0	100.0
2046	17,373,674	1,065,238	0	1,065,238	0.6	0	100.0
2047	17,981,753	1,102,521	0	1,102,521	0.6	0	100.0
2048	18,611,114	1,141,109	0	1,141,109	0.6	0	100.0
2049	19,262,503	1,181,048	0	1,181,048	0.6	0	100.0
2050	19,936,690	1,222,385	0	1,222,385	0.6	0	100.0
2051	20,634,475	1,265,168	0	1,265,168	0.6	0	100.0
2052	21,356,681	1,309,449	0	1,309,449	0.6	0	100.0
2053	22,104,165	1,355,280	0	1,355,280	0.6	0	100.0
2054	22,877,811	1,402,715	0	1,402,715	0.6	0	100.0
2055	23,678,534	1,451,810	0	1,451,810	0.6	0	100.0
2056	24,507,283	1,502,623	0	1,502,623	0.6	0	100.0
2057	25,365,038	1,555,215	0	1,555,215	0.6	0	100.0

** Beginning of Fiscal Year

EXHIBITS

https://shermanactuary-my.sharepoint.com/personal/dan_shermanactuary_com/Documents/Recovered Data/Waltham/Val25/Report/[ACT1.xls]Actives

Exhibit 1 - Age/Service Distribution with Salary as of January 1, 2025

Attained Age	Average Salary <5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
< 20	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
20-24	1	0	0	0	0	0	0	0	0	1
	39,755	0	0	0	0	0	0	0	0	39,755
25-29	41	1	0	0	0	0	0	0	0	42
	50,532	61,050	0	0	0	0	0	0	0	50,782
30-34	54	13	0	0	0	0	0	0	0	67
	71,364	82,718	0	0	0	0	0	0	0	73,567
35-39	51	48	9	0	0	0	0	0	0	108
	69,052	86,658	108,780	0	0	0	0	0	0	80,188
40-44	35	26	28	5	0	0	0	0	0	94
	53,211	84,086	105,218	87,056	0	0	0	0	0	79,043
45-49	42	13	22	18	9	0	0	0	0	104
	49,037	60,826	94,822	110,820	103,379	0	0	0	0	75,592
50-54	27	14	15	14	30	12	1	0	0	113
	46,023	74,450	86,083	98,349	119,144	127,594	119,579	0	0	90,071
55-59	25	20	14	7	19	26	7	0	0	118
	56,619	66,428	74,566	71,386	100,777	125,718	115,889	0	0	87,138
60-64	20	19	29	19	24	23	22	10	0	166
	45,748	59,719	71,524	71,212	89,964	110,288	110,660	127,962	0	83,655
65-69	8	13	10	15	20	19	16	16	2	119
	66,380	59,180	78,989	73,490	78,919	115,492	129,697	120,709	117,676	94,178
70+	2	4	6	6	11	8	3	4	2	46
	62,233	73,723	80,697	70,328	85,466	79,655	94,855	46,255	182,057	81,230
Total Employees	306	171	133	84	113	88	49	30	4	978
Average Salary	57,638	75,104	87,930	85,523	98,204	115,546	116,837	113,200	149,867	82,152

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Exhibit 2 - Retiree Distribution as of January 1, 2025

	Number of Employees			Total Payments		
Attained Age	Female	Male	Total	Female	Male	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	0	0	0	0	0	0
40-44	0	0	0	0	0	0
45-49	1	0	1	17,865	0	17,865
50-54	1	0	1	10,909	0	10,909
55-59	3	2	5	182,439	53,896	236,335
60-64	2	3	5	12,375	76,350	88,724
65-69	16	17	33	285,405	855,980	1,141,385
70-74	35	45	80	809,534	2,449,908	3,259,442
75-79	62	83	145	2,254,778	4,350,750	6,605,528
80-84	61	82	143	2,047,326	3,573,698	5,621,024
85-89	61	78	139	1,452,412	4,327,452	5,779,863
90-94	50	36	86	1,248,711	1,869,655	3,118,366
95+	52	35	87	1,120,071	1,354,127	2,474,198
Total	344	381	725	9,441,824	18,911,816	28,353,640
Average (Age/Payment)	74.53	72.94	73.7	27,447	49,637	39,108
Frequency Percent	47.4	52.6	100	33.3	66.7	100

Exhibit 3 - Disabled Retiree Distribution as of January 1, 2025

	Number of Employees			Total Payments		
Attained Age	Female	Male	Total	Female	Male	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	0	0	0	0	0	0
40-44	0	0	0	0	0	0
45-49	1	0	1	32,581	0	32,581
50-54	0	3	3	0	215,299	215,299
55-59	0	12	12	0	549,609	549,609
60-64	2	11	13	47,216	506,272	553,488
65-69	1	12	13	28,516	615,702	644,219
70-74	5	16	21	168,950	952,787	1,121,737
75-79	2	8	10	54,231	418,950	473,181
80-84	1	10	11	26,217	405,909	432,126
85-89	0	6	6	0	258,673	258,673
90-94	0	2	2	0	64,546	64,546
95-99	0	0	0	0	0	0
Total	12	80	92	357,711	3,987,746	4,345,458
Average (Age/Payment)	69.89	70.59	70.5	29,809	49,847	47,233
Frequency Percent	13.0	87.0	100	8.2	91.8	100

EXHIBIT 4 - CASHFLOW FORECAST:

The following is a 30 year forecast of benefit payments net of state reimbursable COLA payments, Contribution Income and Investment Returns.

Plan Year Ending	Benefit Payments	Employee Contributions	Employer Contributions	Investment Returns	Net change in plan assets
2025	$24,171,706	$7,692,741	$24,711,337	$29,781,451	$38,013,824
2026	23,987,401	8,059,717	26,698,616	32,817,036	43,587,968
2027	24,830,703	8,442,957	28,909,958	36,256,589	48,778,801
2028	25,669,136	8,843,151	31,319,667	40,106,503	54,600,185
2029	26,564,376	9,261,017	33,945,501	44,414,259	61,056,401
2030	27,490,423	9,697,299	36,807,093	49,230,825	68,244,794
2031	28,484,719	10,152,777	39,925,859	54,612,368	76,206,285
2032	29,499,937	10,628,259	1,179,931	59,018,871	41,327,124
2033	30,587,241	11,124,588	1,092,160	62,190,315	43,819,822
2034	31,638,225	11,642,640	996,801	65,556,836	46,558,051
2035	32,644,802	12,183,329	893,428	69,137,796	49,569,752
2036	33,683,402	12,747,603	781,598	72,951,507	52,797,306
2037	34,755,046	13,193,769	808,954	77,009,259	56,256,936
2038	35,860,785	13,655,551	837,267	81,334,071	59,966,104
2039	37,001,703	14,133,495	866,572	85,945,248	63,943,612
2040	38,178,919	14,628,167	896,902	90,863,554	68,209,704
2041	39,393,589	15,140,153	928,293	96,111,319	72,786,176
2042	40,646,903	15,670,058	960,784	101,712,559	77,696,497
2043	41,940,093	16,218,511	994,411	107,693,112	82,965,942
2044	43,274,425	16,786,158	1,029,215	114,080,772	88,621,720
2045	44,651,209	17,373,674	1,065,238	120,905,439	94,693,142
2046	46,071,796	17,981,753	1,102,521	128,199,285	101,211,763
2047	47,537,579	18,611,114	1,141,109	135,996,925	108,211,569
2048	49,049,997	19,262,503	1,181,048	144,335,609	115,729,163
2049	50,610,532	19,936,690	1,222,385	153,255,418	123,803,962
2050	52,220,716	20,634,475	1,265,168	162,799,493	132,478,420
2051	53,882,128	21,356,681	1,309,449	173,014,257	141,798,259
2052	55,596,398	22,104,165	1,355,280	183,949,678	151,812,725
2053	57,365,209	22,877,811	1,402,715	195,659,540	162,574,858
2054	58,864,551	23,678,534	1,451,810	208,214,122	174,479,915

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2025, and does not take into account any subsequent changes.

1. Administration

Each of the 104 contributory retirement systems for public employees of the Commonwealth of Massachusetts are guided by the applicable provisions of Chapter 32 of the Massachusetts General Laws and other applicable statutes. Although these boards operate semi-independently, there is a uniform set of rules governing benefits, eligibility, contributions, financing, and accounting.

2. Participation

Participation is mandatory for all full-time employees whose employment commences prior to age 65. Eligibility with respect to part-time, professional, temporary, or intermittent employment is governed by the local board. Membership is optional for certain elected officials, State officials appointed by the Governor, and certain hospital interns.

There are four classes of membership as follows:

(i) Group 1: Most general employees in State and local government

(ii) Group 2: Certain specified hazardous duty positions

(iii) Group 3: State police officers and inspectors

(iv) Group 4: Local police officers, firefighters, and designated employees of the municipal light department.

For members in more than one group, participation will be proportional.

Chapter 176 of the Acts of 2011 created different plan provisions within these groups for those hired on or after April 2, 2012.

3. Salary

Salary is defined as gross regular compensation. Salary does not include bonuses, overtime, severance pay, unused sick leave credit, or other similar compensation.

4. Member Contributions

Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5.0% of Salary
1975 to 1983	7.0% of Salary
1984 to 1996	8.0% of Salary
1996 and Later plus	9.0% of Salary
1979 and Later	2.0% of Salary in excess of $30,000

For Group 1 employees who become members on or after April 2, 2012, the Contribution Rate shall be 6% after the completion of 30 years of service.

5. Average Salary

Average salary is used to determine a participant's benefit. It is defined as the average salary during the three consecutive-year period that produces the highest average. (Alternatively, if a greater amount results, it is the average rate of salary earned during the period or periods, whether or not consecutive, that constitutes the last three years preceding retirement.). For employees who become members on or after April 2, 2012, the averaging period shall be five years.

6. Creditable Service

In general, creditable service is awarded during the period in which a member contributes to the retirement system.

7. Service Retirement

a. Eligibility:

For an employee to be eligible for service retirement (also referred to as superannuation), one of the following conditions must be met:

(i) completion of 20 years of service

(ii) for an employee hired prior to January 1, 1978, attainment of age 55 as an active member

(iii) for an employee hired on or after January 1, 1978, attainment of age 55 as an active member and completion of ten years of service

(iv) for a Group 1 employee hired on or after April 2, 2012, attainment of age 60 and completion of ten years of service

b. Benefit Amount:

The retirement allowance is determined as a product of the participant's Benefit Rate times Average Salary times Creditable Service, where Benefit Rate is determined from the following table for those hired prior to April 2, 2012:

Age at Retirement	Percentage of Average Salary Group 1	Group 2	Group 4
65 or Over	.025	.025	.025
64	.024	.025	.025
63	.023	.025	.025
62	.022	.025	.025
61	.021	.025	.025
60	.020	.025	.025
59	.019	.024	.025
58	.018	.023	.025
57	.017	.022	.025
56	.016	.021	.025
55	.015	.020	.025
54	.014	.014	.024
53	.013	.013	.023
52	.012	.012	.022
51	.011	.011	.021
50	.010	.010	.020
49	.009	.009	.019
48	.008	.008	.018
47	.007	.007	.017
46	.006	.006	.016
45	.005	.005	.015
44	.004	.004	.004
43	.003	.003	.003
42	.002	.002	.002
41	.001	.001	.001

For those hired after April 1, 2012 who retire with less than 30 years of service, the following rates are applied:

Age at	Percentage of Average Salary		
Retirement	Group 1	Group 2	Group 4
67 or Over	.0250	.0250	.0250
66	.0235	.0250	.0250
65	.0220	.0250	.0250
64	.0205	.0250	.0250
63	.0190	.0250	.0250
62	.0175	.0250	.0250
61	.0160	.0235	.0250
60	.0145	.0220	.0250
59		.0205	.0250
58		.0190	.0250
57		.0175	.0250
56		.0160	.0235
55		.0145	.0220
54			.0205
53			.0190
52			.0175
51			.0160
50			.0145

For those hired after April 1, 2012 who retire with at least 30 years of service, the following rates are applied:

Age at Retirement	Percentage of Average Salary Group 1	Group 2	Group 4
67 or Over	.02500	.02500	.02500
66	.02375	.02500	.02500
65	.02250	.02500	.02500
64	.02125	.02500	.02500
63	.02000	.02500	.02500
62	.01875	.02500	.02500
61	.01750	.02375	.02500
60	.01625	.02250	.02500
59		.02125	.02500
58		.02000	.02500
57		.01875	.02500
56		.01750	.02375
55		.01625	.02250
54			.02125
53			.02000
52			.01875
51			.01750
50			.01625

8. Deferred Vested Retirement

a. Eligibility:

A participant who has completed ten or more years of creditable service is eligible for a deferred vested retirement benefit. If termination is involuntary, the participant is vested after six years.

b. Benefit Amount:

The participant's accrued benefit is payable commencing at age 55, or may be deferred until later at the employee's option.

c. Refund of Contributions:

In lieu of the deferred pension benefit, a member may elect to receive a refund of their accumulated contributions, with interest.

9. Accidental Disability

a. Eligibility:

Participants are eligible for an accidental disability benefit, regardless of service or age, if they become permanently and totally incapacitated for further duty as a result of personal injury sustained while in the performance of duties.

b. Benefit Amount:

The accidental disability amount is 72% of annual salary plus $450 per year for each child plus an additional annuity based upon accumulated Member Contributions with credited interest.

10. Ordinary Disability

a. Eligibility:

An ordinary disability occurs when a member becomes permanently and totally disabled due to sickness or injury that is not job related. In order to be eligible for an ordinary disability benefit, a member must have ten years of service (and be less than age 55 or age 60 if hired on or after April 2, 2012).

b. Benefit Amount:

The ordinary disability amount is equal to the accrued retirement benefit as if the member were age 55 (age 60 if hired on or after April 2, 2012). If the member was a veteran, the benefit is 50% of the member's final rate of Salary during the preceding 12 months, plus an annuity based upon accumulated Member Contributions plus credited interest. If the participant is over age 55 (age 60 if hired on or after April 2, 2012), he will receive not less than the superannuation allowance to which he is entitled.

11. Survivor Benefits

a. Occupational Death:

The survivors of a member who dies due to an occupational injury will be entitled to a lump sum return of contributions plus a pension benefit equal to 72% of the participant's annual Salary.

b. Non-Occupational Death:

Upon the death of a member other than due to an occupational injury, the designated beneficiary will be entitled to a retirement benefit as if Option C had been elected with a minimum of $250 per month to the surviving spouse, plus $120 for the first child, plus $90 for each additional child. If no beneficiary is designated and if the employee worked two years, and is married at least one year, the spouse may elect benefits. If there is no designated beneficiary or surviving spouse, then member contributions are returned. If there are dependent children but no surviving spouse, they may elect minimum survivor benefits of $250 per month plus $120 for the first child and $90 for each additional child.

c. Refund of Contributions:

Upon the death of a member not entitled to survivor benefits, the beneficiary is entitled to a refund of all member contributions with interest.

12. Cost-of-Living Increases

In accordance with the adoption of Chapter 17 of the Acts of 1997, the granting of a cost-of-living adjustment will be determined by an annual vote by the Retirement Board. The amount of increase will be based upon the Consumer Price Index, limited to a maximum of 3.0%, beginning on July 1. All retirees, disabled retirees, and beneficiaries who have been receiving benefits payments for at least one year as of July 1 are eligible for the adjustment. The maximum amount of pension benefit subject to a COLA is $14,000. All COLAs granted to members after 1981 and prior to July 1, 1998 are deemed to be an obligation of the State and are not the liability of the Retirement System.

13. Postretirement Death Benefits

Any benefits following the death of a member after retirement are based upon the form of benefit the participant elected at the time of retirement. There are three available forms as follows:

(i) Option A – Life annuity

(ii) Option B – Life annuity with death benefit equal to excess of member contributions plus credited interest to retirement over annuity benefit paid to member

(iii) Option C – Life annuity with 66-2/3% of benefit continued after death of member to designated joint annuitant

EXHIBIT 6 – ACTUARIAL METHODS AND ASSUMPTIONS:

The actuarial cost method, factors, and assumptions used in determining cost estimates are presented below.

1. **Member Data**

The member data used in the determination of cost estimates consist of pertinent information with respect to the active, inactive, retired, and disabled members of the employer as supplied by the employer to the actuary.

2. **Valuation Date**

January 1, 2025.

3. **Actuarial Cost Method**

The costs of the Plan have been determined in accordance with the individual entry age normal actuarial cost method.

4. **Rate of Investment Return**

It is assumed that the assets of the fund will accumulate at a compound annual rate of 7.75% per annum.

5. **Salary Scale**

It is assumed that salaries including longevity will increase at a rate of 3.5% per year.

6. **Cost-of-Living Increases**

Cost-of-living increases have been assumed to be 3.0% of the lesser of the pension amount and $14,000 per year.

7. **Value of Investments**

Assets held by the fund are valued at market value as reported by the Public Employees' Retirement Administration Commission (PERAC). The actuarial value of assets is determined using a four-year smoothing of asset returns greater than or less than the assumed rate of return.

8. Annual Rate of Withdrawal Prior to Retirement

Based on an analysis of experience, the assumed annual rates of withdrawal may best be illustrated by the following rates at the following ages:

Service	General Employees	Police and Fire Employees
0	0.2080	0.1500
5	0.1020	0.1000
10	0.0650	0.0600
15	0.0417	0.0600
20	0.0400	0.0000
30	0.0000	0.0000

9. Annual Rate of Mortality

It is assumed that mortality for is represented by the various SOA Pub-2010 Public Retirement Plans Mortality Tables specific to the Group, Pre-retirement versus Post, Disabled and Beneficiaries, with Scale MP-2018 improvements until 2025.

10. Service Retirement

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages for those hired prior to April 2, 2012:

Age	Male General Employees	Female General Employees	Male and Female Police and Fire Employees
50	0.0360	0.1019	0.0382
51	0.0405	0.0714	0.0351
52	0.0437	0.0562	0.0436
53	0.0366	0.0448	0.0527
54	0.0451	0.0488	0.0999
55	0.0477	0.0469	0.1110
56	0.0574	0.0518	0.1413
57	0.0632	0.0509	0.1292
58	0.0765	0.0552	0.1499
59	0.0917	0.0645	0.1679
60	0.1057	0.0774	0.1871
61	0.1224	0.1038	0.2073
62	0.1473	0.1168	0.2176
63	0.1777	0.1440	0.3338
64	0.2136	0.1708	0.5664
65	0.2615	0.1939	1.00000
66	0.2682	0.1959	1.00000
67	0.2500	0.2000	1.00000
68	0.2500	0.2000	1.00000
69	0.2500	0.2000	1.00000
70 to 76	0.2500	0.2500	1.00000
77 to 79	0.3500	0.2500	1.00000
80	1.0000	1.0000	1.00000

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages for those hired on or after April 2, 2012:

Age	Male General Employees	Female General Employees	Male and Female Police and Fire Employees
50	0.0000	0.0000	0.0191
51	0.0000	0.0000	0.0176
52	0.0000	0.0000	0.0436
53	0.0000	0.0000	0.0211
54	0.0000	0.0000	0.0266
55	0.0000	0.0000	0.0370
56	0.0000	0.0000	0.1060
57	0.0000	0.0000	0.1938
58	0.0000	0.0000	0.1499
59	0.0000	0.0000	0.1119
60	0.0477	0.0469	0.0936
61	0.0574	0.0518	0.1555
62	0.0632	0.0509	0.1741
63	0.0765	0.0552	0.2670
64	0.0917	0.0645	0.4720
65	0.1057	0.0774	0.2500
66	0.1224	0.1038	0.3000
67	0.1473	0.1168	1.0000
68	0.1777	0.1440	1.0000
69	0.2136	0.1708	1.0000
70 to 76	0.2615	0.1939	1.0000
77 to 79	0.2682	0.1959	1.0000
80	0.2500	0.2000	1.0000

12. Annual Rate of Disability Prior to Retirement

Based on an analysis of experience, the assumed annual rates of disability may best be illustrated by the following probabilities at the following ages:

Attained Age	General Employees	Police and Fire Employees
20	0.000100	0.000500
30	0.000152	0.000967
40	0.000663	0.002500
50	0.001271	0.007634

In addition, it is assumed for the general employees that 20% of all disabilities are ordinary (80% are service connected). For police and fire employees, 10% of all disabilities are assumed to be ordinary (90% are service connected).

13. Family Composition

It is assumed that 80% of all members will be survived by a spouse and that females (males) are three years younger (older) than members.

14. Administrative Expenses

The normal cost is increased by an amount equal to the anticipated administrative expenses for the upcoming fiscal year. The amount for fiscal year 2025 is $525,000 and is anticipated to increase at 3.5% per year.

EXHIBIT 7 – GLOSSARY OF TERMS:

This glossary summarizes the technical terms contained in this report.

1. Actuarial Accrued Liability

That portion of the Actuarial Present Value of plan benefits that is not provided for by future employer Normal Costs or employee contributions.

2. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting the Retirement System such as:

- Rates of investment returns
- Increases in a member's salary
- Inflation
- The probability of mortality, turnover, disablement
- Retirement at each age and other relevant items

3. Actuarial Cost Method

A procedure for allocating the Actuarial Present Value of pension plan benefits between Normal Cost and Actuarial Accrued Liability.

4. Actuarial Present Value

The single sum amount required at the valuation date that is required to provide for anticipated future events based upon the terms of the plan and the Actuarial Assumptions.

5. Forecast

A projection of future benefit payments or contribution requirements based upon the terms of the plan, the current asset amounts, the Actuarial Assumptions, and additional assumptions as to the replacement of terminating employees with new employees.

6. Normal Cost

That portion of the Actuarial Present Value of future benefits that is assigned to the current year.

7. Unfunded Actuarial Accrued Liability

That portion of the Actuarial Accrued Liability that is not provided for by current actuarial value of assets.

8. Valuation Method

The method used to divide the cost of future benefits among the Actuarial Accrued Liability, the current year's Normal Costs, and future years' Normal Costs. The resulting current funding requirement is then determined as the current year's Normal Cost plus the payment necessary to amortize the Unfunded Actuarial Liability.

9. Vested Liability

That portion of the Actuarial Present Value of Accrued Benefits that a member would be entitled to if the member terminated employment with the employer as of the valuation date.

CERTIFICATION:

This report fairly represents the actuarial position of the City of Waltham Retirement System contributing as of January 1, 2025, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued liability and normal cost are reasonably related to plan experience and to reasonable expectations, and represents our best estimate of anticipated plan experience.

The funded status measure is appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations. The funded status measure is appropriate for assessing the need for or the amount of future contributions. The funded status measure would be different if the measure reflected the market value of assets rather than the actuarial value of assets.

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 (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 our assignment, we did not perform an analysis of the potential range of such future measurements.

The report was prepared under the supervision of Daniel Sherman, an Associate of the Society of Actuaries and a Member of the American Academy of Actuaries, who takes responsibility for the overall appropriateness of the analysis, assumptions and results. Daniel Sherman is deemed to meet the General Qualification Standard and the basic education and experience requirement in the pension area. Based on over thirty years of performing valuations of similar complexity, Mr. Sherman is qualified by experience. Daniel Sherman has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sherman Actuarial Services, LLC

Daniel W. Sherman

Daniel W. Sherman, ASA, MAAA

September, 2025