CITY OF GREENVILLE

FIREMEN'S PENSION FUND

ACTUARIAL REVIEW

July 1, 2002

Prepared By:

STANLEY, HUNT, DuPREE & RHINE, INC.

Employee Benefit Consultants Consulting Actuarial Services September 16, 2002

Board of Trustees Greenville Fire Department 22 West Broad Street Greenville, South Carolina 29601

Gentlemen:

Stanley, Hunt, DuPree & Rhine, Inc. has prepared an actuarial review for The City of Greenville Firemen's Pension Fund as of July 1, 2002. The financial information presented in this valuation is applicable to the twelve months ending June 30, 2003. The purpose of the review is to:

- --- determine the existing and projected plan liabilities for benefits earned by active, retiree, and widowed participants.
- --- determine the sufficiency of current funding levels and investment returns.
- --- provide disclosures which can be utilized to meet all of the requirements of the Government Accounting Standards Board Statements relating to the Pension Fund.

The Table of Contents following this letter outlines the text and tables included in this report.

Sincerely,

STANLEY, HUNT, DuPREE & RHINE, INC.

Julian G. "Chip" Hunt, Jr.

President

Linda G. Reed, A.S.A.

Vice President and Actuary

JGHjr:LGR/sml attachments

Anda Reed

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SECTION I

BASIS OF VALUATION

In this section, the basis of the valuation is presented and described.

This information - the provisions of the plan and census of participants - is the foundation of the valuation, since these are the present facts upon which benefit payments will depend.

The valuation is based upon the premise that the plan will continue in existence, so that future events must also be considered. These future events are assumed to occur in accordance with the actuarial assumptions and concern such events as the earnings of the fund, the number of participants who will remain to retirement, their ages at retirement and expected benefits.

The actuarial assumptions and the actuarial cost method, or funding method, which has been adopted to guide the sponsor in funding the plan in a reasonable and acceptable manner, are described in this section.

SECTION I.A Summary of Plan Provisions

Effective Date

June 25, 1946

Eligibility Requirements

All regular employees of the Fire Department hired prior to the attainment of age 35 are eligible for benefits provided by this plan.

Contributions by Participating Employees

Participating employees contributed initially at the rate of 1% of salary. Salary deductions were increased, effective July 1, 1952, to 3% of salary. Deductions remained at this level until June 24, 1975 when they were raised to the current level of 5.775% of salary. Beginning in the 1997 plan year, the City offered to pay 4% of the State-directed contribution level, so that the net rate is now 1.775%.

Contributions from Other Sources

The following sums are also paid into the Fund:

- 1. Any money, real estate, personal property or other assets made available by gift, devise or bequest;
- 2. All forfeitures and fines imposed upon any member of the Department by way of discipline;
- 3. All proceeds from sales of condemned or discarded personal property and equipment in use by the Department;
- 4. The income from any tax levy imposed by the City Council in order to supplement or support this fund. The City currently contributes 19.425% of participating payroll.

SECTION I.A Summary of Plan Provisions (Continued)

Service Retirement Benefits

A member who has attained age 55 and completed at least 25 years of service may retire with a monthly benefit equal to 50% of his monthly compensation at the time of his retirement. For each year of service in excess of 25 years, an additional 2% of final compensation will be provided. In no event will more than 35 years of service be considered for the purpose of benefit determination. An adjustment of up to 6% of the percentage of compensation will be added to the benefit calculation to reflect accrued general leave time.

Disability Retirement Benefits

- 1. <u>Line of Duty Disability</u>
 A member who incurs a disability while engaged in the performance of his duty will be retired with a monthly benefit equal to 50% of his monthly compensation at the time of his disability.
- 2. Disability Other Than in Line of Duty
 - a. A member who becomes disabled other than in the line of duty after the completion of 10 years of service will be retired with a monthly benefit equal to one-third of his monthly compensation at the time of disability.
 - b. A member who becomes disabled other than in the line of duty after the completion of 20 years of service will be retired with a monthly benefit equal to one-half of his monthly compensation at the time of disability.

SECTION I.A Summary of Plan Provisions (Continued)

Death Benefits

- 1. Upon the death of a retired member, the lawful widow will receive a monthly benefit equal to one-half of the benefit which the member was receiving, plus a lump sum of \$200. Such monthly benefit shall continue during her lifetime regardless of whether she remarries.
- 2. Upon death of an active member, the lawful widow will receive a monthly benefit equal to one-half of the member's monthly salary at the time of his death, plus a lump sum of \$200. Such monthly benefit shall continue during her lifetime unless she remarries.
- 3. If in the case of (1) or (2) above there is no lawful widow, the monthly benefits shall be paid to the surviving children until the youngest child attains age 18.
- 4. In the case of (2) above, the designated beneficiary may elect to take a refund of the member's contributions with 4% interest thereon in lieu of any monthly pension.

SECTION I.A Summary of Plan Provisions (Continued)

Withdrawal Benefits

A member who leaves the service of the Fire Department prior to becoming eligible for retirement benefits shall be entitled to a refund of his contributions plus four percent interest.

Members have a vested interest in their accrued benefits from the retirement plan of fifty percent after ten years of service. For each year of service beyond ten years, a member shall be entitled to an additional ten percent. A member becomes one hundred percent vested in his accrued retirement benefit after the completion of fifteen years of service.

A member's accrued retirement benefit will be based on earnings at the time of termination and will be prorated based on the number of years of actual service at date of termination to the total number of years of service anticipated at retirement age. For this purpose, retirement age is the later of age 55 and completion of 25 years of service. In lieu of a monthly pension, a vested participant may elect upon termination to take a refund of his contributions with 4% interest.

SECTION I.B Actuarial Assumptions

Development of Actuarial Assumptions

In determining costs for a retirement program, it is necessary to make certain assumptions as to the expected future experience that will take place within the program. These assumptions include the rates of mortality to be experienced by both the active, retired and widowed plan participants, the rates of termination of employment prior to retirement, the rates at which plan participants can be expected to take disability retirement, the age at which retirement will actually occur, the rates at which salaries will increase, the rate of investment return to be earned by the fund and the expenses to be incurred. The ultimate cost of any given retirement plan will depend upon actual plan experience.

It is possible to derive actuarial assumptions from the experience of the group under consideration. This is most often the case in very large groups. For plans of this size, the assumptions are best determined from the experience of similar groups, and standard published tables are available which can be used. Changes to assumptions will be considered when actual experience differs substantially and when estimates for the future suggest these changes.

SECTION I.B Actuarial Assumptions (Continued)

Actuarial Assumptions for Valuation of Liabilities

Mortality Rate: GAM 83 - Sex Distinct

<u>Disability Rate</u>: The following are examples of the probability that a participant will become disabled within one year. A disabled mortality assumption is also utilized. Duty-related disabilities are assumed to be 50% of all disabilities.

<u>Age</u>	<u>Percentage</u>
25	0.068%
40	0.230%
55	1.180%

<u>Withdrawal Rate</u>: The following are examples of the probability that a participant will terminate within one year for reasons other than death.

<u>Percentage</u>
7.72%
5.15%
0.90%

Salary Scale: Assumes salaries increase at 4% per year. The ratio of salary at age 55 to salary at

<u>Percentage</u>
324%
180%

In addition, the inclusion of accrued general leave in the benefit calculation is assumed to increase retirement benefits by 4%.

Rate of Retirement: Assumed 50% retire each year following attainment of age 55 or the completion of 35 years of service, if later, but not beyond age 62.

<u>Interest Rate</u>:

Funding Purposes -

Pre-Retirement: 7.0% Post-Retirement: 7.0%

<u>Marriage</u>: It is assumed that 75% of the actives are married at death or retirement with spouses that are three years younger.

Actuarial Assumptions for Valuation of Assets

Assets are carried at Market Value for valuation purposes.

SECTION I.C Actuarial Cost Method

Description of Valuation Method

The valuation method used is known as the Projected Unit Credit Method. The method divides the cost of funding benefits into two parts: normal cost and past service liability. Normal cost is the present value of the projected normal retirement benefit divided by a participant's total service. Past service liability is the present value of the projected retirement benefit multiplied by the ratio of past service over total service. If the past liability were fully funded, the total annual cost would be normal cost.

Because liabilities under a pension plan are based on actuarial assumptions (mortality, investment return, etc.) which will never precisely coincide with actual experience, variations known as actuarial gains and losses will occur, determined each time an actuarial valuation of the plan is made. Such gains or losses are a component of the unfunded liability and are amortized to determine the recommended contribution.

SECTION I.D

Changes From Prior Report

Plan Provisions 1.

The death benefit payable to widows was amended to continue after remarriage. Effective October 1, 2002, benefit payments for retirees and widows were increased by 2%.

2. Actuarial Cost Method

No Changes.

see last year to confirm medical 70% Actuarial Assumptions 3.

No Changes.

SECTION I.E

Summary of Plan Participants

			ne 30, 2001		ne 30, 2002
I.	ACTIVES				
	Number Total Annual Earnings Average Earnings Average Current Age Average Past Service	\$5, <i>1</i> \$	141 131,857 36,396 38.1 15.1	\$5,3 \$	141 305,381 37,627 38.8 15.7
II.	DEFERRED VESTED				
	Number Average Annual Deferred Pension	\$	5 9,457	\$	9,028
III.	PARTICIPANTS IN PAY STATUS				
	Retirees Surviving Widows Average Annual Retiree Pension Average Annual Widow Pension		57 27 20,454 8,652		56 28 21,318 9,153

SECTION II

ACCOUNTING INFORMATION

We received bank statements from Prudential Financial for the appropriate periods within the Plan Year ending June 30, 2002. This section provides a comparative summary statement of assets and liabilities as of each June 30, as well as a statement of income and expenses for the plan year.

SECTION II

FINANCIAL STATEMENTS

Section II.A	Statement	of	Assets	and	Lia	bilities		
					0.000	6-30-01 ket Value	-	6-30-02 ket Value
Assets								
Cash Equivalents: Cash					\$	524,206	\$	590,280
Accounts Receivable: Accrued Income						345,096		329,666
Investments: Government Securiti Certificate of Depo Mutual Funds					23	,738,548 0 0	4	,017,977 ,514,089 ,492,373
Total Assets					\$24	,607,850	\$25	,944,385
<u>Liabilities</u>								
Accounts Payable: Benefit Payments Total Liabilities						1,156 1,156		1,156 1,156
TOTAL HIADILITIES						1,130		1,150
Net Assets					\$24	,606,694	<u>\$25</u>	,943,229

Section II.B

Financial Statements (Continued)

Statement of Income and Expenses For Plan Year 07-01-01 To 06-30-02

Net Assets at Beginning of Year

\$ 24,606,694

Income

Employer Contribution	\$ 1,008,842
Employee Contribution	92,185
Other Contributions	120,349
Investment Earnings	1,112,295
Net Realized Gain on Sale	
or Exchange of Assets	306,094
Unrealized Appreciation	
of Assets	 206,457

Total Income

\$ 2,846,222

Expenses

Participants Benefits	1,485,793
Administrative Expenses	23,894

Total Expenses

1,509,687

Net Income

1,336,535

Net Assets at End of Year

\$ 25,943,229

SECTION III

SUMMARY OF VALUATION RESULTS

Sect:	ion III.A Summary of Actuarial Valu	ation	
1.	(2) Vesting 3,2 (3) Death 7	964,379 295,748 720,528 321,359	20,302,014 100,929 11,283,927 2,328,993 34,015,863
2.	Present Value of Future Normal Cost		6,478,682
3.	Accrued Liability a. Active Lives b. Deferred Vesteds c. Retirees d. Widows e. Total		13,823,332 100,929 11,283,927 2,328,993 27,537,181
4.	Actuarial Value of Assets		25,943,229
5.	Actual Unfunded Liability [(3)-(4)]		1,593,952
6. 7. 8. 9.	Increase in (3) Due to Assumption Change	0 266,920 0 689,448	
10.	Gain or Loss(-) $(9)-[(5)-(6)-(7)-(8)]$		(637,584)
11.		386,761 134,073 18,863 34,779	574,476 (84,620) 489,856 212,096 701,952

Section III.B Plan Termination Liability

- 1. Assumptions
 - Discount Rate: 7%
 - b. Mortality Table:
 - 1983 GAM Sex Distinct (1)
 - Females assumed to be 3 years younger than their spouses (2)
 - (3) All Active Participants are 100% vested
- 2. Present Value of Accrued Benefits

\$25,545,633

3. Market Value of Assets

25,943,229

Excess Assets (3)-(2)

\$ 397,596

Section III.C

Analysis of Results

Investment Return

During our compilation of the plan's accounting over the prior year, we determined the approximate investment return over each period. We have summarized our results below and included results since 1982.

Year 1982 1983 1984 Three Year Average	Estimated Annual Rate of Return 24.8% 5.2% 12.9% 13.9%
1985 1986 1987 Three Year Average	15.1% 9.9% 3.5% 9.4%
1988 1989 1990 Three Year Average	6.8% 10.8% 8.9% 8.8%
1991 1992 Two Year Average (compound yield)	12.9% 6.9% 9.4%
1993 1994 Two Year Average (compound yield)	7.9% -2.6% 2.9%
12-31-95 6-30-96 (½ year) 6-30-97 Two and ½ Year Average (compound yield)	16.3% 3% 7.7% 9.3%
One Year Return 7-1-97 - 6-30-98	8.4%
One Year Return 7-1-98 - 6-30-99	3.4%
One Year Return 7-1-99 - 6-30-00	2.4%
One Year Return 7-1-00 - 6-30-01	10.3%
One Year Return 7-1-01 - 6-30-02	6.5%
Five Year Average (compound yield)	6.2%

Section III.C

Analysis of Results (Continued)

Actual Salary Increases

Salaries increased over the past year an average of 5.2% (4.0% was assumed), reflecting both merit and cost of living components for some participants.

Retirement

Over the prior year, one participant retired and began receiving payments from the plan. From the prior year's retirement rate assumption, one participant was expected to retire.

Death

There was one death among active participants, two deaths reported among retired plan participants, and one death reported among surviving spouses receiving benefits. Based on the mortality assumption, this was the expected number of deaths.

Disabilities

There were no disabilities during the period. Based on the disability assumption, we expect about one disability every three years.

<u>Terminations</u>

Four active participants terminated before the earliest retirement age.

All were paid the amount of their contributions plus interest. Based on the termination assumption, we expected about eight terminations.

Section III.D Actuarial Gain/Loss Analysis

Aggregate Loss

Tota	al Actuarial Gain/(Loss) from 7-1-01 throu	gh 7	7-1-02	\$ (637,584)
Com	ponents of Total Loss:			
٠	Loss on assets			
	Expected assets at 7-1-02	\$ 2	26,055,648	
	Actual assets at 7-1-02	2	25,943,229	
	Gain/(Loss)			\$ (112,419)
	Loss on liabilities			
	Expected accrued liability at 7-1-02	\$ 2	26,745,096	
	Actual accrued liability before plan changes at 7-1-02	2	27,270,261	
	Gain/(Loss)			\$ (525,165)

\$ (637,584)

Section III.E

Option 2:

(c)+(f)

f.

g.

Cost of Living Adjustment Projections
Based Upon an Assumed 2% Annual Cost of Living
Adjustment

608,394

1,221,535

1.	Acc	rued Liability			
	a. b. c.	Active Lives Deferred Vesteds Retirees Widows			16,797,279 121,598 13,173,094 2,747,768
	e.	Total		\$	32,839,739
2.	Act	uarial Value of Assets		\$	25,943,229
3.	Unf	unded Liability [(1)-(2)]		\$	6,896,510
4.	Fun	ding Requirements			
	a.	Normal Cost (1) Retirement (2) Vesting (3) Death (4) Disability	468,300 163,656 23,823 41,982		
		(5) Total Normal Cost		\$	697,761
	b.	Less Expected Employee Contribution	ns	<u> </u>	(84,620)
	c.	Net Employer Normal Cost		\$	613,141
	đ.	Option 1: Ten Year Amortization of Unfunded	Liability		917,671
	e.	Suggested Employer Funding for a 2 (c)+(d)	% annual increase	\$	1,530,812

Twenty Year Amortization of Unfunded Liability

Suggested Employer Funding for a 2% annual increase

Section III.F Cost of a One-Time COLA for Retirees and Widows

				ne-Time 1% COLA		One-Time _2%_COLA
1.	Accri	ued Liability (Total)	\$ 2	27,673,310	\$	27,809,439
2.	Actua	arial Value of Assets	\$ 2	25,943,229	\$	25,943,229
3.	Unfur	nded Liability [(1)-(2)]	\$	1,730,081	\$	1,866,210
4.	Fund	ing Requirements				
	a. 1	Net Employer Normal Cost	\$	489,856	\$	489,856
	b. 5	Option 1: Ten Year Amortization of Unfunded Liability		230,210	_	248,324
		Suggested Employer Funding for a One-Time COLA (a)+(b)	\$	720,066	\$	738,180
	d. 5	Option 2: Twenty Year Amortization of Unfunded Liability	_	152,624		164,633
		Suggested Employer Funding for a One-Time COLA (a)+(d)	\$	642,480	\$	654,489

Section III.G Cost of Adding Special Retirement Age

				35 & Out*
1		Accı	\$ 27,623,690	
2	•	Actu	\$ 25,943,229	
3		Unfu	\$ 1,680,461	
4		Fund		
		a.	Net Employer Normal Cost	\$ 492,556
		b.	Option 1: Ten Year Amortization of Unfunded Liability	 223,607
		c.	Suggested Employer Funding for Adding Special Retirement Ages (a)+(b)	\$ 716,163
		d.	Option 2: Twenty Year Amortization of Unfunded Liability	 148,246
		e.	Suggested Employer Funding for Adding Special Retirement Ages (a)+(d)	\$ 640,802

^{* 35 &}amp; Out - Members could retire at the earlier of age 55 with 25 years of service, or any age with 35 years of service.

Section III.H

Cost of Adding Special Retirement Age and a One-Time COLA

		35 & Out and One-Time <u>1% COLA</u>	35 & Out and One-Time <u>2% COLA</u>								
1.	Accrued Liability (Total)	\$ 27,759,819	\$ 27,895,948								
2.	Actuarial Value of Assets	\$ 25,943,229	\$ 25,943,229								
3.	Unfunded Liability [(1)-(2)]	\$ 1,816,590	\$ 1,952,719								
4.	Funding Requirements										
	a. Net Employer Normal Cost	Net Employer Normal Cost \$ 492,556									
	Option 1: b. Ten Year Amortization of Unfunded Liability	241,720	259,83 <u>5</u>								
	c. Suggested Employer Funding for Adding Special Retirement Ages and a One-Time COLA (a)+(b)	\$ 734,276	\$ 752,391								
	Option 2: d. Twenty Year Amortization of Unfunded Liability	160,255	172,264								
	e. Suggested Employer Funding for Adding Special Retirement Ages and a One-Time COLA (a)+(d)	\$ 652,811	\$ 664,820								

SECTION IV

INFORMATION FOR ACCOUNTANTS PURSUANT TO GOVERNMENT ACCOUNTING STANDARDS BOARD'S (GASB) STATEMENT NO. 27

A.	Development	of	Pension	Cost	for	fiscal	year	ending	6-30-02
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	1.	Annual Required Contribution	\$	629,182
	2.	Interest on Net Pension Obligation		(191,930)
	3.	Amortization of Net Pension Obligation		364,839
	4.	Pension Cost $(1)+(2)+(3)$		802,091
в.	Net	Pension Obligation as of 6-30-02		
	1.	Net Pension Obligation at Beginning of Year	(2,741,853)
	2.	Actual Employer Contribution		1,129,191
	3.	Pension Cost		802,091
	4.	Net Pension Obligation $6-30-02$ $(1)-(2)+(3)$	(3,068,953)
	5.	Increase/(Decrease) in NPO from Beginning of Period		(327,100)

C. Basic Information

- 1. Amortization Method: Level Dollar
- 2. Amortization Period: 10 years
- 3. Amortization Period: Closed Method
- 4. The employer funding policy is based upon a 1974 City Ordinance (as subsequently modified) requiring an employer contribution of 19.425% of participating payroll. Employee contributions are mandatory at 1.775% of compensation.
- 5. See contents of 7-1-02 Actuarial Report for other required disclosures.

Section IV. GASB Statement No. 27 (Continued)

D.	Tre	and Data	06-30-02	06-30-01	06	-30-00
	1.	Valuation Date	7-1-02	7-1-01	7	-1-00
	2.	Actuarial Value of Assets	\$25,943,229	\$24,606,694	\$22	,592,151
	3.	Actuarial Accrued Liability	27,537,181	25,891,903	24	,412,503
	4.	Unfunded Actuarial Accrued Liability	1,593,952	1,285,209	1	,820,352
	5.	Assets as % of Actuarial Accrued Liability	94.2%	95.0%		92.5%
	6.	Annual Covered Payroll	5,305,381	5,131,857	4	,919,721
	7.	Unfunded Actuarial Liability as % of Payroll	30.0%	25.0%		37.0%
Ε.	Dev	elopment of Pension Cost	for fiscal ye	ear ending 6-30	0-03	
	1.	Annual Required Contrib	ution		\$	701,952
	2.	Interest on Net Pension	Obligation			(214,827)
	3.	Amortization of Net Pen	sion Obligation	on		408,364
	4.	Pension Cost $(1)+(2)+(3)$		\$	895,489	

CITY OF GREENVILLE FIREMEN'S PENSION FUND

VALUATION AS OF 07/01/2002

AGE - SERVICE DISTRIBUTION FOR ACTIVE PARTICIPANTS

	<	1 Yr	1-	4 Yrs	5-	-9 Yrs	10	-14 Yrs	15-	19 Yrs	20-	24 Yrs	25	-29 Yrs	30-	-34 Yrs	35-	39 Yrs	40_	Yrs & >	Ĺ
Age		Avg.		Avg.		Avg.		Avg.		Avg.		Avg.		Avg.		Avg.		Avg.		Avg.	
Group	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	
0-24	2	16989	6	26896	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
25-29	3	16618	8	27445	4	30320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
30-34	1	18463	2	28974	9	31134	12	32815	0	0	0	0	0	0	0	0	0	0	0	0	
35-39	0	0	1	27278	3	32573	12	34344	15	38530	1	45088	0	0	0	0	0	0	0	0	
40-44	0	0	0	0	2	31651	3	33811	11	40600	10	43656	0	0	0	0	0	0	0	0	
45-49	0	0	0	0	0	0	0	0	4	39823	4	42973	15	48814	0	0	0	0	0	0	
50-54	0	0	0	0	0	0	0	0	0	0	0	0	2	52897	4	47113	2	45190	0	0	
55-59	0	0	0	0	0	0	0	0	0	0	0	0	2	63632	1	59829	1	62445	0	0	
60-64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	63311	0	0	0	0	
65-69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
70&up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	