CITY OF WOBURN
Contributory Retirement System

ACTUARIAL VALUATION REPORT

January 1, 2008

explore excellence®

buckconsultants an ACS company

TABLE OF CONTENTS

P:\Actrl\Woburn\Val08\[Woburn08_Val.xls]Output

Report Summary:

Highlights	January 1, 2007	January 1, 2008
Contributions		
Funding Schedule FY 2009	$4,369,054	$4,369,055
Funding Schedule FY 2010	$4,500,046	4,524,442
Funded Ratios		
GAS No. 25	77.3%	77.9%
Participants		
Actives	580	560
Retirees and Beneficiaries	365	364
Vested	0	0
Inactives	87	97
Disabled	40	36
Total	1,072	1,057
Payroll		
Payroll of Active Members	$24,258,365	$24,431,654
Average Payroll	41,825	43,628
Normal Cost		
Employer	841,329	925,206
Employee	1,929,714	1,982,248
Administrative Expenses	425,000	475,000
Total	3,196,043	3,382,454
Actuarial Accrued Liabilities		
Actives	70,907,179	72,589,733
Retirees, Beneficiaries, Disabilities and Inactives	61,526,054	69,168,794
Total	132,433,233	141,758,527
Actuarial Value of Assets	102,354,232	110,478,130
Unfunded Actuarial Accrued Liabilities	$30,079,001	$31,280,397

Introduction

This report presents the findings of an actuarial valuation as of January 1, 2008, of Woburn Contributory Retirement System.

The actuarial valuation is based on:

- Provisions Chapter 32 of the Massachusetts General Laws, "M.G.L", as of January 1, 2008.
- Employee data provided by the Retirement Board
- Asset information reported to the Public Employee Retirement Administration Commission by the City of Woburn 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, 2008.

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 year, the total unfunded actuarial accrued liability increased by 4.0% to $31,280,397. The increase is the result of net unfavorable actuarial experience during the preceding year. The actuarial value of assets for 2007 had a return of 10.34%. The sources of the (gain)/loss are as follows:

Investment	(2,366,439)
Salary Gain	1,882,752
New Entrants	158,575
Active Decrements (Retirement)	1,085,470
Active Decrements (Termination)	(222,863)
Active Decrements (Death)	(34,221)
Active Decrements (Disability)	(227,599)
Inactive (Mortality and data adjustments	(738,438)
Other (Data corrections, Section 3(8)(c), buybacks, etc.)	2,161,668
Total (gain)/loss	1,698,905

P:\Actrl\Woburn\Val08\[Woburn08_Val.xls]Output

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, 2007	January 1, 2008
Superannuation	$1,859,813	$1,986,517
Termination	256,592	250,611
Death	155,626	154,620
Disability	499,012	515,706
Administrative Expenses	425,000	475,000
Total Normal Cost	3,196,043	3,382,454
% of Pay	13.2%	13.8%
Employee Contributions	1,929,714	1,982,248
% of Pay	8.0%	8.1%
Employer Normal Cost	$1,266,329	$1,400,206
% of Pay	5.2%	5.7%

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, 2007	January 1, 2008
Actives		
Superannuations	$62,349,452	$63,952,944
Termination	1,006,561	1,008,896
Death	2,226,656	2,255,885
Disability	5,324,510	5,372,008
Retirees and Inactives		
Retirees and Beneficiaries	50,736,135	58,195,501
Vested	0	0
Terminated (Refund)	432,891	566,499
Disabled	10,357,028	10,406,794
Total	$132,433,233	$141,758,527

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, 2007	January 1, 2008
Actives		
Superannuation	$77,829,740	$80,745,732
Termination	1,997,648	2,016,601
Death	3,414,155	3,488,588
Disability	9,766,115	10,094,920
Retirees and Inactives		
Retirees and Beneficiaries	50,736,135	58,195,501
Vested	0	0
Terminated (Refund)	432,891	566,499
Disabled	10,357,028	10,406,794
Total	$154,533,712	$165,514,635

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, 2007	January 1, 2008
Cash equivalents	$2,064,497	$1,201,121
Short term investments	205,257	211,297
Fixed income securities	25,874,171	24,361,989
Equities	41,868,585	44,271,215
International	11,704,160	12,022,496
Real Estate	5,076,223	5,586,890
Venture Capital	0	0
Other	15,408,310	22,294,555
Accounts receivable	173,635	595,066
Accounts payable	(187,622)	(199,596)
Accrued income	167,015	133,097
Total Market Value	$102,354,232	$110,478,130
Total Actuarial Value	$102,354,232	$110,478,130

P:\Actrl\Woburn\Val08\[Woburn08_Val.xls]Output

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, 2007	January 1, 2008
Actuarial Accrued Liability	$132,433,233	$141,758,527
Actuarial Assets	102,354,232	110,478,130
Unfunded Actuarial Accrued Liability	$30,079,001	$31,280,397
Funded Status	77.3%	77.9%

P:\Actrl\Woburn\Val08\[Woburn08_Val.xls]Output

Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the requirements set forth in Section 22D of Chapter 32 of the Massachusetts General Laws. These amounts were calculated to comply with the June 30, 2028, full funding mandate for all accrued liabilities. The pension appropriation is the sum of the:

- Employer normal cost,
- Increasing amortization of the prior unfunded actuarial accrued liability by June 30, 2024
  $ 28,663,328 over 16 years with 4.0% increasing payments
- Increasing amortization of the Early Retirement Incentive by June 30, 2009
  $ 0 over 1 years with -100.0% increasing payments
- Increasing amortization of the current (gains)/losses by June 30, 2024
  $ 1,698,905 over 16 years with 4.0% increasing payments
- Interest adjustment for payments contributed monthly over fiscal year.

The pension appropriation is shown in Table VII.

Table VII

	January 1, 2007	January 1, 2008
Normal cost	$1,358,171	$1,400,206
Amortization payment of the accrued liability	2,557,538	2,341,975
Amortization payment of 1992 ERI liability	44,484	0
Amortization payment of 2002 ERI liability	261,155	261,155
Amortization payment of 2003 ERI liability	74,155	74,155
Total cost	$4,295,502	$4,077,491
% of Pay	17.7%	16.7%
Fiscal 2009 cost	$4,369,054	$4,369,055
Fiscal 2010 cost	$4,500,046	$4,524,442

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 4.5% per year. The employee contribution rate is expected to increase to 10.5% by 2028 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 increase during the next 14 years until the unfunded liabilities are completely paid off, at which time only the normal cost will remain. The total cost represents 17.7% of payroll, decreasing to 13.7% by the time the unfunded liabilities are fully paid off, leaving only a normal cost of 3.6% thereafter. The decrease in the cost as a percentage of payroll is a result of the increase in member deductions.

P:\Actrl\Woburn\Val08\[Woburn08_Val.xls]Approp. Results

Appropriation Forecast

Fiscal Year Ending	Payroll*	Employee Contribution	Employer Normal Cost with Interest	Amortization Payments with Interest	Employer Total Cost with Interest	Employer Total Cost % of Payroll	Funded Ratio %**
2009	$24,431,654	$1,982,248	$1,507,012	$2,862,043	$4,369,055	17.9	77.9
2010	$25,531,078	$2,103,518	$1,540,312	$2,984,130	$4,524,442	17.7	79.2
2011	$26,679,977	$2,231,689	$1,573,557	$3,089,059	$4,662,616	17.5	80.5
2012	$27,880,576	$2,367,135	$1,606,676	$3,198,186	$4,804,862	17.2	81.7
2013	$29,135,202	$2,510,253	$1,639,588	$3,311,678	$4,951,266	17.0	83.0
2014	$30,446,286	$2,661,457	$1,672,210	$3,429,710	$5,101,920	16.8	84.3
2015	$31,816,369	$2,821,187	$1,704,447	$3,552,463	$5,256,910	16.5	85.6
2016	$33,248,105	$2,989,902	$1,736,199	$3,680,126	$5,416,325	16.3	86.9
2017	$34,744,270	$3,168,090	$1,767,357	$3,812,896	$5,580,253	16.1	88.2
2018	$36,307,762	$3,356,259	$1,797,804	$3,950,976	$5,748,780	15.8	89.6
2019	$37,941,612	$3,554,949	$1,827,412	$4,094,579	$5,921,991	15.6	91.1
2020	$39,648,984	$3,764,724	$1,856,044	$3,962,852	$5,818,896	14.7	92.5
2021	$41,433,188	$3,986,180	$1,883,553	$4,038,362	$5,921,915	14.3	94.0
2022	$43,297,682	$4,219,944	$1,909,779	$4,199,897	$6,109,676	14.1	95.4
2023	$45,246,078	$4,466,674	$1,934,551	$4,367,892	$6,302,443	13.9	96.9
2024	$47,282,151	$4,727,065	$1,957,685	$4,542,608	$6,500,293	13.7	98.4
2025	$49,409,848	$5,001,845	$1,978,984	$0	$1,978,984	4.0	100.0
2026	$51,633,291	$5,291,784	$1,998,236	$0	$1,998,236	3.9	100.0
2027	$53,956,789	$5,597,689	$2,015,212	$0	$2,015,212	3.7	100.0
2028	$56,384,845	$5,920,409	$2,029,670	$0	$2,029,670	3.6	100.0
2029	$58,922,163	$6,186,827	$2,121,006	$0	$2,121,006	3.6	100.0
2030	$61,573,660	$6,465,234	$2,216,451	$0	$2,216,451	3.6	100.0
2031	$64,344,475	$6,756,170	$2,316,191	$0	$2,316,191	3.6	100.0
2032	$67,239,976	$7,060,197	$2,420,420	$0	$2,420,420	3.6	100.0
2033	$70,265,775	$7,377,906	$2,529,339	$0	$2,529,339	3.6	100.0
2034	$73,427,735	$7,709,912	$2,643,159	$0	$2,643,159	3.6	100.0
2035	$76,731,983	$8,056,858	$2,762,101	$0	$2,762,101	3.6	100.0
2036	$80,184,922	$8,419,417	$2,886,396	$0	$2,886,396	3.6	100.0
2037	$83,793,244	$8,798,291	$3,016,283	$0	$3,016,283	3.6	100.0
2038	$87,563,940	$9,194,214	$3,152,016	$0	$3,152,016	3.6	100.0
2039	$91,504,317	$9,607,953	$3,293,857	$0	$3,293,857	3.6	100.0
2040	$95,622,011	$10,040,311	$3,442,080	$0	$3,442,080	3.6	100.0

* Calendar basis

** Beginning of Fiscal Year

P:\Actrl\Woburn\Val08\[Woburn08_Val.xls]Output

GASB Statements No. 25 and No. 27

Effective for periods beginning after June 15, 1997, the Governmental Accounting Standards Board (GASB) requires the disclosure of pension related liabilities for public employer financial statements in accordance with Statements 25 and 27. These statements, which replace GASB Statement No. 5, must be adhered to by any public employee retirement system that follows Generally Accepted Accounting Principles (GAAP).

These disclosures are intended to establish a reporting framework that distinguishes between:

- current financial information about plan assets and financial activities,
- actuarially determined information from a long-term perspective,
- the funded status of the plan, and
- progress being made in accumulating sufficient assets to pay benefits when due.

Footnote disclosures required by GASB Statement No. 25 and 27 include a description of the plan, a summary of significant accounting policies, and information about contributions, legally required reserves, and investment concentrations. As a result of the oversight of the Public Employees Retirement Administration Commission (PERAC) and the conversion of unpaid contributions to pension related debt, the Net Pension Obligation (NPO) as required by Statement No. 27 will effectively always be equal to $0. The required disclosure information is shown in Table VIII.

Table VIII

		January 1, 2007	January 1, 2008
(1)	Actuarial Accrued Liability	$132,433,233	$141,758,527
(2)	Actuarial Value of Assets	102,354,232	110,478,130
(3)	Unfunded Actuarial Accrued Liability	30,079,001	31,280,397
(4)	Funded Ratio (2)/(1)	77.3%	77.9%
(5)	Covered Payroll	$24,258,365	$24,431,654
(6)	UAAL as a percentage of payroll: (3)/(5)	124.0%	128.0%
(7)	Annual Required Contribution (ARC)	$4,259,001	$4,369,055
(8)	Net Pension Obligation	$0	$0

P:\Actrl\Woburn\Val08\[Woburn08_Val.xls]PERAC Ann'l Stmt

PERAC Annual Statement
APPENDIX PAGE 3
ACTUARIAL VALUATION AND ASSUMPTIONS

The most recent actuarial valuation of the System was prepared by Buck Consultants as of January 1, 2008.

The normal cost for employees on that date was:	$1,982,248	8.1% of pay
The normal cost for the employer was:	925,206	3.8% of pay

The actuarial liability for active members was:	$72,589,733
The actuarial liability for retired and inactive members was:	69,168,794
Total actuarial accrued liability:	141,758,527
System assets as of that date:	110,478,130
Unfunded actuarial accrued liability:	$31,280,397

The ratio of system's assets to total actuarial liability was 77.9%

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:	8.0%
Rate of Salary Increase:	4.75%

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a percent of Covered Payroll (b-a)/c
01/01/08	$110,478,130	$141,758,527	$31,280,397	77.9%	$24,431,654	128.0%
01/01/07	102,354,232	132,433,233	30,079,001	77.3%	24,258,365	124.0%
01/01/05	87,818,592	120,595,047	32,776,455	72.8%	22,623,505	144.9%
01/01/00	75,960,104	88,762,762	12,802,658	85.6%	17,183,350	74.5%
01/01/99	66,860,613	85,472,346	18,611,733	78.2%	16,269,482	114.4%
01/01/98	55,481,151	78,260,821	22,779,670	70.9%	15,426,806	147.7%

Attach Copy of Current Approved Funding Schedule

EXHIBITS

P:\Actrl\Woburn\Val08\Report\[ACT1.XLS]Actives

Age/Service Distribution with Salary as of January 1, 2008

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	4	1	0	0	0	0	0	0	0	5
	17,271	40,331	0	0	0	0	0	0	0	21,883
25-29	21	2	0	0	0	0	0	0	0	23
	33,011	41,367	0	0	0	0	0	0	0	33,737
30-34	14	12	2	0	0	0	0	0	0	28
	35,466	50,164	41,750	0	0	0	0	0	0	42,214
35-39	17	19	8	3	0	0	0	0	0	47
	34,994	52,335	52,136	52,834	0	0	0	0	0	46,061
40-44	23	19	13	8	4	0	0	0	0	67
	27,688	35,582	59,260	67,790	61,283	0	0	0	0	42,847
45-49	25	42	13	19	19	0	0	0	0	118
	23,594	28,434	44,576	62,007	72,253	0	0	0	0	41,648
50-54	25	37	10	10	16	6	14	0	0	118
	26,090	27,642	32,482	53,053	57,091	70,207	80,577	0	0	42,315
55-59	11	15	13	12	8	5	14	6	0	84
	25,756	33,199	38,502	47,491	51,067	61,186	80,214	57,801	0	48,047
60-64	7	8	5	3	6	2	10	3	4	48
	23,232	35,659	35,221	37,716	48,384	50,067	78,171	75,821	87,678	51,822
65-69	2	1	1	3	4	1	2	0	0	14
	23,271	16,861	40,780	56,622	51,808	48,997	60,866	0	0	46,572
70+	1	1	2	0	1	0	1	1	1	8
	13,063	13,659	20,353	0	42,712	0	50,180	42,286	43,001	30,701
Total Employees	150	157	67	58	58	14	41	10	5	560
Average Salary	28,255	34,562	43,782	56,248	60,003	62,593	78,163	61,656	78,743	43,628

P:\Actrl\Woburn\Val08\Report\[RET1.XLS]Retirees

Retiree Distribution as of January 1, 2008

	Number of Employees			Total Payments		
Attained Age	Male	Female	Total	Male	Female	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	1	1	0	27,325	27,325
45-49	1	3	4	23,602	15,079	38,681
50-54	4	3	7	74,053	44,636	118,689
55-59	19	5	24	842,446	83,726	926,172
60-64	19	17	36	773,975	205,314	979,289
65-69	18	20	38	444,899	292,273	737,172
70-74	30	43	73	665,143	535,936	1,201,079
75-79	32	38	70	758,665	487,751	1,246,416
80-84	22	38	60	358,508	347,162	705,670
85-89	12	30	42	162,012	209,553	371,565
90-94	3	4	7	21,464	21,387	42,850
95-99	0	2	2	0	6,704	6,704
Total	160	204	364	4,124,767	2,276,846	6,401,613
Average (Age/Payment)	72	75.5	74	25,780	11,161	17,587
Frequency Percent	44	56	100	64.4	35.6	100

P:\Actrl\Woburn\Val08\Report\[Dis1.XLS]Disabled

Disabled Retiree Distribution as of January 1, 2008

	Number of Employees			Total Payments		
Attained Age	Male	Female	Total	Male	Female	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	1	0	1	40,074	0	40,074
40-44	2	0	2	34,175	0	34,175
45-49	4	0	4	117,906	0	117,906
50-54	0	0	0	0	0	0
55-59	8	0	8	288,765	0	288,765
60-64	6	0	6	189,381	0	189,381
65-69	1	0	1	19,485	0	19,485
70-74	4	0	4	128,444	0	128,444
75-79	3	0	3	49,898	0	49,898
80-84	4	1	5	55,001	7,722	62,723
85-89	1	0	1	22436	0	22436
90-94	0	1	1	0	10,382	10,382
95-99	0	0	0	0	0	0
Total	34	2	36	945,565	18,105	963,670
Average (Age/Payment)	63.3	87.8	64.6	27,811	9,052	26,769
Frequency Percent	94.4	5.6	100	98.1	1.9	100

P:\Actrl\Woburn\Val08\[Woburn08_Val.xls]Cash Flow

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
2008	$7,351,106	$1,982,248	$4,369,055	$8,230,078	$7,230,275
2009	7,867,888	2,103,518	4,524,442	8,754,045	7,514,117
2010	8,455,049	2,231,689	4,662,616	9,318,675	7,757,932
2011	9,023,223	2,367,135	4,804,862	9,903,063	8,051,837
2012	9,649,079	2,510,253	4,951,266	10,508,191	8,320,632
2013	10,199,393	2,661,457	5,101,920	11,137,259	8,701,243
2014	10,777,771	2,821,187	5,256,910	11,795,130	9,095,456
2015	11,293,680	2,989,902	5,416,325	12,486,425	9,598,972
2016	11,844,588	3,168,090	5,580,253	13,216,045	10,119,800
2017	12,396,883	3,356,259	5,748,780	13,986,674	10,694,830
2018	12,974,931	3,554,949	5,921,991	14,801,672	11,303,682
2019	13,579,932	3,764,724	5,818,896	15,662,705	11,666,393
2020	14,213,143	3,986,180	5,921,915	16,551,677	12,246,629
2021	14,875,880	4,219,944	6,109,676	17,485,497	12,939,237
2022	15,569,520	4,466,674	6,302,443	18,472,802	13,672,400
2023	16,295,503	4,727,065	6,500,293	19,516,757	14,448,612
2024	17,055,337	5,001,845	1,978,984	20,607,639	10,533,131
2025	17,850,601	5,291,784	1,998,236	21,395,666	10,835,085
2026	18,682,948	5,597,689	2,015,212	22,205,564	11,135,517
2027	19,554,105	5,920,409	2,029,670	23,037,114	11,433,089
2028	20,465,883	6,186,827	2,121,006	23,884,343	11,726,294
2029	21,420,175	6,465,234	2,216,451	24,751,938	12,013,447
2030	22,418,965	6,756,170	2,316,191	25,639,271	12,292,667
2031	23,464,327	7,060,197	2,420,420	26,545,559	12,561,848
2032	24,558,433	7,377,906	2,529,339	27,469,844	12,818,655
2033	25,703,555	7,709,912	2,643,159	28,410,974	13,060,490
2034	26,902,073	8,056,858	2,762,101	29,367,581	13,284,468
2035	28,156,475	8,419,417	2,886,396	30,338,059	13,487,397
2036	29,469,368	8,798,291	3,016,283	31,320,540	13,665,746
2037	30,458,467	9,194,214	3,152,016	32,327,965	14,215,728

amounts in thousands

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2008, and does not take into account any subsequent changes.

1. Administration

Each of the 107 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.

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

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.)

6. Creditable Service

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

7. <u>Service Retirement</u>

a. <u>Eligibility</u>:

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

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:

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

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. Members with ten or more years of service are entitled to 100% of the credited interest on their contributions. Members with five to ten years of service are entitled to 50% of the credited interest on their contributions. No credited interest is provided for members with less than five years of service.

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 $648.48 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).

b. Benefit Amount:

The ordinary disability amount is equal to the accrued retirement benefit as if the member were age 55. 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, 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 $12,000. 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, 2008.

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 8.0% per annum.

5. Salary Scale

The assumed annual rates for salary increases including longevity are illustrated by the following rates:

Year	Rate
2008	3.50%
2009	3.50%
2010	4.00%
2011	4.00%
2012+	4.75%

6. Cost-of-Living Increases

Cost-of-living increases have been assumed to be 3.0% of the lesser of the pension amount and $12,000 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 equal to the market value.

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	0.1500	0.0150
10	0.0540	0.0150
20	0.0200	0.0000
30	0.0000	0.0000

9. Annual Rate of Mortality

It is assumed that both pre-retirement and post retirement mortality are represented by the RP-2000 Mortality Table for males and females. Mortality for disabled members is represented by the RP-2000 Mortality Table set forward two years for all disabled members.

10. Service Retirement

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages:

Age	Male General Employees	Female General Employees	Male and Female Police and Fire Employees
50	0.0100	0.0150	0.02000
51	0.0100	0.0150	0.02000
52	0.0100	0.0200	0.02000
53	0.0100	0.0250	0.05000
54	0.0200	0.0250	0.07500
55	0.0200	0.0550	0.15000
56	0.0250	0.0650	0.10000
57	0.0250	0.0650	0.10000
58	0.0500	0.0650	0.10000
59	0.0650	0.0650	0.15000
60	0.1200	0.0500	0.20000
61	0.2000	0.1300	0.20000
62	0.3000	0.1500	0.25000
63	0.2500	0.1250	0.25000
64	0.2200	0.1800	0.30000
65	0.4000	0.1500	1.00000
66	0.2500	0.2000	1.00000
67	0.2500	0.2000	1.00000
68	0.3000	0.2500	1.00000
69	0.3000	0.2000	1.00000
70	1.0000	1.0000	1.00000

11. 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	0.0001	0.0001
30	0.0003	0.0003
40	0.0010	0.0030
50	0.0019	0.0125

In addition, it is assumed for the general employees that 45% of all disabilities are ordinary (55% are service connected). For police and fire employees, 10% of all disabilities are assumed to be ordinary (90% are service connected).

12. 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.

13. 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 2008 is $475,000 and is anticipated to increase at 4.5% 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 Woburn Retirement System contributing as of January 1, 2008, 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.

Buck Consultants, LLC

Daniel W. Sherman

____

Daniel W. Sherman, ASA, MAAA
Enrolled Actuary No. 08-4086

February 2009