



HAMPSHIRE COUNTY RETIREMENT SYSTEM

FINANCIAL REPORTING AND DISCLOSURES Governmental Accounting Standards Board Statements 67 and 68

**Disclosures as of
December 31, 2020**

KMS Actuarial, LLC
52 Hunt Road
Kingston, NH 03848

June, 2021



June 7, 2021

Mr. Patrick E. Brock
Chairman
Hampshire County Retirement System
99 Industrial Drive, Suite 2
Northampton, MA 01060-2326

Dear Patrick:

We are pleased to present the enclosed report providing financial reporting and disclosures under Governmental Accounting Standards Board (GASB) Statement No. 67, Financial Reporting for Pension Plans (GASB 67), and GASB Statement No. 68, Accounting and Financial Reporting for Pensions (GASB 68) for the Hampshire County Retirement System and participating employers as of December 31, 2020. Results are based on liabilities developed in an actuarial valuation performed as of January 1, 2020 and rolled forward to the plan's measurement date of December 31, 2020.

The Principal Valuation Results are provided in Section 1. The Notes to the Financial Statements and the Required Supplementary Information are provided in Sections 2 and 3, respectively. Employer Reporting Amounts Under GASB 68 are provided in Section 4. Finally, a Glossary of Terms is provided in Section 5.

The financial reporting and disclosures contained in this report are based on the member data provided by the Hampshire County Retirement Board, asset information reported to the Public Employee Retirement Administration Commission (PERAC) by the Retirement Board and plan provisions contained in Chapter 32 of the Massachusetts General Laws. Although we did not audit the data used in the valuation and disclosure calculations, we believe that the information is complete and reliable.

Liabilities presented in this report are based on a long-term investment return rate of 7.15%, net of investment expense, compounded annually.

This report was completed in accordance with generally accepted actuarial standards and procedures, and conforms to the Code of Professional Conduct of the American Academy of Actuaries. The actuarial assumptions used in the determination of costs are reasonably related to the experience of the Plan and to reasonable expectations, and represent our best estimate of anticipated long-term experience under the Plan.

K M S A C T U A R I E S

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Mr. Patrick E. Brock

June 7, 2021

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Future actuarial valuation results may differ significantly from the current results presented in this report. Examples of potential sources of volatility include plan experience differing from that anticipated by the economic or demographic assumptions, the effect of new entrants, changes in economic or demographic assumptions, the effect of law changes and the delayed effect of smoothing techniques.

Our valuation follows generally accepted actuarial methods and we perform such tests as we consider necessary to assure the accuracy of the results. The amounts presented in this report have been appropriately determined according to the actuarial assumptions and methods stated herein.

This report is intended for the sole use of the Hampshire County Retirement System and participating employers and is intended to provide information to comply with the stated purpose of the report. It may not be appropriate for other purposes.

The undersigned credentialed actuaries are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinion contained herein. They are available to answer any questions with regard to this report.

Respectfully submitted,



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EXECUTIVE SUMMARY

GASB 67 and GASB 68

In June 2012, the GASB approved two related Statements that significantly changed the way pension plans and governments account and report pension liabilities. Effective for plans with fiscal years beginning after June 15, 2013, **GASB Statement No. 67**, *Financial Reporting for Pension Plans*, replaced the requirements of Statement No. 25 and effective for employers with fiscal years beginning after June 15, 2014, **GASB Statement No. 68**, *Accounting and Financial Reporting for Pensions*, replaced the requirements of Statement No. 27.

The pension standards reflect changes from those previously in place regarding how governments calculate total pension liability and pension expense. Further, the standards contain requirements for disclosing information in the notes to financial statements and presenting required supplementary information following the notes.

GASB 67 requires defined benefit pension plans, such as the Hampshire County Retirement System, to present a statement of fiduciary net position (pension plan assets) and a statement of changes in fiduciary net position. Further, the statement requires that notes to financial statements include descriptive information such as the types of benefits provided, the classes of plan members covered and the composition of the pension plan's retirement board. Finally, GASB 67 requires pension plans to present in required supplementary information the sources of the changes in the net pension liability and information about the actuarially determined contributions compared with the actual contributions made to the plan and related ratios.

GASB 67 and GASB 68 require projected benefit payments be discounted to their actuarial present value using the single rate that reflects a long-term expected rate of return on pension plan investments to the extent that the pension plan's assets are sufficient to pay benefits and pension plan assets are expected to be invested using a strategy to achieve that return and a tax-exempt, high-quality municipal bond rate to the extent that the conditions for use of the long-term expected rate of return are not met.

GASB 68 establishes standards for measuring and recognizing liabilities, deferred outflows of resources, deferred inflows of resources and pension expense by state and local governments.

The effective date for GASB 67 is for plan years beginning after June 15, 2013, which is the fiscal year ending December 31, 2014 for the Hampshire County Retirement System. The effective date for GASB 68 is for employers' fiscal years beginning after June 15, 2014. The disclosures prepared as of December 31, 2020 (the measurement date) presents information to assist the Hampshire County Retirement Board in providing the required information under GASB 68 to participating employers.

GASB Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68*, clarifies the application of certain provisions of Statements 67 and 68 with regard to the following issues:

- (1) Information about investment-related factors that significantly affect trends in the amounts reported for GASB 67 and GASB 68 should be limited to those factors over which the pension plan or participating governments have influence (such as an investment policy) and
- (2) The contribution-related schedules in the RSI should exclude amounts associated with payables to the pension plan that arose in a prior fiscal year.

GASB Statement No. 82, *Pension Issues - An Amendment of GASB Statements No. 67, No. 68, and No. 73*, clarifies the definition of covered payroll, that a deviation from the Actuarial Standards of Practice with respect to selection of assumptions is not considered to be in conformity with GASB 67, GASB 68 and GASB 73, and that employer-paid member contributions are to be classified as plan member contributions.

EXECUTIVE SUMMARY

A summary of principal results from the current disclosures and prior disclosures follows.

Disclosure Date	December 31, 2020	December 31, 2019	% Change
Valuation Date	January 1, 2020	January 1, 2020	
Membership Data			
Active Plan Members	1,976	1,968	0.4%
Inactive Members Currently in Receipt	1,406	1,357	3.6%
Inactive Members Deferred	774	723	7.1%
Total Plan Members	4,156	4,048	2.7%
Covered Payroll	\$87,719,692	\$85,426,619	2.7%
Net Pension Liability			
Discount Rate	7.15%	7.15%	
Total Pension Liability (TPL)	\$580,562,055	\$558,763,173	3.9%
Fiduciary Net Position (FNP)	401,980,115	359,018,033	12.0%
Net Pension Liability (NPL)	\$178,581,940	\$199,745,140	(10.6%)
FNP as % of TPL	69.2%	64.3%	7.6%
Pension Expense			
Pension Expense	\$17,386,583	\$25,478,730	(31.8%)
Deferred Outflows	\$15,059,246	\$21,193,776	
Deferred Inflows	\$29,280,485	\$22,979,536	
Recognition Period	7.12	7.12	

EXECUTIVE SUMMARY

Fiduciary Net Position

Pension plan investments are reported at market value as of the measurement date. The fiduciary net position as of the current and prior measurement dates are shown in Section 1, Fiduciary Net Position.

Total Pension Liability

The Total Pension Liability is based on liabilities developed in an actuarial valuation performed as of January 1, 2020 and rolled forward to the plan's measurement date of December 31, 2020 and is shown in Section 1, Total Pension Liability.

Benefit Changes

All benefit provisions remained the same from the prior measurement date. The Plan provisions used in these disclosures are detailed in Section 5, Summary of Plan Provisions, in the most recent funding actuarial report.

Assumption Changes

The Actuarial Assumptions and Methods used in these disclosures are the same as the last measurement date. The Actuarial Assumptions and Methods used in these disclosures are detailed in Section 6, Actuarial Assumptions and Methods, in the most recent funding valuation report.

Pension Expense

The Pension Expense for the fiscal year ending December 31, 2020 is \$17,386,583 and is developed in Exhibit 4.2. Pension Expense, as well as the Net Pension Liability and Deferred Outflows of Resources and Deferred Inflows of Resources, are developed for each member unit and are shown in Appendix C. Amounts by employer are developed using a proportionate share, the proportion of each employer's contribution to the aggregate amount of employer contributions, as shown in Exhibit 4.3.

COVID-19 Pandemic

The assumptions in this report do not reflect the potential impacts of the COVID-19 pandemic on the System. Especially in the short range, the pandemic is likely to materially affect the economic and demographic experience, in a way not anticipated by the assumptions on which the projections are based.

SECTION 1 - PRINCIPAL VALUATION RESULTS

Fiduciary Net Position

Asset information was provided by the Hampshire County Retirement Board. The Trust Fund Composition, Asset Activity and the Gain or Loss on Pension Plan Investments for the current and prior fiscal years are as follows:

Fiscal Year Ended December 31 **2020** **2019**

Trust Fund Composition at Fiscal Year-End		
Cash	\$ 13,151,977	\$ 3,982,274
Individually Owned Short Term Investments	0	0
Fixed Income Securities	0	0
Equities (at market value)	0	0
Pooled Short Term Funds	0	0
Pooled Domestic Equity Funds	81,248,848	64,019,755
Pooled International Equity Funds	101,449,192	75,676,573
Pooled Global Equity Funds	0	0
Pooled Domestic Fixed Income Funds	102,484,590	100,497,250
Pooled International Fixed Income Funds	0	0
Pooled Global Fixed Income Funds	22,518,406	30,858,871
Pooled Alternative/Private Equity	44,288,224	35,557,442
Pooled Real Estate Funds	35,729,405	47,818,694
Pooled Domestic Balanced Funds	0	0
Pooled International Balanced Funds	0	0
Hedge Funds	0	0
PRIT Cash	0	0
PRIT Fund	0	0
Interest Due and Accrued	0	0
Prepaid Expenses	0	0
Accounts Receivable (A)	1,116,318	611,839
Land	0	0
Buildings	0	0
Accumulated Depreciation - Buildings	0	0
Accounts Payable (A)	(6,845)	(4,665)
Auditor or Other Adjustments	0	0
Total Market Value of Assets	\$ 401,980,115	\$ 359,018,033

SECTION 1 - PRINCIPAL VALUATION RESULTS

Fiscal Year Ended December 31	Fiduciary Net Position	
	2020	2019

Asset Activity		
Market value as of beginning of year	\$ 359,018,033	\$ 309,026,161
Contributions - employer	26,114,304	24,294,506
Contributions - member	8,376,499	8,334,804
Net investment income	41,619,584	50,071,334
Benefit payments, including refunds of member contributions	(32,280,113)	(31,865,798)
Administrative expenses	(868,192)	(842,974)
Other	0	0
Market Value as of end of year	\$ 401,980,115	\$ 359,018,033

Money-Weighted Rate of Return	11.64%	16.30%
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(Gain) / Loss on Pension Plan Investments		
Projected earnings	\$ 25,614,181	\$ 23,095,981
Actual earnings	41,619,584	50,071,334
(Gain) / Loss on pension plan investments	\$ (16,005,403)	\$ (26,975,353)

SECTION 1 - PRINCIPAL VALUATION RESULTS

Total Pension Liability

The Total Pension Liability, developed using the Entry Age Normal funding method, is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service. The total pension liability as of the December 31, 2020 measurement date was developed from an actuarial valuation as of January 1, 2020 and rolled forward to the pension plan's fiscal year-end.

The Service Cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year. Only active employees who have not reached the age at which the probability of retirement is 100% incur a service cost.

Actuarial gains and losses arise from the difference between estimates and actual experience, excluding amounts related to benefit changes and changes in assumptions or other inputs.

The development of the Total Pension Liability from the beginning of the measurement period, December 31, 2019 to the end of the measurement period, December 31, 2020 is shown below:

Measurement Date	December 31, 2020
1. Total Pension Liability, beginning of year:	
a. Actives	\$ 235,605,919
b. Retired and Disabled Members and Beneficiaries	316,274,708
c. Inactive Members	6,882,546
d. Total Pension Liability at 7.15% (a. + b. + c.)	\$ 558,763,173
2. Service Cost	\$ 14,261,729
3. Benefit Payments	(32,280,113)
4. Interest [7.15% x (1.d. + 2. + .5 x 3)]	\$ 39,817,266
5. Changes of benefit terms	-
6. Differences between expected and actual experience	-
7. Changes of assumptions or other inputs	-
8. Total Pension Liability, end of year (1.d. + 2. + 3. + 4. + 5. + 6. + 7.)	
a. Actives	\$ 267,733,185
b. Retired and Disabled Members and Beneficiaries	305,454,222
c. Inactive Members	7,374,648
d. Total Pension Liability at 7.15% (a. + b. + c.)	\$ 580,562,055

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Plan Description

Plan administration

The Hampshire County Retirement System (the "System") is a cost-sharing, multiple-employer defined benefit pension plan that provides pensions for eligible employees of 37 participating employers. The System is a member of the Massachusetts Contributory Retirement System and is governed by Chapter 32 of the Massachusetts General Laws. The System does not have the authority to amend benefit provisions.

The System is governed by a Retirement Board made up of five elected and appointed members.

Plan membership

At December 31, 2020, pension plan membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefits	1,406
Inactive plan members entitled to but not yet receiving benefits	774
Active plan members	1,976
	<hr/>
	4,156

Benefits provided

The System provides retirement, disability and death benefits. Retirement benefits are determined as a percentage of the member's 3-year (5-year for members hired after April 1, 2012) final average compensation times the member's years of service. The percentage is based on the age of the member at retirement and his or her Group classification. Cost-of-living adjustments of 3% of the first \$13,000 of the annual retirement allowance are provided at the discretion of the System's Retirement Board. A summary of the benefits is outlined in the January 1, 2020 actuarial valuation report.

Contributions

Plan members are required to contribute a percentage of their annual compensation that varies according to their membership date, as follows:

Prior to 1975	5% of Salary
1975 - 1983	7% of Salary
1984 - June 30, 1996	8% of Salary
July 1, 1996 - present	9% of Salary
1979 - present	An additional 2% of Salary in excess of \$30,000.
Group 1 members hired on or after April 2, 2012	6% of Salary with 30 or more years of creditable service.

Employer contributions are determined in accordance with the requirements set forth in Section 22D and Section 22F of Chapter 32 of the Massachusetts General Laws ("M.G.L."). The appropriation is comprised of the annual employer normal cost and amortization payments to pay the unfunded actuarial accrued liability.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Net Pension Liability

The components of the Net Pension Liability at December 31, 2020, were as follows:

Total Pension Liability	\$ 580,562,055
Fiduciary Net Position	(401,980,115)
Net Pension Liability	\$ 178,581,940

Fiduciary Net Position as a percentage of the Total Pension Liability 69.2%

Actuarial assumptions

The Total Pension Liability was determined by an actuarial valuation as of January 1, 2020, rolled forward to the measurement date of December 31, 2020 using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.2% per year
Salary increases	Group 1: 6% - 4.25%, based on service Group 4: 7% - 4.75%, based on service
Investment rate of return	7.15%, net of pension plan investment expense, including inflation

Mortality rates were based on the RP-2014 Blue Collar Mortality Table with full generational mortality improvement using Scale MP-2018. For disabled lives, the mortality rates were based on the RP-2014 Blue Collar Mortality Table set forward one year with full generational mortality improvement using Scale MP-2018.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Long-Term Real Rates of Return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of geometric real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2020 (see the discussion of the pension plan's investment policy) are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rates of Return¹
Cash	2.0%	-0.30%
Domestic Equity	25.0%	4.30%
Non-US Developed Equity	13.5%	4.40%
Emerging Equity	7.0%	6.30%
Private Equity	11.0%	7.90%
Core Bonds	15.0%	0.30%
Value Add Fixed Income - Public	13.5%	2.70%
Real Estate	13.0%	4.20%
Total	100%	

¹ Provided by NEPC (inclusive of fees). Inflation of 2.2% is added to the long-term expected real rates of return to approximate the long-term expected rate of return.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Discount Rate

The discount rate used to measure the Total Pension Liability is 7.15%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current contribution rates and that contributions from participating employers will be made in accordance with Sections 22D and 22F of Chapter 32 of the Massachusetts General Laws. Based on those assumptions, the pension plan's Fiduciary Net Position was projected to be available to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate:

The following presents the Net Pension Liability calculated using the discount rate of 7.15%, as well as what the Net Pension Liability would be if it were calculated using a discount rate 1-percentage point lower (6.15%) or 1-percentage point higher (8.15%) than the current rate:

	1% Decrease (6.15%)	Current Discount Rate (7.15%)	1% Increase (8.15%)
Total Pension Liability	\$ 647,215,037	\$ 580,562,055	\$ 524,272,262
Fiduciary Net Position	401,980,115	401,980,115	401,980,115
Net Pension Liability	\$ 245,234,922	\$ 178,581,940	\$ 122,292,147

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.1 - Changes in Net Pension Liability and Related Ratios

Fiscal Year Ended December 31	2020	2019	2018	2017	2016
Total Pension Liability					
Service cost	\$ 14,261,729	\$ 13,282,271	\$ 12,771,414	\$ 11,029,438	\$ 10,605,229
Interest	39,817,266	38,884,736	37,396,643	36,888,260	34,627,268
Changes of benefit terms	-	-	-	-	-
Differences between expected and actual experience	-	(6,620,290)	-	(434,874)	(4,348,735)
Changes of assumptions	-	20,488,858	-	(9,996,849)	16,610,091
Benefit payments, including refunds of member contributions	(32,280,113)	(31,865,798)	(29,543,223)	(28,662,890)	(26,880,118)
Net change in Total Pension Liability	<u>\$ 21,798,882</u>	<u>\$ 34,169,777</u>	<u>\$ 20,624,834</u>	<u>\$ 8,823,085</u>	<u>\$ 30,613,735</u>
Total Pension Liability--beginning	\$ 558,763,173	\$ 524,593,396	\$ 503,968,562	\$ 495,145,477	\$ 464,531,742
Total Pension Liability--ending (a)	<u>\$ 580,562,055</u>	<u>\$ 558,763,173</u>	<u>\$ 524,593,396</u>	<u>\$ 503,968,562</u>	<u>\$ 495,145,477</u>
Fiduciary Net Position					
Contributions--employer	\$ 26,114,304	\$ 24,294,506	\$ 22,597,993	\$ 21,331,218	\$ 19,693,436
Contributions--member	8,376,499	8,334,804	8,378,578	7,689,443	7,446,905
Net investment income	41,619,584	50,071,334	(9,664,404)	43,201,653	19,015,995
Benefit payments, including refunds of member contributions	(32,280,113)	(31,865,798)	(29,543,223)	(28,662,890)	(26,880,118)
Administrative expenses	(868,192)	(842,974)	(870,363)	(817,067)	(796,827)
Other	-	-	-	-	-
Net change in Fiduciary Net Position	<u>\$ 42,962,082</u>	<u>\$ 49,991,872</u>	<u>\$ (9,101,419)</u>	<u>\$ 42,742,357</u>	<u>\$ 18,479,391</u>
Fiduciary Net Position--beginning	\$ 359,018,033	\$ 309,026,161	\$ 318,127,580	\$ 275,385,223	\$ 256,905,832
Fiduciary Net Position--ending (b)	<u>\$ 401,980,115</u>	<u>\$ 359,018,033</u>	<u>\$ 309,026,161</u>	<u>\$ 318,127,580</u>	<u>\$ 275,385,223</u>
Net Pension Liability and Related Ratios					
Net Pension Liability--ending (a) -- (b)	<u>\$ 178,581,940</u>	<u>\$ 199,745,140</u>	<u>\$ 215,567,235</u>	<u>\$ 185,840,982</u>	<u>\$ 219,760,254</u>
Fiduciary Net Position as a percentage of the Total Pension Liability	69.24%	64.25%	58.91%	63.12%	55.62%
Covered Payroll	\$ 87,719,692	\$ 85,426,619	\$ 84,192,999	\$ 76,767,518	\$ 78,914,925
Net Pension Liability as a percentage of Covered Payroll	203.58%	233.82%	256.04%	242.08%	278.48%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.1 - Changes in Net Pension Liability and Related Ratios (continued)

Fiscal Year Ended December 31	2015	2014	2013	2012	2011
Total Pension Liability					
Service cost	\$ 10,269,070	\$ 9,850,427			
Interest	34,842,587	33,371,689			
Changes of benefit terms	-	\$ -			
Differences between expected and actual experience	-	-			
Changes of assumptions	-	\$ -			
Benefit payments, including refunds of member contributions	(25,512,793)	(24,412,587)			
Net change in Total Pension Liability	<u>\$ 19,598,864</u>	<u>\$ 18,809,529</u>			
Total Pension Liability--beginning	<u>\$ 444,932,878</u>	<u>\$ 426,123,349</u>			
Total Pension Liability--ending (a)	<u><u>\$ 464,531,742</u></u>	<u><u>\$ 444,932,878</u></u>			
Fiduciary Net Position					
Contributions--employer	\$ 18,620,753	\$ 17,442,179			
Contributions--member	7,322,347	7,559,814			
Net investment income	(1,011,242)	\$ 12,015,152			
Benefit payments, including refunds of member contributions	(25,512,793)	(24,412,587)			
Administrative expenses	(929,899)	\$ (841,318)			
Other	-	-			
Net change in Fiduciary Net Position	<u>\$ (1,510,834)</u>	<u>\$ 11,763,240</u>			
Fiduciary Net Position--beginning	<u>\$ 258,416,666</u>	<u>\$ 246,653,426</u>			
Fiduciary Net Position--ending (b)	<u><u>\$ 256,905,832</u></u>	<u><u>\$ 258,416,666</u></u>			
Net Pension Liability and Related Ratios					
Net Pension Liability--ending (a) - (b)	<u><u>\$ 207,625,910</u></u>	<u><u>\$ 186,516,212</u></u>			
Fiduciary Net Position as a percentage of the Total Pension Liability	55.30%	58.08%			
Covered Payroll	\$ 80,914,245	\$ 77,139,934			
Net Pension Liability as a percentage of Covered Payroll	256.60%	241.79%			

Note: Only 7 years are presented here and on the previous page, beginning with the year of implementation; 10 years of information will be required.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.2 - Schedule of Employer Contributions

Fiscal Year Ended December 31	2020	2019	2018	2017	2016
Actuarially Determined Contribution	\$ 26,114,304	\$ 24,294,506	\$ 22,597,993	\$ 21,331,218	\$ 19,693,436
Contributions in relation to the Actuarially Determined Contribution	<u>26,114,304</u>	<u>24,294,506</u>	<u>22,597,993</u>	<u>21,331,218</u>	<u>19,693,436</u>
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Covered Payroll	\$ 87,719,692	\$ 85,426,619	\$ 84,192,999	\$ 76,767,518	\$ 78,914,925
Contributions as a percentage of Covered Payroll	29.77%	28.44%	26.84%	27.79%	24.96%

The contribution shown above, \$26,114,304, represents the actual contributions made by member units of the Hampshire County Retirement System for the 2021 fiscal year.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.2 - Schedule of Employer Contributions (continued)

Fiscal Year Ended December 31	2015	2014	2013	2012	2011
Actuarially Determined Contribution	\$ 18,620,753	\$ 17,349,877			
Contributions in relation to the Actuarially Determined Contribution	<u>18,620,753</u>	<u>\$ 17,349,877</u>			
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>			
Covered Payroll	\$ 80,914,245	\$ 77,139,934			
Contributions as a percentage of Covered Payroll	23.01%	22.49%			

Note: Only 7 years are presented here and on the previous page, beginning with the year of implementation; 10 years of information will be required.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.3 - Investment Returns

Fiscal Year Ended December 31	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Annual money-weighted rate of return, net of investment expense	11.64%	16.30%	-3.02%	15.77%	7.43%	-0.68%	4.84%			

The money-weighted rate of return considers the changing amounts actually invested during a period and weights the amount of pension plan investments by the proportion of time they are available to earn a return during that period. The rate of return is then calculated by solving, through an iterative process, for the rate that equates the sum of the weighted external cash flows into and out of the pension plan investments to the ending fair value of pension plan investments.

Appendix A shows the details of the calculation of the money-weighted rate of return for the current fiscal year.

Note: Only 7 years are presented here, beginning with the year of implementation; 10 years of information will be required.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Notes to the Required Supplementary Information

Changes of benefit terms

All benefit provisions remained the same from the prior measurement date. The Plan provisions used in these disclosures are detailed in Section 5, Summary of Plan Provisions, in the most recent funding actuarial report.

Changes of assumptions

The Actuarial Assumptions and Methods used in these disclosures are the same as the last measurement date. The Actuarial Assumptions and Methods used in these disclosures are detailed in Section 6, Actuarial Assumptions and Methods, in the most recent funding valuation report.

Methods and assumptions used in calculations of Actuarially Determined Contributions

The Actuarially Determined Contributions in the schedule of employers' contributions are calculated as of July 1 of the fiscal year in which contributions are reported. The following actuarial methods and assumptions were used to determine contributions reported in that schedule:

Actuarial cost method	Entry Age Normal
Amortization method	UAAL Increasing dollar amount at 4% to reduce the Unfunded Actuarial Accrued Liability to zero on or before June 30, 2033. The annual increase in appropriation is further limited to 7.50%. 2002 & 2003 ERI Level dollar amount to reduce the 2002 and 2003 ERI Actuarial Accrued Liability to zero on or before June 30, 2028.
Asset valuation method	The Actuarial Value of Assets is the market value of assets as of the valuation date reduced by the sum of: a) 80% of gains and losses of the prior year, b) 60% of gains and losses of the second prior year, c) 40% of gains and losses of the third prior year, and d) 20% of gains and losses of the fourth prior year. Investment gains and losses are determined by the excess or deficiency of the expected return over the actual return on the market value. The actuarial valuation of assets is further constrained to be not less than 90% or more than 110% of market value.
Inflation	2.2% per year
Salary increases	Group 1: 6% - 4.25%, based on service Group 4: 7% - 4.75%, based on service
Payroll growth	3.5% per year
Investment rate of return	7.15%, net of pension plan investment expense, including inflation.

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.1 - Deferred Outflows of Resources and Deferred Inflows of Resources

Deferred Outflows of Resources and Deferred Inflows of Resources arising from differences between expected and actual experience are recognized in Pension Expense over the average expected remaining service life of all active and inactive members.

				Balances at December 31, 2020	
	Experience Losses	Experience Gains	Amounts Recognized in Pension Expense through December 31, 2020	Deferred Outflows of Resources	Deferred Inflows of Resources
Year	(a)	(b)	(c)	(a) - (c)	(b) - (c)
2016	\$ -	\$ 4,348,735	\$ (4,263,465)	\$ -	\$ 85,270
2017	-	434,874	(256,184)	-	178,690
2018	-	-	-	-	-
2019	-	6,620,290	(1,859,632)	-	4,760,658
2020	-	-	-	-	-
Total				<u>\$ -</u>	<u>\$ 5,024,618</u>

Deferred Outflows of Resources and Deferred Inflows of Resources arising from changes of assumptions are recognized in Pension Expense over the average expected remaining service life of all active and inactive members.

				Balances at December 31, 2020	
	Increases in the Total Pension Liability	Decreases in the Total Pension Liability	Amounts Recognized in Pension Expense through December 31, 2020	Deferred Outflows of Resources	Deferred Inflows of Resources
Year	(a)	(b)	(c)	(a) - (c)	(b) - (c)
2016	\$ 16,610,091	\$ -	\$ 16,284,405	\$ 325,686	\$ -
2017	-	9,996,849	(5,889,160)	-	4,107,689
2018	-	-	-	-	-
2019	20,488,858	-	5,755,298	14,733,560	-
2020	-	-	-	-	-
Total				<u>\$ 15,059,246</u>	<u>\$ 4,107,689</u>

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.1 - Deferred Outflows of Resources and Deferred Inflows of Resources

Deferred Outflows of Resources and Deferred Inflows of Resources arising from differences between projected and actual earnings on Pension Plan investments are recognized in Pension Expense over five years.

				Balances at December 31, 2020	
	Investment Earnings Less Than Projected	Investment Earnings Greater Than Projected	Amounts Recognized in Pension Expense through December 31, 2020	Deferred Outflows of Resources	Deferred Inflows of Resources
Year	(a)	(b)	(c)	(a) - (c)	(b) - (c)
2016	\$ 231,820	\$ -	\$ 231,820	\$ -	\$ -
2017	-	22,564,985	(18,051,988)	-	4,512,997
2018	33,385,880	-	20,031,528	13,354,352	-
2019	-	26,975,353	(10,790,142)	-	16,185,211
2020	-	16,005,403	(3,201,081)	-	12,804,322
Subtotal				\$ 13,354,352	\$ 33,502,530
Net				\$ -	\$ 20,148,178

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.1 - Deferred Outflows of Resources and Deferred Inflows of Resources

Deferred Outflows of Resources and Deferred Inflows of Resources arising from changes in proportion and differences between employer contributions and proportionate share of contributions are recognized in Pension Expense over the average expected remaining service life of all active and inactive members.

					Balances at December 31, 2020	
Year	Proportionate Share* Outflows	Proportionate Share* Inflows	Amounts Recognized in Pension Expense through December 31, 2020	Deferred Outflows of Resources	Deferred Inflows of Resources	
Year	(a)	(b)	(c)	(a) - (c)	(b) - (c)	
2015	\$ 3,057,911	\$ 3,057,911	\$ 3,057,911	\$ -	\$ -	
2016	2,001,045	2,001,045	1,961,808	39,237	39,237	
2017	2,338,865	2,338,865	1,377,828	961,037	961,037	
2018	2,185,181	2,185,181	965,470	1,219,711	1,219,711	
2019	3,112,389	3,112,389	874,269	2,238,120	2,238,120	
2020	4,101,135	4,101,135	576,003	3,525,132	3,525,132	
Total				<u>\$ 7,983,237</u>	<u>\$ 7,983,237</u>	

* Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions

Amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources will be recognized in Pension Expense as follows:

Year ended December 31	
2021	\$ (5,780,060)
2022	\$ (1,507,478)
2023	\$ (7,862,024)
2024	\$ (1,253,247)
2025	\$ 1,947,833
Thereafter	\$ 233,737
Total Deferred Outflows	\$ 23,042,483
Total Deferred Inflows	\$ 37,263,722

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.2 - Pension Expense

Fiscal Year Ended December 31, 2020

1. Service cost		\$ 14,261,729
2. Interest on the total pension liability		
a. Total Pension Liability, beginning of year	558,763,173	
b. Service cost, beginning of year	14,261,729	
c. Benefit payments, including refunds of employee contributions	<u>(32,280,113)</u>	
d. Interest on Total Pension Liability		39,817,266
3. Differences between expected and actual experience		(1,846,555)
4. Changes of benefit terms		-
5. Changes of assumptions		4,662,240
6. Employee contributions		(8,376,499)
7. Projected earnings on pension plan investments		
a. Fiduciary Net Position, beginning of year	359,018,033	
b. Employer contributions	26,114,304	
c. Employee contributions	8,376,499	
d. Benefit payments, including refunds of employee contributions	<u>(32,280,113)</u>	
e. Administrative expenses and other	<u>(868,192)</u>	
f. Total projected earnings		(25,614,181)
8. Differences between projected and actual earnings on plan investments		(6,385,609)
9. Pension plan administrative expenses		868,192
10. Other changes in Fiduciary Net Position		<u>-</u>
11. Total Pension Expense		<u><u>\$ 17,386,583</u></u>

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.3 - Proportionate Share of Contributions

The basis of an employer's allocation of the collective pension amount is consistent with the manner in which contributions to the plan are made. The schedule of employer allocations for 2020 and 2019, based on employer contributions made for the 2021 fiscal year and 2020 fiscal year, respectively, shows the proportionate relationship of each employer to all employers and each employer's allocation percentage.

Entity	2020		2019	
	Employer Contribution	Proportionate Share of Total Employer Contribution	Employer Contribution	Proportionate Share of Total Employer Contribution
Hampshire County Group Insurance Trust	97,107	0.371854%	314,913	1.296230%
Amherst	6,934,966	26.556197%	6,563,247	27.015355%
Amherst-Pelham Regional School District	1,590,908	6.092094%	1,471,400	6.056513%
Amherst Housing Authority	222,325	0.851353%	177,997	0.732664%
Belchertown	3,511,513	13.446703%	3,180,707	13.092289%
Belchertown Housing Authority	20,444	0.078287%	33,226	0.136763%
Belchertown Water District	48,554	0.185929%	54,586	0.224685%
Chesterfield	99,663	0.381641%	87,812	0.361448%
Chesterfield-Goshen Regional School District	99,663	0.381641%	94,932	0.390755%
Cummington	58,776	0.225072%	66,452	0.273527%
Foothills Health District	15,333	0.058715%	14,240	0.058614%
Gateway Regional School District	595,421	2.280057%	593,326	2.442223%
Goshen	58,776	0.225072%	68,826	0.283299%
Granby	1,184,368	4.535323%	1,034,848	4.259597%
Granby Housing Authority	30,665	0.117426%	28,480	0.117228%
Hadley	1,421,611	5.443802%	1,271,770	5.234805%
Hadley Housing Authority	10,222	0.039143%	9,493	0.039075%
Hampshire County Regional Housing Authority	10,222	0.039143%	9,493	0.039075%
Hampshire Regional School District	537,679	2.058944%	534,839	2.201481%
Hatfield	636,308	2.436626%	557,726	2.295688%
Hatfield Housing Authority	7,666	0.029356%	14,240	0.058614%
Huntington	137,872	0.527956%	125,629	0.517109%
Middlefield	49,426	0.189268%	47,466	0.195378%
Pelham	222,325	0.851353%	201,732	0.830361%
Plainfield	68,997	0.264212%	64,079	0.263759%
Quabbin Health District	70,053	0.268255%	67,833	0.279211%
Southampton	880,868	3.373125%	811,816	3.341562%
South Hadley	3,480,341	13.327336%	3,211,066	13.217252%
South Hadley Housing Authority	65,033	0.249032%	61,706	0.253992%
South Hadley-Easthampton Veteran's District	15,333	0.058715%	14,240	0.058614%

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.3 - Proportionate Share of Contributions

The basis of an employer's allocation of the collective pension amount is consistent with the manner in which contributions to the plan are made. The schedule of employer allocations for 2020 and 2019, based on employer contributions made for the 2021 fiscal year and 2020 fiscal year, respectively, shows the proportionate relationship of each employer to all employers and each employer's allocation percentage.

Entity	2020		2019	
	Employer Contribution	Proportionate Share of Total Employer Contribution	Employer Contribution	Proportionate Share of Total Employer Contribution
South Hadley Fire District No.1	618,420	2.368127%	593,326	2.442223%
South Hadley Fire District No.2	278,545	1.066638%	249,197	1.025734%
Ware	2,239,747	8.576706%	1,969,540	8.106936%
Ware Housing Authority	69,861	0.267520%	60,378	0.248525%
Westhampton	217,213	0.831778%	204,104	0.840124%
Williamsburg	307,852	1.178864%	286,176	1.177945%
Worthington	200,228	0.766737%	143,665	0.591348%
Total	26,114,304	100.000000%	24,294,506	100.000000%

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.4 - Pension Amounts by Employer

The Schedule of Pension Amounts by Employer is provided in Appendix C. The schedule shows the Net Pension Liability, the various categories of Deferred Outflows of Resources and Deferred Inflows of Resources and Pension Expense for each employer. The schedule includes the differences between expected and actual experience, differences between projected and actual investment earnings and changes of assumptions. Further, each employer is required to recognize Deferred Outflows of Resources and Deferred Inflows of Resources related to (1) the net impact from changes in proportion between periods and (2) differences between actual contributions made by an employer and their proportionate share of contributions.

Each employer's allocation of Pension Expense and Net Pension Liability can be based on the proportion of its contributions to the aggregate amount of employer contributions.

Under GASB 68, gains and losses (investment, experience or assumption changes) and changes in employer's proportionate shares related to pensions are recognized in Pension Expense systematically over time.

The first amortized amounts are recognized in Pension Expense for the year the gain or loss occurs. The remaining amounts are categorized as Deferred Inflows and Deferred Outflows to be recognized in future Pension Expense.

The amortization period differs depending on the source of the gain or loss:

Difference between projected and actual earnings	5 year straight-line amortization
All other amounts	Straight-line amortization over the average expected remaining service lives of all members that are provided with benefits (actives, inactives and retirees) as of the beginning of the measurement period

For 2020:

- ◆ Net Pension Liability, Deferred Outflows of Resources, Deferred Inflows of Resources and Pension Expense are allocated to each employer based on its proportionate share of Total Employer Contribution shown in Exhibit 4.3.
- ◆ The difference between expected and actual experience is amortized over the average of the expected future service lives of all participants, with the first amortized amount recognized in Pension Expense in the current year. Similar Deferred Outflows of Resources and Deferred Inflows of Resources were established during prior years, with the first amortized amount recognized in Pension Expense in 2016.
- ◆ Net difference between projected and actual investment earnings (gain on pension plan investments for 2020) is amortized over 5 years, with the first amortized amount recognized in Pension Expense in the current year. Similar Deferred Outflows of Resources and Deferred Inflows of Resources were established during prior years, with the first amortized amount recognized in Pension Expense in 2014.
- ◆ The change in Total Pension Liability as a result of changes in assumptions is amortized over the average of the expected future service lives of all participants, with the first amortized amount recognized in Pension Expense in the current year. Similar Deferred Outflows of Resources and Deferred Inflows of Resources were established during prior years, with the first amortized amount recognized in Pension Expense in 2016.

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.4 - Pension Amounts by Employer

For 2020 (continued):

- ◆ There are no differences between employer contributions and the proportionate share of contributions because the Plan utilizes employer contributions as the method of allocation.

- ◆ The net effect of the change in the employer's proportionate shares of the collective Net Pension Liability, collective Deferred Outflows and Deferred Inflows is amortized over the average expected remaining service lives of all members, with the first amortized amount recognized in Pension Expense in the current year. Similar Deferred Outflows of Resources and Deferred Inflows of Resources were established during prior years, with the first amortized amount recognized in 2015.

- ◆ No adjustments have been made for employer contributions made subsequent to the measurement date as defined in paragraph 57 of GASB 68.

SECTION 5 - GLOSSARY OF TERMS

Actuarial Assumptions – Assumptions, based upon past experience or standard tables, used to predict the occurrence of future events affecting the commencement, amount and duration of pension benefits, such as: changes in compensation, mortality, withdrawal, disablement and retirement; rates of investment earnings and asset appreciation or depreciation; and any other relevant items.

Actuarial Cost Method (or Funding Method) – A procedure for allocating the Actuarial Present Value of projected benefit payments to the current year (Service Cost) and the past (Total Pension Liability).

Actuarial (Experience) Gain or Loss – A measure of the difference between actual experience and that expected based upon the set of Actuarial Assumptions during the period between the valuation date and the most recent immediately preceding valuation date.

Actuarial Present Value of Projected Benefit Payments – The dollar value on the valuation date of all benefits expected to be paid to current members based upon the Actuarial Assumptions and the terms of the Plan.

Actuarially Determined Contribution – A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

Actuarial Valuation Date – The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer's reporting date.

Covered Payroll – The payroll on which contributions to a pension plan are based.

Deferred Inflow of Resources – Acquisition of resources by a government that is applicable to future reporting periods. Under GASB 68, deferred inflows of resources are made up of experience gains, assumption changes reducing the Total Pension Liability and investment gains that are recognized in future reporting periods.

Deferred Outflow of Resources – Consumption of resources by a government that is applicable to future reporting periods. Under GASB 68, deferred outflows of resources are made up of experience losses, assumption changes increasing the Total Pension Liability and investment losses that are recognized in future reporting periods.

Discount Rate – Single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the sum of:

- (1) a long-term expected rate of return on pension plan investments *to the extent that the pension plan's assets are sufficient to pay benefits and pension plan assets are expected to be invested using a strategy to achieve that return* and
- (2) a tax-exempt, high-quality municipal bond rate *to the extent that the conditions for use of the long-term expected rate of return are not met.*

Entry Age Normal Actuarial Cost Method – A method under which the actuarial present value of the projected benefits of each individual in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age.

SECTION 5 - GLOSSARY OF TERMS

Fiduciary Net Position – The fair market value of assets as of the measurement date.

Funded Ratio – The Actuarial Value of Assets expressed as a percentage of the Actuarial Accrued Liability.

GASB – Governmental Accounting Standards Board.

Long-Term Expected Rate of Return – Long-term expected rate of return on pension plan investments expected to be used to finance the payment of benefits, net of investment expenses.

Measurement Date – The date as of which the Total Pension Liability and Fiduciary Net Position are measured.

Municipal Bond Rate – Yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.

Net Pension Liability – The liability of the employer for benefits provided through a defined benefit pension plan. It is calculated as the Total Pension Liability less the Fiduciary Net Position.

Present Value of Future Benefits – The actuarial present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value of money and the probabilities of payment.

Reporting Date – The last day of the Plan or employer's fiscal year.

Service Cost – The portion of the actuarial present value of projected benefit amounts that is attributed to a valuation year.

Total Pension Liability – The portion of the actuarial present value of projected benefit amounts that is attributed to past periods of employee service using the Entry Age Normal cost method based on the requirements of GASB 67 and GASB 68.

Unfunded Actuarial Accrued Liability – The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.

APPENDIX A - CALCULATION OF MONEY-WEIGHTED RATE OF RETURN

	Plan Investments/ Net External Cash Flows (a)	Periods Invested (b)	Period Weight (c)=(b)÷12	(d)=(a) x (1+r _{mw}) ^(c)
Beginning value - January 1, 2020	\$ 359,018,033	12	1.00	\$ 400,810,331
Monthly net external cash flows:				
January	(2,280,099)	11	0.92	(2,522,267)
February	(1,884,806)	10	0.83	(2,065,946)
March	(2,326,729)	9	0.75	(2,527,044)
April	(1,745,198)	8	0.67	(1,878,133)
May	(2,034,301)	7	0.58	(2,169,261)
June	(841,856)	6	0.50	(889,506)
July	22,243,980	5	0.42	23,288,344
August	(1,857,672)	4	0.33	(1,927,125)
September	(2,531,440)	3	0.25	(2,602,096)
October	(2,189,656)	2	0.17	(2,230,213)
November	(2,166,565)	1	0.08	(2,186,537)
December	(1,120,432)	0	0.00	(1,120,432)
Ending value - December 31, 2020				\$ 401,980,115
Money-weighted rate of return				11.64%

Note: Beginning and ending values are based on amounts reported in the System's 2020 Annual Statement, and monthly cash flows are based on amounts provided by the Retirement Board.

APPENDIX B - SCHEDULE OF DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES

Year	Differences between Expected and Actual Experience	Recognition Period (Years)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2016	(4,348,735)	5.10	(852,693)	(85,270)	-	-	-	-	-	-	-	-
2017	(434,874)	6.79	(64,046)	(64,046)	(64,046)	(50,598)	-	-	-	-	-	-
2018	-	6.79	-	-	-	-	-	-	-	-	-	-
2019	(6,620,290)	7.12	(929,816)	(929,816)	(929,816)	(929,816)	(929,816)	(929,816)	(111,578)	-	-	-
2020	-	7.12	-	-	-	-	-	-	-	-	-	-
Net Increase (Decrease) in Pension Expense			(1,846,555)	(1,079,132)	(993,862)	(980,414)	(929,816)	(929,816)	(111,578)	-	-	-

Year	Changes of Assumptions	Recognition Period (Years)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2016	16,610,091	5.10	3,256,881	325,686	-	-	-	-	-	-	-	-
2017	(9,996,849)	6.79	(1,472,290)	(1,472,290)	(1,472,290)	(1,163,109)	-	-	-	-	-	-
2018	-	6.79	-	-	-	-	-	-	-	-	-	-
2019	20,488,858	7.12	2,877,649	2,877,649	2,877,649	2,877,649	2,877,649	2,877,649	345,315	-	-	-
2020	-	7.12	-	-	-	-	-	-	-	-	-	-
Net Increase (Decrease) in Pension Expense			4,662,240	1,731,045	1,405,359	1,714,540	2,877,649	2,877,649	345,315	-	-	-

APPENDIX B - SCHEDULE OF DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES

Year	Differences between Projected and Actual Earnings on Pension Plan Investments	Recognition Period (Years)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2016	231,820	5	46,364	-	-	-	-	-	-	-	-	-
2017	(22,564,985)	5	(4,512,997)	(4,512,997)	-	-	-	-	-	-	-	-
2018	33,385,880	5	6,677,176	6,677,176	6,677,176	-	-	-	-	-	-	-
2019	(26,975,353)	5	(5,395,071)	(5,395,071)	(5,395,070)	(5,395,070)	-	-	-	-	-	-
2020	(16,005,403)	5	(3,201,081)	(3,201,081)	(3,201,081)	(3,201,080)	(3,201,080)	-	-	-	-	-
Net Increase (Decrease) in Pension Expense			(6,385,609)	(6,431,973)	(1,918,975)	(8,596,150)	(3,201,080)	-	-	-	-	-

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Hampshire County Group Insurance Trust
◆ Current Proportionate Share		0.371854%
◆ Prior Proportionate Share		1.296230%
Beginning Net Pension Liability	\$ 199,745,140	\$ 2,589,157
Ending Net Pension Liability	\$ 178,581,940	\$ 664,064
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	55,998
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	161,839
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 217,837
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 18,684
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	74,922
◆ Changes of Assumptions	4,107,689	15,275
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	1,601,261
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 1,710,142
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 64,653
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(212,826)
Total Employer Pension Expense	\$ 17,386,583	\$ (148,173)
Covered Payroll:	\$ 87,719,692	\$ 336,477
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 664,064
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 911,915
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 454,748
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (235,779)
◆ 2022	\$ (1,507,478)	\$ (221,824)
◆ 2023	\$ (7,862,024)	\$ (251,596)
◆ 2024	\$ (1,253,247)	\$ (250,846)
◆ 2025	\$ 1,947,833	\$ (532,260)
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Amherst
◆ Current Proportionate Share		26.556197%
◆ Prior Proportionate Share		27.015355%
Beginning Net Pension Liability	\$ 199,745,140	\$ 53,961,857
Ending Net Pension Liability	\$ 178,581,940	\$ 47,424,571
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	3,999,167
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	731,642
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 4,730,809
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 1,334,348
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	5,350,588
◆ Changes of Assumptions	4,107,689	1,090,846
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	1,485,399
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 9,261,181
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 4,617,218
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(154,457)
Total Employer Pension Expense	\$ 17,386,583	\$ 4,462,761
Covered Payroll:	\$ 87,719,692	\$ 22,944,115
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 47,424,571
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 65,125,069
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 32,476,143
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (1,596,195)
◆ 2022	\$ (1,507,478)	\$ (449,786)
◆ 2023	\$ (7,862,024)	\$ (2,153,176)
◆ 2024	\$ (1,253,247)	\$ (486,666)
◆ 2025	\$ 1,947,833	\$ 155,451
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Amherst-Pelham Regional School District
◆ Current Proportionate Share		6.092094%
◆ Prior Proportionate Share		6.056513%
Beginning Net Pension Liability	\$ 199,745,140	\$ 12,097,591
Ending Net Pension Liability	\$ 178,581,940	\$ 10,879,380
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	917,423
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	239,089
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 1,156,512
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 306,104
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	1,227,446
◆ Changes of Assumptions	4,107,689	250,244
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	2,773
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 1,786,567
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 1,059,207
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	44,357
Total Employer Pension Expense	\$ 17,386,583	\$ 1,103,564
Covered Payroll:	\$ 87,719,692	\$ 5,250,628
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 10,879,380
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 14,939,942
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 7,450,153
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (301,128)
◆ 2022	\$ (1,507,478)	\$ (40,218)
◆ 2023	\$ (7,862,024)	\$ (427,181)
◆ 2024	\$ (1,253,247)	\$ (30,151)
◆ 2025	\$ 1,947,833	\$ 168,623
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Amherst Housing Authority
◆ Current Proportionate Share		0.851353%
◆ Prior Proportionate Share		0.732664%
Beginning Net Pension Liability	\$ 199,745,140	\$ 1,463,460
Ending Net Pension Liability	\$ 178,581,940	\$ 1,520,363
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	128,207
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	355,470
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 483,677
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 42,777
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	171,532
◆ Changes of Assumptions	4,107,689	34,971
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	211,762
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 461,042
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 148,021
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	9,644
Total Employer Pension Expense	\$ 17,386,583	\$ 157,665
Covered Payroll:	\$ 87,719,692	\$ 769,088
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 1,520,363
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 2,087,816
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 1,041,138
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (27,704)
◆ 2022	\$ (1,507,478)	\$ 9,635
◆ 2023	\$ (7,862,024)	\$ (40,082)
◆ 2024	\$ (1,253,247)	\$ 24,365
◆ 2025	\$ 1,947,833	\$ 56,421
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Belchertown
◆ Current Proportionate Share		13.446703%
◆ Prior Proportionate Share		13.092289%
Beginning Net Pension Liability	\$ 199,745,140	\$ 26,151,212
Ending Net Pension Liability	\$ 178,581,940	\$ 24,013,384
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	2,024,972
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	992,158
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 3,017,130
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 675,645
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	2,709,266
◆ Changes of Assumptions	4,107,689	552,349
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	7,737
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 3,944,997
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 2,337,922
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	239,983
Total Employer Pension Expense	\$ 17,386,583	\$ 2,577,905
Covered Payroll:	\$ 87,719,692	\$ 11,919,869
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 24,013,384
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 32,976,013
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 16,444,262
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (594,539)
◆ 2022	\$ (1,507,478)	\$ (30,277)
◆ 2023	\$ (7,862,024)	\$ (884,172)
◆ 2024	\$ (1,253,247)	\$ 4,243
◆ 2025	\$ 1,947,833	\$ 576,878
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Belchertown Housing Authority
◆ Current Proportionate Share		0.078287%
◆ Prior Proportionate Share		0.136763%
Beginning Net Pension Liability	\$ 199,745,140	\$ 273,178
Ending Net Pension Liability	\$ 178,581,940	\$ 139,806
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	11,789
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	7,730
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 19,519
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 3,934
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	15,773
◆ Changes of Assumptions	4,107,689	3,216
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	101,297
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 124,220
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 13,611
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(7,237)
Total Employer Pension Expense	\$ 17,386,583	\$ 6,374
Covered Payroll:	\$ 87,719,692	\$ 61,194
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 139,806
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 191,986
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 95,738
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (18,370)
◆ 2022	\$ (1,507,478)	\$ (15,051)
◆ 2023	\$ (7,862,024)	\$ (20,562)
◆ 2024	\$ (1,253,247)	\$ (17,414)
◆ 2025	\$ 1,947,833	\$ (33,304)
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Belchertown Water District
◆ Current Proportionate Share		0.185929%
◆ Prior Proportionate Share		0.224685%
Beginning Net Pension Liability	\$ 199,745,140	\$ 448,796
Ending Net Pension Liability	\$ 178,581,940	\$ 332,035
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	27,999
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	58,905
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 86,904
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 9,342
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	37,461
◆ Changes of Assumptions	4,107,689	7,637
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	107,117
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 161,557
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 32,327
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	3,982
Total Employer Pension Expense	\$ 17,386,583	\$ 36,309
Covered Payroll:	\$ 87,719,692	\$ 220,834
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 332,035
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 455,962
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 227,376
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (23,065)
◆ 2022	\$ (1,507,478)	\$ (16,932)
◆ 2023	\$ (7,862,024)	\$ (25,738)
◆ 2024	\$ (1,253,247)	\$ (2,145)
◆ 2025	\$ 1,947,833	\$ (6,773)
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Chesterfield
◆ Current Proportionate Share		0.381641%
◆ Prior Proportionate Share		0.361448%
Beginning Net Pension Liability	\$ 199,745,140	\$ 721,975
Ending Net Pension Liability	\$ 178,581,940	\$ 681,543
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	57,472
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	56,829
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 114,301
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 19,176
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	76,894
◆ Changes of Assumptions	4,107,689	15,677
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	33,689
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 145,436
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 66,354
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	2,022
Total Employer Pension Expense	\$ 17,386,583	\$ 68,376
Covered Payroll:	\$ 87,719,692	\$ 336,301
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 681,543
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 935,918
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 466,717
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (16,244)
◆ 2022	\$ (1,507,478)	\$ (343)
◆ 2023	\$ (7,862,024)	\$ (26,209)
◆ 2024	\$ (1,253,247)	\$ (5,917)
◆ 2025	\$ 1,947,833	\$ 17,578
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Chesterfield-Goshen Regional School District
◆ Current Proportionate Share		0.381641%
◆ Prior Proportionate Share		0.390755%
Beginning Net Pension Liability	\$ 199,745,140	\$ 780,514
Ending Net Pension Liability	\$ 178,581,940	\$ 681,543
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	57,472
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	80,296
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 137,768
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 19,176
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	76,894
◆ Changes of Assumptions	4,107,689	15,677
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	38,497
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 150,244
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 66,354
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(6,129)
Total Employer Pension Expense	\$ 17,386,583	\$ 60,225
Covered Payroll:	\$ 87,719,692	\$ 295,563
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 681,543
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 935,918
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 466,717
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (10,434)
◆ 2022	\$ (1,507,478)	\$ 7,963
◆ 2023	\$ (7,862,024)	\$ (19,082)
◆ 2024	\$ (1,253,247)	\$ (3,226)
◆ 2025	\$ 1,947,833	\$ 12,303
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	
	System	Cummington
◆ Current Proportionate Share		0.225072%
◆ Prior Proportionate Share		0.273527%
Beginning Net Pension Liability	\$ 199,745,140	\$ 546,357
Ending Net Pension Liability	\$ 178,581,940	\$ 401,938
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	33,894
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	82,298
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 116,192
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 11,309
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	45,348
◆ Changes of Assumptions	4,107,689	9,245
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	84,974
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 150,876
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 39,132
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	4,859
Total Employer Pension Expense	\$ 17,386,583	\$ 43,991
Covered Payroll:	\$ 87,719,692	\$ 230,161
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 401,938
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 551,955
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 275,245
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (7,336)
◆ 2022	\$ (1,507,478)	\$ 2,252
◆ 2023	\$ (7,862,024)	\$ (11,972)
◆ 2024	\$ (1,253,247)	\$ 234
◆ 2025	\$ 1,947,833	\$ (17,862)
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Foothills Health District
◆ Current Proportionate Share		0.058715%
◆ Prior Proportionate Share		0.058614%
Beginning Net Pension Liability	\$ 199,745,140	\$ 117,079
Ending Net Pension Liability	\$ 178,581,940	\$ 104,854
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	8,842
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	7,947
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 16,789
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 2,950
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	11,830
◆ Changes of Assumptions	4,107,689	2,412
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	-
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 17,192
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 10,209
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	3,906
Total Employer Pension Expense	\$ 17,386,583	\$ 14,115
Covered Payroll:	\$ 87,719,692	\$ 54,444
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 104,854
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 143,990
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 71,804
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (609)
◆ 2022	\$ (1,507,478)	\$ 1,893
◆ 2023	\$ (7,862,024)	\$ (2,403)
◆ 2024	\$ (1,253,247)	\$ (656)
◆ 2025	\$ 1,947,833	\$ 1,372
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Gateway Regional School District
◆ Current Proportionate Share		2.280057%
◆ Prior Proportionate Share		2.442223%
Beginning Net Pension Liability	\$ 199,745,140	\$ 4,878,222
Ending Net Pension Liability	\$ 178,581,940	\$ 4,071,770
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	343,359
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	-
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 343,359
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 114,564
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	459,390
◆ Changes of Assumptions	4,107,689	93,658
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	565,142
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 1,232,754
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 396,424
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(181,904)
Total Employer Pension Expense	\$ 17,386,583	\$ 214,520
Covered Payroll:	\$ 87,719,692	\$ 1,987,904
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 4,071,770
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 5,591,496
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 2,788,331
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (259,403)
◆ 2022	\$ (1,507,478)	\$ (157,722)
◆ 2023	\$ (7,862,024)	\$ (293,985)
◆ 2024	\$ (1,253,247)	\$ (107,557)
◆ 2025	\$ 1,947,833	\$ (70,728)
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Goshen
◆ Current Proportionate Share		0.225072%
◆ Prior Proportionate Share		0.283299%
Beginning Net Pension Liability	\$ 199,745,140	\$ 565,875
Ending Net Pension Liability	\$ 178,581,940	\$ 401,938
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	33,894
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	32,728
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 66,622
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 11,309
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	45,348
◆ Changes of Assumptions	4,107,689	9,245
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	159,301
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 225,203
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 39,132
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(19,243)
Total Employer Pension Expense	\$ 17,386,583	\$ 19,889
Covered Payroll:	\$ 87,719,692	\$ 199,908
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 401,938
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 551,955
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 275,245
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (34,759)
◆ 2022	\$ (1,507,478)	\$ (25,540)
◆ 2023	\$ (7,862,024)	\$ (38,558)
◆ 2024	\$ (1,253,247)	\$ (20,646)
◆ 2025	\$ 1,947,833	\$ (39,078)
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Granby
◆ Current Proportionate Share		4.535323%
◆ Prior Proportionate Share		4.259597%
Beginning Net Pension Liability	\$ 199,745,140	\$ 8,508,338
Ending Net Pension Liability	\$ 178,581,940	\$ 8,099,268
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	682,985
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	564,829
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 1,247,814
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 227,883
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	913,785
◆ Changes of Assumptions	4,107,689	186,297
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	229,148
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 1,557,113
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 788,538
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	14,606
Total Employer Pension Expense	\$ 17,386,583	\$ 803,144
Covered Payroll:	\$ 87,719,692	\$ 4,004,083
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 8,099,268
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 11,122,195
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 5,546,344
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (225,471)
◆ 2022	\$ (1,507,478)	\$ (31,014)
◆ 2023	\$ (7,862,024)	\$ (310,411)
◆ 2024	\$ (1,253,247)	\$ 17,599
◆ 2025	\$ 1,947,833	\$ 239,998
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Granby Housing Authority
◆ Current Proportionate Share		0.117426%
◆ Prior Proportionate Share		0.117228%
Beginning Net Pension Liability	\$ 199,745,140	\$ 234,158
Ending Net Pension Liability	\$ 178,581,940	\$ 209,702
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	17,683
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	565
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 18,248
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 5,900
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	23,659
◆ Changes of Assumptions	4,107,689	4,823
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	14,375
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 48,757
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 20,416
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(2,631)
Total Employer Pension Expense	\$ 17,386,583	\$ 17,785
Covered Payroll:	\$ 87,719,692	\$ 72,324
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 209,702
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 287,970
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 143,603
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (9,572)
◆ 2022	\$ (1,507,478)	\$ (4,572)
◆ 2023	\$ (7,862,024)	\$ (11,986)
◆ 2024	\$ (1,253,247)	\$ (4,055)
◆ 2025	\$ 1,947,833	\$ (324)
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Hadley
◆ Current Proportionate Share		5.443802%
◆ Prior Proportionate Share		5.234805%
Beginning Net Pension Liability	\$ 199,745,140	\$ 10,456,269
Ending Net Pension Liability	\$ 178,581,940	\$ 9,721,647
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	819,796
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	1,037,277
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 1,857,073
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 273,530
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	1,096,827
◆ Changes of Assumptions	4,107,689	223,614
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	79,350
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 1,673,321
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 946,491
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	141,709
Total Employer Pension Expense	\$ 17,386,583	\$ 1,088,200
Covered Payroll:	\$ 87,719,692	\$ 5,048,885
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 9,721,647
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 13,350,104
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 6,657,342
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (121,093)
◆ 2022	\$ (1,507,478)	\$ 119,147
◆ 2023	\$ (7,862,024)	\$ (240,206)
◆ 2024	\$ (1,253,247)	\$ 73,034
◆ 2025	\$ 1,947,833	\$ 352,870
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Hadley Housing Authority
◆ Current Proportionate Share		0.039143%
◆ Prior Proportionate Share		0.039075%
Beginning Net Pension Liability	\$ 199,745,140	\$ 78,050
Ending Net Pension Liability	\$ 178,581,940	\$ 69,903
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	5,895
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	291
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 6,186
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 1,967
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	7,887
◆ Changes of Assumptions	4,107,689	1,608
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	199
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 11,661
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 6,806
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	39
Total Employer Pension Expense	\$ 17,386,583	\$ 6,845
Covered Payroll:	\$ 87,719,692	\$ -
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 69,903
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 95,993
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 47,869
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (2,272)
◆ 2022	\$ (1,507,478)	\$ (604)
◆ 2023	\$ (7,862,024)	\$ (3,076)
◆ 2024	\$ (1,253,247)	\$ (438)
◆ 2025	\$ 1,947,833	\$ 915
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Hampshire County Regional Housing Authority
◆ Current Proportionate Share		0.039143%
◆ Prior Proportionate Share		0.039075%
Beginning Net Pension Liability	\$ 199,745,140	\$ 78,050
Ending Net Pension Liability	\$ 178,581,940	\$ 69,903
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	5,895
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	21,886
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 27,781
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 1,967
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	7,887
◆ Changes of Assumptions	4,107,689	1,608
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	10,560
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 22,022
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 6,806
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	2,763
Total Employer Pension Expense	\$ 17,386,583	\$ 9,569
Covered Payroll:	\$ 87,719,692	\$ 32,759
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 69,903
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 95,993
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 47,869
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ 465
◆ 2022	\$ (1,507,478)	\$ 2,134
◆ 2023	\$ (7,862,024)	\$ (925)
◆ 2024	\$ (1,253,247)	\$ 91
◆ 2025	\$ 1,947,833	\$ 3,994
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Hampshire Regional School District
◆ Current Proportionate Share		2.058944%
◆ Prior Proportionate Share		2.201481%
Beginning Net Pension Liability	\$ 199,745,140	\$ 4,397,352
Ending Net Pension Liability	\$ 178,581,940	\$ 3,676,903
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	310,062
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	75,524
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 385,586
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 103,454
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	414,840
◆ Changes of Assumptions	4,107,689	84,575
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	342,055
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 944,924
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 357,980
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(44,454)
Total Employer Pension Expense	\$ 17,386,583	\$ 313,526
Covered Payroll:	\$ 87,719,692	\$ 1,794,043
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 3,676,903
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 5,049,251
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 2,517,927
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (170,941)
◆ 2022	\$ (1,507,478)	\$ (83,212)
◆ 2023	\$ (7,862,024)	\$ (212,912)
◆ 2024	\$ (1,253,247)	\$ (68,129)
◆ 2025	\$ 1,947,833	\$ (24,144)
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Hatfield
◆ Current Proportionate Share		2.436626%
◆ Prior Proportionate Share		2.295688%
Beginning Net Pension Liability	\$ 199,745,140	\$ 4,585,525
Ending Net Pension Liability	\$ 178,581,940	\$ 4,351,375
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	366,938
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	394,950
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 761,888
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 122,431
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	490,936
◆ Changes of Assumptions	4,107,689	100,089
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	422,067
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 1,135,523
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 423,646
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	16,811
Total Employer Pension Expense	\$ 17,386,583	\$ 440,457
Covered Payroll:	\$ 87,719,692	\$ 2,166,698
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 4,351,375
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 5,975,459
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 2,979,803
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (130,077)
◆ 2022	\$ (1,507,478)	\$ (25,581)
◆ 2023	\$ (7,862,024)	\$ (191,768)
◆ 2024	\$ (1,253,247)	\$ (73,087)
◆ 2025	\$ 1,947,833	\$ 46,878
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Hatfield Housing Authority
◆ Current Proportionate Share		0.029356%
◆ Prior Proportionate Share		0.058614%
Beginning Net Pension Liability	\$ 199,745,140	\$ 117,079
Ending Net Pension Liability	\$ 178,581,940	\$ 52,424
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	4,421
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	618
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 5,039
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 1,475
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	5,915
◆ Changes of Assumptions	4,107,689	1,206
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	50,980
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 59,576
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 5,104
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(4,693)
Total Employer Pension Expense	\$ 17,386,583	\$ 411
Covered Payroll:	\$ 87,719,692	\$ 24,086
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 52,424
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 71,990
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 35,900
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (9,664)
◆ 2022	\$ (1,507,478)	\$ (8,774)
◆ 2023	\$ (7,862,024)	\$ (10,617)
◆ 2024	\$ (1,253,247)	\$ (8,599)
◆ 2025	\$ 1,947,833	\$ (16,883)
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Huntington
◆ Current Proportionate Share		0.527956%
◆ Prior Proportionate Share		0.517109%
Beginning Net Pension Liability	\$ 199,745,140	\$ 1,032,899
Ending Net Pension Liability	\$ 178,581,940	\$ 942,834
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	79,506
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	96,794
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 176,300
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 26,528
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	106,373
◆ Changes of Assumptions	4,107,689	21,687
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	96,422
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 251,010
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 91,793
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(947)
Total Employer Pension Expense	\$ 17,386,583	\$ 90,846
Covered Payroll:	\$ 87,719,692	\$ 424,838
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 942,834
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 1,294,732
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 645,649
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (36,732)
◆ 2022	\$ (1,507,478)	\$ (14,288)
◆ 2023	\$ (7,862,024)	\$ (48,220)
◆ 2024	\$ (1,253,247)	\$ (9,426)
◆ 2025	\$ 1,947,833	\$ 33,956
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Middlefield
◆ Current Proportionate Share		0.189268%
◆ Prior Proportionate Share		0.195378%
Beginning Net Pension Liability	\$ 199,745,140	\$ 390,257
Ending Net Pension Liability	\$ 178,581,940	\$ 337,998
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	28,502
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	10,986
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 39,488
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 9,510
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	38,134
◆ Changes of Assumptions	4,107,689	7,775
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	39,200
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 94,619
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 32,907
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(5,382)
Total Employer Pension Expense	\$ 17,386,583	\$ 27,525
Covered Payroll:	\$ 87,719,692	\$ 181,550
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 337,998
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 464,151
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 231,460
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (15,508)
◆ 2022	\$ (1,507,478)	\$ (7,449)
◆ 2023	\$ (7,862,024)	\$ (19,398)
◆ 2024	\$ (1,253,247)	\$ (7,203)
◆ 2025	\$ 1,947,833	\$ (5,573)
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Pelham
◆ Current Proportionate Share		0.851353%
◆ Prior Proportionate Share		0.830361%
Beginning Net Pension Liability	\$ 199,745,140	\$ 1,658,605
Ending Net Pension Liability	\$ 178,581,940	\$ 1,520,363
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	128,207
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	53,828
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 182,035
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 42,777
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	171,532
◆ Changes of Assumptions	4,107,689	34,971
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	138,501
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 387,781
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 148,021
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(14,536)
Total Employer Pension Expense	\$ 17,386,583	\$ 133,485
Covered Payroll:	\$ 87,719,692	\$ 805,975
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 1,520,363
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 2,087,816
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 1,041,138
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (76,626)
◆ 2022	\$ (1,507,478)	\$ (41,446)
◆ 2023	\$ (7,862,024)	\$ (94,601)
◆ 2024	\$ (1,253,247)	\$ (27,802)
◆ 2025	\$ 1,947,833	\$ 34,729
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Plainfield
◆ Current Proportionate Share		0.264212%
◆ Prior Proportionate Share		0.263759%
Beginning Net Pension Liability	\$ 199,745,140	\$ 526,846
Ending Net Pension Liability	\$ 178,581,940	\$ 471,834
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	39,788
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	2,047
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 41,835
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 13,276
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	53,234
◆ Changes of Assumptions	4,107,689	10,853
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	71,117
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 148,480
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 45,937
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(1,038)
Total Employer Pension Expense	\$ 17,386,583	\$ 44,899
Covered Payroll:	\$ 87,719,692	\$ 255,399
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 471,834
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 647,939
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 323,110
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (28,404)
◆ 2022	\$ (1,507,478)	\$ (17,869)
◆ 2023	\$ (7,862,024)	\$ (34,539)
◆ 2024	\$ (1,253,247)	\$ (16,658)
◆ 2025	\$ 1,947,833	\$ (9,175)
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Quabbin Health District
◆ Current Proportionate Share		0.268255%
◆ Prior Proportionate Share		0.279211%
Beginning Net Pension Liability	\$ 199,745,140	\$ 557,711
Ending Net Pension Liability	\$ 178,581,940	\$ 479,055
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	40,397
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	43,266
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 83,663
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 13,479
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	54,049
◆ Changes of Assumptions	4,107,689	11,019
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	19,047
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 97,594
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 46,640
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	6,399
Total Employer Pension Expense	\$ 17,386,583	\$ 53,039
Covered Payroll:	\$ 87,719,692	\$ 223,845
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 479,055
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 657,856
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 328,055
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (8,484)
◆ 2022	\$ (1,507,478)	\$ 3,046
◆ 2023	\$ (7,862,024)	\$ (14,495)
◆ 2024	\$ (1,253,247)	\$ 831
◆ 2025	\$ 1,947,833	\$ 5,171
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	
	System	Southampton
◆ Current Proportionate Share		3.373125%
◆ Prior Proportionate Share		3.341562%
Beginning Net Pension Liability	\$ 199,745,140	\$ 6,674,608
Ending Net Pension Liability	\$ 178,581,940	\$ 6,023,791
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	507,967
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	290,070
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 798,037
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 169,487
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	679,623
◆ Changes of Assumptions	4,107,689	138,557
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	5,211
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 992,878
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 586,471
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	13,027
Total Employer Pension Expense	\$ 17,386,583	\$ 599,498
Covered Payroll:	\$ 87,719,692	\$ 3,026,036
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 6,023,791
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 8,272,079
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 4,125,066
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (130,796)
◆ 2022	\$ (1,507,478)	\$ 18,535
◆ 2023	\$ (7,862,024)	\$ (197,735)
◆ 2024	\$ (1,253,247)	\$ 9,621
◆ 2025	\$ 1,947,833	\$ 105,534
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	
	System	South Hadley
◆ Current Proportionate Share		13.327336%
◆ Prior Proportionate Share		13.217252%
Beginning Net Pension Liability	\$ 199,745,140	\$ 26,400,818
Ending Net Pension Liability	\$ 178,581,940	\$ 23,800,215
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	2,006,996
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	945,321
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 2,952,317
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 669,648
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	2,685,215
◆ Changes of Assumptions	4,107,689	547,446
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	868,424
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 4,770,733
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 2,317,168
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	59,009
Total Employer Pension Expense	\$ 17,386,583	\$ 2,376,177
Covered Payroll:	\$ 87,719,692	\$ 11,908,728
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 23,800,215
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 32,683,282
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 16,298,285
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (860,406)
◆ 2022	\$ (1,507,478)	\$ (296,577)
◆ 2023	\$ (7,862,024)	\$ (1,108,456)
◆ 2024	\$ (1,253,247)	\$ (73,628)
◆ 2025	\$ 1,947,833	\$ 520,651
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	South Hadley Housing Authority
◆ Current Proportionate Share		0.249032%
◆ Prior Proportionate Share		0.253992%
Beginning Net Pension Liability	\$ 199,745,140	\$ 507,336
Ending Net Pension Liability	\$ 178,581,940	\$ 444,726
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	37,502
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	8,005
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 45,507
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 12,513
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	50,175
◆ Changes of Assumptions	4,107,689	10,229
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	8,591
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 81,508
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 43,298
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	4,001
Total Employer Pension Expense	\$ 17,386,583	\$ 47,299
Covered Payroll:	\$ 87,719,692	\$ 215,228
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 444,726
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 610,714
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 304,547
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (12,829)
◆ 2022	\$ (1,507,478)	\$ (2,578)
◆ 2023	\$ (7,862,024)	\$ (18,894)
◆ 2024	\$ (1,253,247)	\$ (4,306)
◆ 2025	\$ 1,947,833	\$ 2,606
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	South Hadley- Easthampton Veteran's District
◆ Current Proportionate Share		0.058715%
◆ Prior Proportionate Share		0.058614%
Beginning Net Pension Liability	\$ 199,745,140	\$ 117,079
Ending Net Pension Liability	\$ 178,581,940	\$ 104,854
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	8,842
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	293
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 9,135
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 2,950
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	11,830
◆ Changes of Assumptions	4,107,689	2,412
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	14,234
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 31,426
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 10,209
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(2,687)
Total Employer Pension Expense	\$ 17,386,583	\$ 7,522
Covered Payroll:	\$ 87,719,692	\$ 53,598
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 104,854
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 143,990
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 71,804
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (6,164)
◆ 2022	\$ (1,507,478)	\$ (3,664)
◆ 2023	\$ (7,862,024)	\$ (7,369)
◆ 2024	\$ (1,253,247)	\$ (3,397)
◆ 2025	\$ 1,947,833	\$ (1,697)
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	South Hadley Fire District No.1
◆ Current Proportionate Share		2.368127%
◆ Prior Proportionate Share		2.442223%
Beginning Net Pension Liability	\$ 199,745,140	\$ 4,878,222
Ending Net Pension Liability	\$ 178,581,940	\$ 4,229,048
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	356,622
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	708
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 357,330
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 118,989
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	477,135
◆ Changes of Assumptions	4,107,689	97,275
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	294,708
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 988,107
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 411,736
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(68,490)
Total Employer Pension Expense	\$ 17,386,583	\$ 343,246
Covered Payroll:	\$ 87,719,692	\$ 2,170,119
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 4,229,048
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 5,807,475
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 2,896,034
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (209,619)
◆ 2022	\$ (1,507,478)	\$ (109,147)
◆ 2023	\$ (7,862,024)	\$ (251,623)
◆ 2024	\$ (1,253,247)	\$ (62,868)
◆ 2025	\$ 1,947,833	\$ 2,480
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	South Hadley Fire District No.2
◆ Current Proportionate Share		1.066638%
◆ Prior Proportionate Share		1.025734%
Beginning Net Pension Liability	\$ 199,745,140	\$ 2,048,854
Ending Net Pension Liability	\$ 178,581,940	\$ 1,904,822
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	160,628
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	95,006
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 255,634
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 53,594
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	214,908
◆ Changes of Assumptions	4,107,689	43,814
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	168,050
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 480,366
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 185,452
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	12,331
Total Employer Pension Expense	\$ 17,386,583	\$ 197,783
Covered Payroll:	\$ 87,719,692	\$ 888,372
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 1,904,822
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 2,615,768
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 1,304,414
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (84,971)
◆ 2022	\$ (1,507,478)	\$ (44,893)
◆ 2023	\$ (7,862,024)	\$ (112,813)
◆ 2024	\$ (1,253,247)	\$ (33,540)
◆ 2025	\$ 1,947,833	\$ 51,485
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Ware
◆ Current Proportionate Share		8.576706%
◆ Prior Proportionate Share		8.106936%
Beginning Net Pension Liability	\$ 199,745,140	\$ 16,193,210
Ending Net Pension Liability	\$ 178,581,940	\$ 15,316,447
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	1,291,587
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	855,113
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 2,146,700
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 430,947
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	1,728,050
◆ Changes of Assumptions	4,107,689	352,304
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	510,300
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 3,021,601
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 1,491,196
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	51,371
Total Employer Pension Expense	\$ 17,386,583	\$ 1,542,567
Covered Payroll:	\$ 87,719,692	\$ 7,237,399
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 15,316,447
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 21,033,078
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 10,488,638
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (449,754)
◆ 2022	\$ (1,507,478)	\$ (87,917)
◆ 2023	\$ (7,862,024)	\$ (635,693)
◆ 2024	\$ (1,253,247)	\$ (75,163)
◆ 2025	\$ 1,947,833	\$ 373,626
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Ware Housing Authority
◆ Current Proportionate Share		0.267520%
◆ Prior Proportionate Share		0.248525%
Beginning Net Pension Liability	\$ 199,745,140	\$ 496,417
Ending Net Pension Liability	\$ 178,581,940	\$ 477,743
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	40,287
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	42,709
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 82,996
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 13,442
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	53,900
◆ Changes of Assumptions	4,107,689	10,989
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	1,547
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 79,878
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 46,513
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	17,855
Total Employer Pension Expense	\$ 17,386,583	\$ 64,368
Covered Payroll:	\$ 87,719,692	\$ 229,107
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 477,743
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 656,053
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 327,156
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (6,720)
◆ 2022	\$ (1,507,478)	\$ 4,405
◆ 2023	\$ (7,862,024)	\$ (13,309)
◆ 2024	\$ (1,253,247)	\$ 1,713
◆ 2025	\$ 1,947,833	\$ 17,029
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	
	System	Westhampton
◆ Current Proportionate Share		0.831778%
◆ Prior Proportionate Share		0.840124%
Beginning Net Pension Liability	\$ 199,745,140	\$ 1,678,107
Ending Net Pension Liability	\$ 178,581,940	\$ 1,485,405
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	125,259
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	46,651
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 171,910
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 41,794
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	167,588
◆ Changes of Assumptions	4,107,689	34,167
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	85,903
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 329,452
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 144,618
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(31,349)
Total Employer Pension Expense	\$ 17,386,583	\$ 113,269
Covered Payroll:	\$ 87,719,692	\$ 719,979
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 1,485,405
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 2,039,810
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 1,017,199
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (51,587)
◆ 2022	\$ (1,507,478)	\$ (12,602)
◆ 2023	\$ (7,862,024)	\$ (68,061)
◆ 2024	\$ (1,253,247)	\$ (23,552)
◆ 2025	\$ 1,947,833	\$ (1,740)
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	Williamsburg
◆ Current Proportionate Share		1.178864%
◆ Prior Proportionate Share		1.177945%
Beginning Net Pension Liability	\$ 199,745,140	\$ 2,352,889
Ending Net Pension Liability	\$ 178,581,940	\$ 2,105,237
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	177,528
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	91,110
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 268,638
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 59,233
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	237,520
◆ Changes of Assumptions	4,107,689	48,424
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	70,930
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 416,107
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 204,964
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(18,825)
Total Employer Pension Expense	\$ 17,386,583	\$ 186,139
Covered Payroll:	\$ 87,719,692	\$ 930,308
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 2,105,237
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 2,890,985
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 1,441,657
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ (53,410)
◆ 2022	\$ (1,507,478)	\$ (966)
◆ 2023	\$ (7,862,024)	\$ (80,950)
◆ 2024	\$ (1,253,247)	\$ (23,349)
◆ 2025	\$ 1,947,833	\$ 11,206
◆ Thereafter	\$ 233,737	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Hampshire County Retirement System	
	System	Worthington
◆ Current Proportionate Share		0.766737%
◆ Prior Proportionate Share		0.591348%
Beginning Net Pension Liability	\$ 199,745,140	\$ 1,181,188
Ending Net Pension Liability	\$ 178,581,940	\$ 1,369,254
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	15,059,246	115,465
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	498,459
Total Deferred Outflows of Resources	\$ 23,042,483	\$ 613,924
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 5,024,618	\$ 38,526
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	20,148,178	154,484
◆ Changes of Assumptions	4,107,689	31,495
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	7,983,237	43,368
Total Deferred Inflows of Resources	\$ 37,263,722	\$ 267,873
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 17,386,583	\$ 133,309
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	128,154
Total Employer Pension Expense	\$ 17,386,583	\$ 261,463
Covered Payroll:	\$ 87,719,692	\$ 699,847
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.15%	\$ 178,581,940	\$ 1,369,254
◆ 1% decrease in the discount rate: 6.15%	\$ 245,234,922	\$ 1,880,307
◆ 1% increase in the discount rate: 8.15%	\$ 122,292,147	\$ 937,659
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ (5,780,060)	\$ 46,140
◆ 2022	\$ (1,507,478)	\$ 74,358
◆ 2023	\$ (7,862,024)	\$ 20,749
◆ 2024	\$ (1,253,247)	\$ 55,446
◆ 2025	\$ 1,947,833	\$ 149,358
◆ Thereafter	\$ 233,737	\$ -

APPENDIX D - CALCULATION OF SINGLE DISCOUNT RATE

Under GASB 67, a series of projections and calculations are used to determine the discount rate for the purpose of the measurement of the Total Pension Liability. The discount rate is the single rate that reflects (1) the long-term expected rate of return on pension plan investments that are expected to be used to finance the payment of benefits, to the extent that the pension plan's Fiduciary Net Position is projected to be sufficient to make projected benefit payments and pension plan assets are expected to be invested using a strategy to achieve that return, and (2) a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher, to the extent that the conditions for use of the long-term expected rate of return are not met.

Projected cash flows into and out of the pension plan are assumed to be contributions to the pension plan, benefit payments, pension plan administrative expenses and pension plan investment earnings. These projected cash flows are used to project the pension plan's Fiduciary Net Position at the beginning of each period. The pension plan's projected Fiduciary Net Position at the beginning of each period is compared to the amount of benefit payments projected to occur in that period.

It is assumed that the pension plan's Fiduciary Net Position is expected to always be invested using a strategy to achieve the long-term expected rate of return on pension plan investments.

The benefit payments that are projected to occur in a period are discounted using the long-term expected rate of return on pension plan investments if the amount of the pension plan's beginning Fiduciary Net Position is projected to be sufficient to make the benefit payments in that period. In periods in which benefit payments are projected to be greater than the amount of the pension plan's Fiduciary Net Position, they are discounted using a municipal bond rate as required by GASB 67.

For purposes of this valuation, the long-term expected rate of return on pension plan investments is 7.15%; the municipal bond rate is 2.12%, based on the December 2020 Bond Buyer Index as published by the Federal Reserve. For each period, the pension plan's Fiduciary Net Position is projected to be sufficient to make the benefit payments in that period, therefore, the resulting single discount rate is based solely on the long-term expected rate of return of 7.15%.