CITY OF MERIDEN
POLICE AND FIREMEN'S
PENSION FUNDS

Actuarial Valuation and Review
as of July 1, 1996

Submitted By:
The Segal Company
May, 1997

THE SEGAL COMPANY

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May 29, 1997

Mr. John F. Miniter
Chairman, Pension Board
City of Meriden
Meriden, CT 06450

Dear Mr. Miniter:

We are pleased to present this report on the results of the Actuarial Valuation and Review of the City of Meriden Police and Firemen's Pension Funds as of July 1, 1996. Our previous actuarial study was performed as of July 1, 1994.

This report analyzes the experience of the Retirement System during the two years ended June 30, 1996. Based on that experience, we have projected the City's contribution requirement for the 1997-98 and 1998-99 fiscal years.

Appendix A defines certain pension terms which you may find useful for reference as you review this report. Appendix B outlines the actuarial assumptions and funding method.

Certificates of Actuarial Valuation which include summaries of the actuarial cost factors, the accounting disclosure amounts required by Governmental Accounting Standards Board Statement No. 5, the actuarial assumptions underlying our cost calculations, and summaries of the major benefit provisions are included as Appendixes C and D.

The actuarial calculations were made in accordance with generally accepted actuarial methods under the supervision of Kathleen A. Riley, F.S.A., MA.A.A., Enrolled Actuary.

We look forward to meeting with you to review this report and any related matters.

Sincerely,

THE SEGAL COMPANY

John B. Murphy

John B. Murphy, CLU
Vice President

23415/sa

CITY OF MERIDEN POLICE AND FIREMEN'S PENSION FUNDS

The City of Meriden's percent of payroll pension cost determined with this actuarial valuation, based on the present 40-year level dollar funding schedule with 23½ years remaining from July 1, 1996, is 74.0% of payroll for Police and 79.1% of payroll for Firemen, payable monthly. The combined City cost is 75.1% of payroll. The comparable figures determined as of July 1, 1994 were 76.8% for Police, 77.6% for Firemen, and 77.2% combined.

Although the Funds' investment and salary experience were better than expected, contributions to the Funds during the last two fiscal years were less than the required contribution, resulting in only a slight decrease in the percent of payroll cost for the combined Funds.

Since the City is in the process of formulating a budget for the fiscal year ending June 30, 1998, and because we do valuations every other year, we have projected the results of this valuation for the next two fiscal years. For fiscal 1997-98, the combined total City cost is $7,050,500. For fiscal 1998-99, the combined total City cost is $7,146,900. These amounts include an adjustment to reflect monthly payments.

Background

The last actuarial study was performed as of July 1, 1994. Since that date, there have been no changes in the plan of benefits. The major provisions of the plans are outlined in Exhibit IV of the attached Certificates of Actuarial Valuation.

Actuarial Assumptions

The actuarial assumptions are detailed in Exhibit III of the attached Certificates of Actuarial Valuation. Effective with this valuation, the actuarial value of assets on July 1, 1996 reflects a one-time adjustment to 90% of the market value of assets. For both plans combined,

this resulted in an additional $4.2 million in assets and reduced the scheduled contribution by 4.3% of payroll. Additionally, the operating expense assumption was increased from $7,500 to $10,000 per plan, the salary scale assumption was decreased from 6.5% per year to 5.5% per year, and the active liabilities were increased by 20% to reflect holiday and longevity pay and insurance which are included in retirement benefits.

Employee and Pensioner Data

Pertinent statistics for the active employees as of July 1, 1996 and 1994 are shown below. The data was supplied by the City and included each employee's name, department, sex, date of birth, date of hire, annual salary and accumulated contributions. We did not receive information on any military service for which employees have received additional service credit; therefore, no additional cost has been included for such military service credit. Also shown is a comparison of the participants due a refund of employee contributions, pensioners, and beneficiaries as of July 1, 1996 and July 1, 1994.

	July 1, 1996		July 1, 1994	
	Police	**Firemen**	**Police**	**Firemen**
Active employees:				
Number	109	99	103	103
Average age	38½	43½	38	42
Average service	13	17½	12½	16½
Total salaries	$4,862,700	$4,251,800	$4,378,500	$4,080,000
Average annual salary	44,600	42,900	42,500	39,600
Number eligible to retire on a service pension	12	27	8	23
Terminated employees due a refund of employee contributions	1	--	--	--

	July 1, 1996		July 1, 1994	
	Police	Firemen	Police	Firemen
Pensioners on the rolls:				
Number	74	69	74	64
Average age	63	65½	63	65
Average monthly benefit	$ 2,374	$ 2,292	$ 2,152	$ 2,126
Survivors:				
Number	28	23	31	24
Average monthly benefit	$ 1,187	$ 1,123	$ 1,068	$ 1,028

Charts 1 through 6 provide more detailed statistical data on the employees, pensioners and survivors.

Financial Experience

The financial information was provided by the City's Comprehensive Annual Financial Reports for the years ended June 30, 1995 and June 30, 1996, and the statements of accounts for the combined Police and Firemen's Retirement Funds. The combined assets as of June 30, 1996 totalled $55,071,900 at market value and $47,592,500 at book value.

Assets are not based on cost value for the actuarial valuation. Instead, the following actuarial valuation basis that gradually adjusts to market value is used:

> Each year, a preliminary actuarial value is determined by adjusting the actuarial value of assets at the beginning of the year for contributions, benefits, refunds and assumed investment earnings (at the actuarial rate of return which is currently 8%). In addition, there is an adjustment toward market value equal to 20% of the difference between the market value and the preliminary asset value. The

actuarial value is then further adjusted, if necessary, to be within 20% of the market value.

Under this asset valuation procedure, the full value of market fluctuations is not immediately recognized and, as a result, the asset value and actuarial cost are more stable.

As previously mentioned, effective with this valuation we have applied a one-time adjustment to set the actuarial value of assets equal to 90% of market value.

Chart 7 is a summary of the change in the actuarial value of assets from June 30, 1994 to June 30, 1996. The combined actuarial value of assets for the two Funds is $49,564,731 as of June 30, 1996, an increase of $15,416,738 over the June 30, 1994 value of $34,147,993.

Results of Actuarial Valuation

The results of the July 1, 1996 valuation and projected fiscal 1997-98 and 1998-99 required contributions are shown below.

	Cost item	Police	Firemen	Total
1.	Total normal cost including operating expenses	$ 1,267,100	$ 1,100,400	$ 2,367,500
2.	Projected employee contributions	227,300	176,100	403,300
3.	City's normal cost: (1) - (2)	1,039,800	924,300	1,964,100
4.	Actuarial accrued liability:			
	Active employees	20,188,800	24,521,800	44,710,500
	Terminated employees due refunds	16,300	0	16,300
	Pensioners and beneficiaries	30,906,500	27,041,000	57,947,500
	Total	51,111,500	51,562,800	102,674,300
5.	Actuarial value of assets as of July 1, 1996*	23,942,200	25,622,500	49,564,700
6.	Unfunded actuarial accrued liability: (4) - (5)	27,169,300	25,940,200	53,109,600
7.	Payment on unfunded actuarial accrued liability**	2,407,000	2,298,100	4,705,200
8.	City contribution payable July 1, 1996: (3) + (7)	3,446,900	3,222,400	6,669,300
9.	City contribution payable monthly: (8) x 1.043333	3,596,200	3,362,100	6,958,300
10.	Projected payroll for fiscal 1996-97	4,862,700	4,251,800	9,114,500
11.	City contribution payable monthly as a percent of payroll: (9)/(10)	74.0%	79.1%	76.3%
12.	Projected City normal cost including operating expenses as of July 1, 1997	$1,086,600	$ 965,900	$2,052,500

* *The allocation of assets between the Police Fund and the Firemen's Fund is estimated by the actuary.*

** *40-year amortization schedule with 23½ years remaining from July 1, 1996.*

	Cost item	Police	Firemen	Total
13.	City contribution payable monthly for fiscal 1997-98: [(7) + (12)] x 1.043333	$ 3,645,000	$ 3,405,500	$ 7,050,500
14.	Projected payroll for fiscal 1997-98	5,081,600	4,443,100	9,524,700
15.	City contribution payable monthly for fiscal 1997-98 as a percent of payroll: (13)/(14)	71.7%	76.7%	74.0%
16.	Projected City normal cost including operating expenses as of July 1, 1998	$1,135,500	$1,009,400	$2,144,900
17.	City contribution payable monthly for fiscal 1998-99: [(7) + (16)] x 1.043333	3,696,100	3,450,800	7,146,900
18.	Projected payroll for fiscal 1998-99	5,310,200	4,643,100	9,953,300
19.	City contribution payable monthly for fiscal 1998-99 as a percent of payroll: (17)/(18)	69.6%	74.3%	71.8%

Note: *Detail figures may not add to totals shown because of rounding.*

The normal costs shown are calculated as a level percent of payroll, not as a level dollar amount. The payment on the unfunded actuarial accrued liability is calculated to remain level as a dollar amount.

For the fiscal 1997-98 contribution and the fiscal 1998-99 contribution, we have increased the employer normal cost and operating expenses with the inflation component of the salary scale assumption and added the level dollar amortization payment on the unfunded actuarial accrued liability.

During the next two plan years (the next formal valuation is scheduled for July 1, 1998), the City contributions will be based on the results of this actuarial study. This assumes, of course, that there are no changes in the plans of benefits over this period.

G.A.S.B. Disclosure Information

Currently, the Plans are subject to the disclosure requirements of Statement No. 5 of the Governmental Accounting Standards Board (G.A.S.B.).

The Statement requires the calculation of a standardized measure called the "pension benefit obligation" using the pro-rata projected unit credit funding method. The pension benefit obligation is the actuarial present value of credited projected benefits pro rated on service.

The pension benefit obligations as of July 1, 1996 are $49,367,500 for Police and $50,357,100 for Firemen. Exhibit II of the attached Certificates of Actuarial Valuation provide additional details regarding these disclosure amounts.

As you are aware, beginning with the City's July 1, 1996 fiscal year, new G.A.S.B. disclosure rules will become applicable. Statement No. 25, "Financial Reporting for Defined Benefit Plans and Note Disclosures for Defined Contribution Plans," which is effective for the Town's fiscal year beginning July 1, 1996, supersedes GASB Statement No. 5. Statement No. 27, "Accounting for Pensions by State and Local Governmental Employers", which is effective for the fiscal year beginning July 1, 1997, establishes a standard measurement of pension expense. Finally, Statement No. 26, "Financial Reporting for Postemployment Healthcare Plans Administered by Defined Benefit Pension Plans," provides disclosure requirements for retiree health benefits.

These statements are intended to make the information in governmental pension plans' financial reports easier for boards of trustees, sponsoring employers, plan participants, public officials, voters, creditors and investors to understand and use.

It has been a pleasure to play a part in the growth and development of these pension funds and we look forward to a continuing relationship in the coming years.

Chart 1

Number and Average Salaries of Employees in Active Service as of July 1, 1996 by Age and Years of Service

POLICE

Age	Total	Years of service							
		0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 –34	35 – 39
Total	109 $44,600	17 $38,600	22 $43,800	28 $43,900	19 $46,500	11 $47,900	8 $48,400	1 $43,800	3 $57,200
20 – 24	3 $36,200	3 $36,200	– – – –	– – – –	– – – –	– – – –	– – – –	– – – –	– – – –
25 – 29	9 40,000	6 38,100	2 $43,800	1 $43,800	– – – –	– – – –	– – – –	– – – –	– – – –
30 – 34	31 43,100	6 39,900	15 43,800	10 43,300	– – – –	– – – –	– – – –	– – – –	– – – –
35 – 39	21 44,100	2 39,900	4 43,800	10 44,000	5 $46,000	– – – –	– – – –	– – – –	– – – –
40 – 44	22 46,000	– – – –	1 43,800	6 43,800	10 47,100	4 $47,700	1 $43,800	– – – –	– – – –
45 – 49	13 47,300	– – – –	– – – –	1 43,800	4 45,500	6 48,700	2 48,100	– – – –	– – – –
50 – 54	6 48,500	– – – –	– – – –	– – – –	– – – –	1 43,800	5 49,400	– – – –	– – – –
55 – 59	1 43,800	– – – –	– – – –	– – – –	– – – –	– – – –	– – – –	1 $43,800	– – – –
60 – 64	2 62,700	– – – –	– – – –	– – – –	– – – –	– – – –	– – – –	– – – –	2 $62,700
70 – 74	1 46,000	– – – –	– – – –	– – – –	– – – –	– – – –	– – – –	– – – –	1 46,000

Chart 3

Pensions in Force on July 1, 1996
by Type and by Monthly Amount

Monthly amount	Total	Type of pension			
		Police		Firemen	
		Service	Disability	Service	Disability
Total	143	29	45	29	40
$ 900 – 999	1	--	--	--	1
1,000 – 1,099	1	--	--	1	--
1,700 – 1,799	1	--	--	--	1
1,900 – 1,999	7	--	--	--	7
2,000 – 2,099	5	2	2	--	1
2,100 – 2,299	77	9	33	17	18
2,300 – 2,499	24	6	8	2	8
2,500 – 2,699	7	5	--	--	2
2,700 – 2,899	11	3	1	6	1
2,900 – 3,099	2	2	--	--	--
3,100 – 3,299	4	2	1	1	--
3,300 – 3,499	3	--	--	2	1

Chart 4

Pensions in Force on July 1, 1996
by Type and by Age

Age on July 1, 1996	Total	Type of pension			
		Police		Firemen	
		Service	Disability	Service	Disability
Total	143	29	45	29	40
30 – 34	2	--	2	--	--
35 – 39	1	--	1	--	--
40 – 44	4	--	3	--	1
45 – 49	11	1	6	--	4
50 – 54	17	2	6	4	5
55 – 59	16	5	4	2	5
60 – 64	18	2	5	4	7
65 – 69	30	10	9	6	5
70 – 74	25	2	5	9	9
75 – 79	4	1	--	1	2
80 – 84	9	5	2	2	--
85 – 89	6	1	2	1	2

Chart 5

Beneficiaries in Force on July 1, 1996
by Monthly Amount

Monthly amount	Total	Police	Firemen
Total	51	28	23
$ 900 – 999	8	--	8
1,000 – 1,099	14	8	6
1,100 – 1,199	11	10	1
1,200 – 1,299	10	4	6
1,300 – 1,399	5	4	1
1,400 – 1,499	1	--	1
1,600 – 1,699	2	2	--

Chart 6

Beneficiaries in Force on July 1, 1996 by Age

Age on July 1, 1996	Total	Police	Firemen
Total	51	28	23
Under 50	4	1	3
50 – 54	2	1	1
55 – 59	2	1	1
65 – 69	3	3	--
70 – 74	8	5	3
75 – 79	10	5	5
80 – 84	6	2	4
85 – 89	12	8	4
90 – 94	4	2	2

Chart 7

Summary of Changes in the Actuarial Value of Assets During the Two Year Period Ended June 30, 1996

	Police	Firemen	Total
Actuarial value June 30, 1994	**$16,447,252**	**$17,700,741**	**$34,147,993**
Contribution income for fiscal year ended June 30, 1995:			
City contributions	2,583,600	2,140,800	4,724,400
Employee contributions	240,168	217,931	458,099
Total contribution income	2,823,768	2,358,731	5,182,499
Investment income for fiscal year ended June 30, 1995:			
Assumed net investment income	1,331,011	1,428,716	2,759,727
Adjustment toward market value	784,024	847,407	1,631,431
Net income on actuarial basis	2,115,035	2,276,123	4,391,158
Retirement payments and pension refunds for fiscal year ended June 30, 1995	(2,442,989)	(2,042,324)	(4,485,313)
Addition to reserve for benefits to future pensioners	2,495,814	2,592,530	5,088,344
Actuarial value June 30, 1995	**$18,943,066**	**$20,293,271**	**$39,236,337**
Contribution income for fiscal year ended June 30, 1996:			
City contributions	2,583,600	2,140,800	4,724,400
Employee contributions	247,916	222,041	469,957
Total contribution income	2,831,516	2,362,841	5,194,357
Investment income for fiscal year ended June 30, 1996:			
Assumed net investment income	1,527,210	1,631,865	3,159,075
Adjustment toward market value	1,167,610	1,266,852	2,434,462
Net income on actuarial basis	2,694,820	2,898,717	5,593,537
Retirement payments and pension refunds for fiscal year ended June 30, 1996	(2,537,403)	(2,152,756)	(4,690,159)
Addition to reserve for benefits to future pensioners	2,988,933	3,108,802	6,097,735
Preliminary actuarial value June 30, 1996	$21,931,999	$23,402,073	$45,334,072
One–time adjustment to 90% of market value	2,010,198	2,220,461	4,230,659
Actuarial value June 30, 1996	**$23,942,197**	**$25,622,534**	**$49,564,731**

DEFINITION OF PENSION TERMS

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

Assumptions or actuarial assumptions. The estimates on which the cost of the Plan is calculated including:

a. **Investment return** — The rate of investment yield which the Plan will earn over the long-term future;

b. **Mortality rates** — the death rates of employees and pensioners; life expectancy is based on these rates;

c. **Retirement age** — the age or ages at which employees are assumed to retire;

d. **Turnover rates** — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal cost. The amount of contributions, expressed as a level percent of salary, from the time an employee starts to work up to the time he or she will retire, so as to accumulate the funds needed to provide his or her lifetime pension.

Actuarial accrued liability. The value at a given time of the benefits based on years of service prior to that time. However, under the calculation method used, it is not exactly the value of the benefits attributable to the past years. More precisely, it is the fund which would theoretically now be on hand if the Plan had existed all along, had been meeting its normal costs, and actual experience matched the actuarial assumptions.

Unfunded actuarial accrued liability. The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan. There are several methods of paying off the unfunded

actuarial accrued liability, ranging from meeting the interest accrual only to amortizing it over a specific period of time.

Actuarial accrued liability for pensioners. The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and of the interest which the sum is expected to earn before it is entirely paid out in benefits.

Amortization of the unfunded actuarial accrued liability. Payments made over a period of years to match the Plan's unfunded actuarial accrued liability.

Investment return. The rate of earnings of the Plan from its investments, including interest, dividends and capital gains and losses, 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.

Entry age normal actuarial cost method. Under this cost method, the normal cost for an employee is the estimated level percent of salary cost to provide the employee's projected benefits. The calculation of this normal cost assumes it will be paid from the date the employee enters the Plan to his date of retirement or terminate of service, and that the Plan has always been in effect. Since the Plan has not always been in effect and benefits have been increased from time to time, normal costs prior to the effective date of the Plan or prior to any increase have not been fully accumulated, an additional liability exists which is referred to as the unfunded actuarial accrued liability. The unfunded actuarial accrued liability is also affected by actuarial gains and losses and changes in actuarial assumptions.

with no benefit rights become available for the payment of pensions to other covered employees who remain in active employment until they acquire eligibility for pension benefits. Experience has shown there are few terminations among police and fire employees prior to retirement; therefore, we have assumed no voluntary terminations (withdrawals) prior to retirement. We have assumed that terminations each year from all causes except retirement would be as follows:

	Rate (%)			
Age	**Death**	**Disability**	**Withdrawal**	**Total**
20	.04	.06	--	.10
25	.05	.09	--	.14
30	.07	.11	--	.18
35	.10	.15	--	.24
40	.14	.22	--	.36
45	.24	.36	--	.60
50	.43	.61	--	1.04
55	.68	1.01	--	1.69
60	1.02	1.63	--	2.64

Notes: *Mortality rates shown are for men; rates for women are slightly lower.*

25% of deaths prior to retirement and 100% of disabilities with less than 10 years of service are assumed service connected.

Detail figures may not add to totals shown because of rounding.

DISABILITY RATES

As can be noted from the preceding table, we have included disability rates in our calculations. Such rates are intended to reflect the probable termination of employment because of disability. The rates estimate the number of employees who will become disabled and will receive a disability benefit. The mortality rates of disabled participants younger than age 65 are based on the age 65 mortality under the 1983 Group Annuity Mortality Table without margins.

SALARY SCALE

Since pension benefits are related to an employee's final earnings prior to retirement, and since death and disability benefits are related to these earnings, it is necessary to make an assumption with respect to increases in salary during the years of employment preceding retirement. To assume that each employee's salary for benefit purposes will be the same as it is today would seriously understate the Plan's cost. Effective with this valuation we have changed the salary scale from 6.5% to 5.5%.

For projecting salaries, a salary scale is used to estimate the probable salary progression of employees in the future. The following table shows, at various ages, an employee's current salary as a percent of his projected salary at age 65 based on the 5.5% salary increase assumption applied in this valuation:

Age	Present salary as a percent of salary at 65	Annual increase Rate (%)
20	8.99	5.50
25	11.75	5.50
30	15.35	5.50
35	20.06	5.50
40	26.22	5.50
45	34.27	5.50
50	44.79	5.50
55	58.54	5.50
60	76.51	5.50

Includes allowance for inflation of 4.5%.

Note that the possible additional pension cost resulting from salary increases in excess of the assumed salary progression may be offset to a certain extent by future investment earnings on the Plan's assets which exceed the assumed interest rate of 8%.

Interest Earnings

Funding a retirement program on an actuarial reserve basis necessarily involves the accumulation of assets in order to guarantee the fulfillment of benefits promised under the plan. These assets are invested, whether the plan is self-funded or whether it is underwritten by an insurance carrier, and the rate of long-term investment earnings is an important factor in determining contributions required to meet the ultimate cost of the plan. In general, if a retirement system is well funded (its assets represent 75% or more of its actuarial accrued liability), then an investment yield of, say, 8% -- as compared to a 7% yield -- will reduce costs by approximately 15%.

We have assumed that the Plan will earn 8% net on its assets over the long run. It should be recognized that an interest assumption has to be meaningful and realistic over a 20 to 30-year time horizon consistent with the long term obligation of the Pension Plan. If the Plan earns more than the 8% assumed in the next few years, this provides a buffer against the time when interest earnings may be less than they are today. Excess earnings could also act as a cushion to offset cost increases resulting from increases in salaries, changes in the composition of the group over the long term, mortality experience that is less favorable than anticipated, and possible actuarial losses from other sources.

Retirement Age

For an actuarial valuation, it is necessary to make an assumption concerning the average age at which employees will, in fact, retire from service. While employees are expected to retire at various ages, it appears reasonable from our review of the ages of present active employees and the ages at which employees have retired in recent years to assume that employees will retire at age 50, or upon the completion of 28 years of service if later, but not after age 65.

In any actuarial study, the age at which employees are expected to retire is important for two reasons: (a) it marks the end of the period of years over which contributions will be received on behalf of an employee, and (b) it initiates the beginning of the period of years for

Expected Number of Years of Life Remaining at Specified Ages

1983 Group Annuity Mortality Table Without Margins

Age	Male	Female
55	23.9	29.3
56	23.0	28.4
57	22.2	27.5
58	21.4	26.6
59	20.6	25.7
60	19.8	24.8
61	19.0	23.9
62	18.2	23.0
63	17.4	22.2
64	16.6	21.3
65	15.9	20.5
66	15.1	19.6
67	14.4	18.8
68	13.7	18.0
69	13.1	17.1
70	12.4	16.3
71	11.8	15.6
72	11.2	14.8
73	10.6	14.1
74	10.0	13.4
75	9.5	12.7

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APPENDIX C

May, 1997

CITY OF MERIDEN POLICE PENSION FUND

CERTIFICATE OF ACTUARIAL VALUATION

This is to certify that we have prepared an actuarial valuation of the plan as of July 1, 1996, in accordance with generally accepted actuarial principles and practices.

This certificate contains the following attached exhibits:

EXHIBIT I - Actuarial Costs for Year Beginning July 1, 1996

EXHIBIT II - Pension Benefit Obligation

EXHIBIT III - Actuarial Assumptions and Cost Method

EXHIBIT IV - Summary of Plan Provisions

To the best of my knowledge, the information supplied in this actuarial valuation is complete and accurate and, in my opinion, the assumptions used in the aggregate (a) are reasonably related to the experience of the plan and to reasonable expectations and (b) represent my best estimate of anticipated experience under the Plan.

Kathleen A. Riley, F.S.A., M.A.A.A.
Senior Vice President and Actuary

23415/sa

EXHIBIT I

ACTUARIAL COSTS FOR YEAR BEGINNING JULY 1, 1996

The valuation was made with respect to the following data supplied by the City as of the valuation date:

a. 109 active employees (including 12 currently eligible for a service pension) with total annual salaries of $4,862,700

b. 102 pensioners (including 28 beneficiaries)

The cost factors as of the valuation date are as follows:

1.	Total normal cost including operating expenses		$1,267,100
2.	Projected employee contributions		227,300
3.	City normal cost: (1) - (2)		1,039,800
4.	Actuarial accrued liability - total		51,111,500
	a. Active employees	$20,188,800	
	b. Terminated employee eligible for a refund of contribution	16,300	
	c. Pensioners (including beneficiaries)	30,906,500	
5.	Actuarial value of assets as of July 1, 1996		23,942,200
6.	Unfunded actuarial accrued liability: (4) - (5)		27,169,300
7.	Payment required to amortize unfunded actuarial accrued liability over 23½ years		2,407,000
8.	City contribution payable July 1, 1996: (3) + (7)		3,446,900

9.	City contribution payable monthly: (8) x 1.043333	$3,596,200
10.	Fiscal 1996-97 projected payroll	4,862,700
11.	City contribution as a percent of projected payroll: (9) ÷ (10)	74.0%

Projected fiscal 1997-98 cost:

12.	Projected City normal cost including operating expenses as of July 1, 1997	$1,086,600
13.	City contribution payable monthly for fiscal 1997-98: [(7) + (12)] x 1.043333	3,645,000
14.	Fiscal 1997-98 projected payroll	5,081,600
15.	City contribution as a percent of projected payroll: (13) ÷ (14)	71.7%

Projected fiscal 1998-99 cost:

16.	Projected City normal cost including operating expenses as of July 1, 1998	1,135,500
17.	City contribution payable monthly for fiscal 1998-99: [(7) + (16)] x 1.043333	3,696,100
18.	Fiscal 1998-99 projected payroll	5,310,200
19.	City contribution as a percent of projected payroll: (17) ÷ (18)	69.6%

Note: Detail figures may not add to totals shown because of rounding.

EXHIBIT II

PENSION BENEFIT OBLIGATION

The value of the pension benefit obligation required for disclosure by Statement No. 5 of the Governmental Accounting Standards Board is shown below as of July 1, 1996 and as of July 1, 1995.

		Benefit Information Date	
		July 1, 1996	**July 1, 1995***
1.	Participants currently receiving benefits and terminated vested participants not yet receiving benefits	$30,922,800	$29,626,300
2.	Current employees		
	Accumulated employee contributions	1,986,300	1,737,400
	Employer-financed vested	3,129,400	1,774,000
	Employer-financed nonvested	13,329,000	11,693,900
3.	Total pension benefit obligation	$49,367,500	$44,831,600
4.	Net assets for benefits at book value (market values are $26,602,400 and $22,079,200, respectively)	22,987,800	18,336,000
5.	Unfunded pension benefit obligation	26,379,700	26,495,600

**The figures shown for July 1, 1995 were actuarially projected from those reported in the July 1, 1994 actuarial valuation.*

The factors affecting the change in the pension benefit obligation from July 1, 1995 to July 1, 1996 are as follows:

Factors	Amount of pension benefit obligation
Benefits accumulated, net experience gains or losses, changes in data	$ 3,486,800
Benefits paid	(2,537,400)
Interest	3,586,500
Total	$ 4,535,900

EXHIBIT III

ACTUARIAL ASSUMPTIONS AND COST METHOD

Mortality rates: 1983 Group Annuity Mortality Table without margins

Disability mortality before age 65: Age 65 mortality under stipulated table

Termination rates before retirement:

	Rate (%)			
Age	**Death**	**Disability**	**Withdrawal**	**Total**
20	.04	.06	0.00	.10
25	.05	.09	0.00	.14
30	.07	.11	0.00	.18
35	.10	.15	0.00	.24
40	.14	.22	0.00	.36
45	.24	.36	0.00	.60
50	.43	.61	0.00	1.04
55	.68	1.01	0.00	1.69
60	1.02	1.63	0.00	2.64

Notes: *Detail figures may not add to totals shown because of rounding.*

25% of the deaths prior to retirement and 100% of the disabilities with less than 10 years of service are assumed service connected.

Salary scale:

Age	Present salary as a percent of salary at 65	Annual increase Rate (%)
20	8.99	5.50
25	11.75	5.50
30	15.35	5.50
35	20.06	5.50
40	26.22	5.50
45	34.27	5.50
50	44.79	5.50
55	58.54	5.50
60	76.51	5.50

Notes: *Includes an allowance for inflation of 4.50%*

Previously, the salary scale assumption was 6.50%

Percent married:	75%
Age of spouse:	Males are assumed to be three years older than their spouses
Retirement age:	50, or completion of 28 years of service if later, but not after age 65
Pay adjustment:	Active liabilities are increased 20% to reflect holiday and longevity pay and insurance which are included in the determination of retirement benefits
Cost-of-living increases after retirement:	4½% per year
Net investment return:	8%
Operating expenses:	$10,000 (previously $7,500)
Actuarial value of assets:	Sum of actuarial value at beginning of year, contributions, and expected investment earnings based on the actuarial interest assumption less benefit payments plus 20% of market value at end of year in excess of that sum, plus additional adjustment toward market value as necessary so that final actuarial value is within 20% of market value. Similar formula used for negative adjustment toward market value if actuarial value exceeds market value. Effective for the July 1, 1996 valuation, a one-time adjustment to 90% of market value was made.
Funding method:	Entry age normal cost

EXHIBIT IV

SUMMARY OF PLAN PROVISIONS

SERVICE PENSION

Age requirement:	None
Service requirement:	25 years
Amount:	50% of the prevailing pay for the rank held at retirement, including holiday and longevity pay and insurance. Mandatory retirement at age 65.

DISABILITY

Service connected

Age requirement:	None
Service requirement:	None
Amount:	An annuity of 50% of prevailing pay for the rank held at termination, including holiday and longevity pay and insurance.

Non-service connected

Age requirement:	None
Service requirement:	10 years if hired after July 1, 1971; otherwise none
Amount:	An annuity of 50% of prevailing pay for the rank held at termination, including holiday and longevity pay and insurance.

TERMINATION OF EMPLOYMENT (IN LIEU OF OTHER BENEFITS)

Refund of contributions

PRE-RETIREMENT DEATH BENEFIT

Lump sum benefit

Age requirement:	None
Service requirement:	None
Amount:	Refund of employee contributions

Pre-Retirement Death Benefits (Cont.)

Service connected spouse's benefit

Age requirement:	None
Service requirement:	None
Amount:	An annuity of 50% of prevailing pay including holiday and longevity pay and insurance for the rank held at death payable to spouse until employee would have accumulated 25 years of service. At that time benefit is reduced to 50% of pension employee would have been entitled to had he retired the day before his death. Benefit payable until spouse's death or remarriage.

Non-service connected spouse's benefit

Requirement:	Eligible for service retirement
Amount:	An annuity of 50% of the pension the employee would have received if he had retired the day before his death, payable until death or remarriage.

Post-retirement Death Benefit

Lump sum benefit

100% of employee contributions, less benefits paid.

Spouse's benefit

An annuity of 50% of the pension the retired employee was receiving at the time of death payable until death or remarriage.

Escalator Clause

Each year the benefits for pensioners are adjusted to 1/2 the prevailing rate of pay including holiday and longevity pay and insurance for the respective rank attained by the retired member and the benefits for widows are adjusted to 1/4 of the prevailing rate of pay including holiday and longevity and insurance for the rank attained by their husbands at the time of retirement or death.

Employee Contribution Rate

5% of salary

TSC_BOS:23415.1

THE SEGAL COMPANY

116 Huntington Avenue
Boston, Massachusetts
02116-5712
617-424-7300
FAX: 617-424-7390

APPENDIX D

May, 1997

CITY OF MERIDEN FIREMEN'S PENSION FUND

CERTIFICATE OF ACTUARIAL VALUATION

This is to certify that we have prepared an actuarial valuation of the plan as of July 1, 1996, in accordance with generally accepted actuarial principles and practices.

This certificate contains the following attached exhibits:

EXHIBIT I - Actuarial Costs for Year Beginning July 1, 1996

EXHIBIT II - Pension Benefit Obligation

EXHIBIT III - Actuarial Assumptions and Cost Method

EXHIBIT IV - Summary of Plan Provisions

To the best of my knowledge, the information supplied in this actuarial valuation is complete and accurate and, in my opinion, the assumptions used in the aggregate (a) are reasonably related to the experience of the plan and to reasonable expectations and (b) represent my best estimate of anticipated experience under the Plan.

Kathleen A. Riley, F.S.A., M.A.A.A.
Senior Vice President and Actuary

23415/sa

EXHIBIT I

ACTUARIAL COSTS FOR YEAR BEGINNING JULY 1, 1996

The valuation was made with respect to the following data supplied by the City as of the valuation date:

a. 99 active employees (including 27 currently eligible for a service pension) with total annual salaries of $4,251,800

b. 92 pensioners (including 23 beneficiaries)

The cost factors as of the valuation date are as follows:

1.	Total normal cost including operating expenses		$1,100,400
2.	Projected employee contributions		176,100
3.	City normal cost: (1) - (2)		924,300
4.	Actuarial accrued liability - total		$51,562,800
	a. Active employees	$24,521,800	
	b. Pensioners (including beneficiaries)	27,041,000	
5.	Actuarial value of assets as of July 1, 1996		25,622,500
6.	Unfunded actuarial accrued liability: (4) - (5)		25,940,200
7.	Payment required to amortize unfunded actuarial accrued liability over 23½ years		2,298,100
8.	City contribution payable July 1, 1996: (3) + (7)		3,222,400

9.	City contribution payable monthly: (8) x 1.043333	$3,362,100
10.	Fiscal 1996-97 projected payroll	4,251,800
11.	City contribution as a percent of projected payroll: (9) ÷ (10)	79.1%

Projected fiscal 1997-98 cost:

12.	Projected City normal cost including operating expenses as of July 1, 1997	$ 965,900
13.	City contribution payable monthly for fiscal 1997-98: [(7) + (12)] x 1.043333	3,405,500
14.	Fiscal 1997-98 projected payroll	4,443,100
15.	City contribution as a percent of projected payroll: (13) ÷ (14)	76.7%

Projected fiscal 1998-99 cost:

16.	Projected City normal cost including operating expenses as of July 1, 1998	$1,009,400
17.	City contribution payable monthly for fiscal 1998-99: [(7) + (16)] x 1.043333	3,450,800
18.	Fiscal 1998-99 projected payroll	4,643,100
19.	City contribution as a percent of projected payroll: (17) ÷ (18)	74.3%

Note: Detail figures may not add to totals shown because of rounding.

EXHIBIT II

PENSION BENEFIT OBLIGATION

The value of the pension benefit obligation required for disclosure by Statement No. 5 of the Governmental Accounting Standards Board is shown below as of July 1, 1996 and as of July 1, 1995.

		Benefit Information Date	
		July 1, 1996	**July 1, 1995***
1.	Participants currently receiving benefits	$27,041,000	$25,644,400
2.	Current employees		
	Accumulated employee contributions	2,228,600	2,065,400
	Employer-financed vested	8,349,200	4,177,400
	Employer-financed nonvested	12,738,300	13,247,900
3.	Total pension benefit obligation	$50,357,100	$45,135,100
4.	Net assets for benefits at book value (market values are $28,469,500 and $23,682,900, respectively)	24,604,700	19,670,100
5.	Unfunded pension benefit obligation	25,752,400	25,465,000

**The figures shown for July 1, 1995 were actuarially projected from those reported in the July 1, 1994 actuarial valuation.*

The factors affecting the change in the pension benefit obligation from July 1, 1995 to July 1, 1996 are as follows:

Factors	Amount of pension benefit obligation
Benefits accumulated, net experience gains or losses, changes in data	$ 3,764,000
Benefits paid	(2,152,800)
Interest	3,610,800
Total	$ 5,222,000

EXHIBIT III

ACTUARIAL ASSUMPTIONS AND COST METHOD

Mortality rates: 1983 Group Annuity Mortality Table without margins

Disability mortality before age 65: Age 65 mortality under stipulated table

Termination rates before retirement:

	Rate (%)			
Age	**Death**	**Disability**	**Withdrawal**	**Total**
20	.04	.06	0.00	.10
25	.05	.09	0.00	.14
30	.07	.11	0.00	.18
35	.10	.15	0.00	.24
40	.14	.22	0.00	.36
45	.24	.36	0.00	.60
50	.43	.61	0.00	1.04
55	.68	1.01	0.00	1.69
60	1.02	1.63	0.00	2.64

Notes: *Detail figures may not add to totals shown because of rounding.*

25% of the deaths prior to retirement and 100% of the disabilities with less than 10 years of service are assumed service connected.

Salary scale:

Age	Present salary as a percent of salary at 65	Annual increase Rate (%)
20	8.99	5.50
25	11.75	5.50
30	15.35	5.50
35	20.06	5.50
40	26.22	5.50
45	34.27	5.50
50	44.79	5.50
55	58.54	5.50
60	76.51	5.50

Notes: *Includes an allowance for inflation of 4.50%*

Previously, the salary scale assumption was 6.50%

Percent married:	75%
Age of spouse:	Males are assumed to be three years older than their spouse
Retirement age:	50, or completion of 28 years of service if later, but not after age 65
Pay adjustment:	Active liabilities are increased 20% to reflect holiday and longevity pay and insurance which are included in the determination of retirement benefits
Cost-of-living increases after retirement:	4½% per year
Net investment return:	8%
Operating expenses:	$10,000 (previously $7,500)
Actuarial value of assets:	Sum of actuarial value at beginning of year, contributions, and expected investment earnings based on the actuarial interest assumption less benefit payments plus 20% of market value at end of year in excess of that sum, plus additional adjustment toward market value as necessary so that final actuarial value is within 20% of market value. Similar formula used for negative adjustment toward market value if actuarial value exceeds market value. Effective for the July 1, 1996 valuation a one-time adjustment to 90% of market value was made.
Funding method:	Entry age normal cost

EXHIBIT IV

SUMMARY OF PLAN PROVISIONS

SERVICE PENSION

Age requirement:	None
Service requirement:	25 years
Amount:	50% of the prevailing pay for the rank held at retirement, including holiday and longevity pay and insurance. Mandatory retirement at age 65.

DISABILITY

Service connected

Age requirement:	None
Service requirement:	None
Amount:	An annuity of 50% of prevailing pay for the rank held at termination, including holiday and longevity pay and insurance.

Non-service connected

Age requirement:	None
Service requirement:	10 years if hired after July 1, 1971; otherwise none
Amount:	An annuity of 50% of prevailing pay for the rank held at termination, including holiday and longevity pay and insurance.

TERMINATION OF EMPLOYMENT (IN LIEU OF OTHER BENEFITS)

Refund of contributions

PRE-RETIREMENT DEATH BENEFIT

Lump sum benefit

Age requirement:	None
Service requirement:	None
Amount:	Refund of employee contributions

Pre-Retirement Death Benefits (Cont.)

Service connected spouse's benefit

Age requirement: None

Service requirement: None

Amount: An annuity of 50% of prevailing pay including holiday and longevity pay and insurance for the rank held at death payable to spouse until employee would have accumulated 25 years of service. At that time benefit is reduced to 50% of pension employee would have been entitled to had he retired the day before his death. Benefit payable until spouse's death or remarriage.

Non-service connected spouse's benefit

Requirement: Eligible for service retirement

Amount: An annuity of 50% of the pension the employee would have received if he had retired the day before his death, payable until death or remarriage.

Post-retirement Death Benefit

Lump sum benefit

100% of employee contributions, less benefits paid.

Spouse's benefit

An annuity of 50% of the pension the retired employee was receiving at the time of death payable until death or remarriage.

Escalator Clause

Each year the benefits for pensioners are adjusted to 1/2 the prevailing rate of pay including holiday and longevity pay and insurance for the respective rank attained by the retired member and the benefits for widows are adjusted to 1/4 of the prevailing rate of pay including holiday and longevity and insurance for the rank attained by their husbands at the time of retirement or death.

Employee Contribution Rate

5% of salary

TSC_BOS:23415.1